OIL INDIA LIMITED
(A Govt. of India Enterprise)
P.O. DULIAJAN, DIST - DIBRUGARH
ASSAM, INDIA, PIN-786602

CONTRACTS DEPARTMENT
TEL: (91) 374-2808653
E-mail: *contracts@oilindia.in*
Website: www.oil-india.com
FAX: (91) 374-2803549

FORWARDING LETTER

Sub: IFB No. CDI2307P27 for '*Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works.*'

Dear Sir(s),

1.0 OIL INDIA LIMITED (OIL), a "Maharatna" Category, Government of India Enterprise, is a premier Oil Company engaged in exploration, production and transportation of crude oil & natural gas with its Headquarters at Duliajan, Assam. Duliajan is well connected by Air with nearest Airport being at Dibrugarh, 45 km away.

2.0 In connection with its operations, OIL invites National Competitive Bids (NCB) from competent and experienced/approved Contractors for the mentioned work/service under **OPEN E-TENDER SINGLE STAGE TWO BID SYSTEM** through OIL's E-Procurement Portal: "https://etender.srm.oilindia.in/irj/portal" for ***"Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works."*** One complete set of Bid Document covering OIL's IFB for hiring of above services is uploaded in OIL's E-Procurement Portal. You are invited to submit your most competitive bid on or before the scheduled bid closing date and time through OIL's E-Procurement Portal. For your ready reference, few salient points of the IFB (covered in detail in the Bid Document) are highlighted below:

(i)	IFB No./E-Tender No.	:	**CDI2307P27**
(ii)	Type of Bid	:	Open Indigenous E-Tender, Single Stage Two Bid System
(iii)	Bid Closing Date & Time	:	As mentioned in the E-procurement portal.
(iv)	Technical Bid Opening Date & Time	:	As mentioned in the E-procurement portal.
(v)	Price Bid Opening Date & Time	:	As mentioned in the E-procurement portal.
(vi)	Bid Submission Mode	:	Bids must be uploaded online in OIL's E-Procurement Portal.
(vii)	Bid Opening Place	:	Office of CGM-Contracts

			Contracts Department, Oil India Limited, Duliajan-786602, Assam, India.
(viii)	Bid Validity	:	Minimum **120 (One Hundred Twenty)** days from Original Bid Closing Date (OBCD). Note: In exceptional circumstances, OIL may solicit the Bidder's consent to an extension of the period of validity. The request and the response thereto shall be made in writing. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request will neither be required nor permitted to modify their bid.
(ix)	Mobilization Period	:	**Within thirty (30) days** from the date of issue of mobilization notice by Electrical Department i.e. after issuance of Letter of Award (LOA.
(x)	Bid Security/EMD Amount	:	**₹ 25,67,900.00 (This, being a Works Contract is excluded from the purview of Public Procurement Policy for MSEs Order, 2012)**
(xi)	Original Bid Security to be submitted	:	Office of CGM-Contracts (HoD) Contracts Department, Oil India Limited, Duliajan-786602, Assam, India.
(xii)	Bid Security/EMD Validity	:	**Forty-Five (45) days** beyond bid validity.
(xiii)	Amount of Performance Security	:	10% of Contract Value. **Refer Clause No. 24.0** of Instruction to Bidder (ITB)
(xiv)	Defect Liability Period	:	Two (02) years from the date of final acceptance of goods or after completion of installation, commissioning & testing of goods (if included in the scope of supply), at consignee location by OIL.
(xv)	Validity of Performance Security	:	**Three (03) months** beyond the defect liability period.
(xvi)	Location of job		OCS-2 Switchyard area, OIL, Electrical Department, Assam.
(xvii)	Duration of the Contract	:	**Sixteen (16) months** from the date of commencement of the Contract i.e. after completion of mobilization.

(xviii)	Quantum of Liquidated Damage for Default in Timely Mobilization/ Completion	:	**Refer Clause No. 14.0** of Special Conditions of Contract (SCC) & **Clause No. 30.0** of General Conditions of Contract (GCC).
(xix)	Bids to be addressed to	:	CGM-Contracts, Contracts Department, Oil India Limited, Duliajan-786602, Assam, India.
(xx)	Pre-Bid conference	:	Not Applicable (NA)
(xxi)	Whether tendered quantities are splitable	:	**No**
(xxii)	Last Date of receipt of Queries	:	**10 (Ten) days from the date of publishing this tender.** Bidders must submit any clarification/ Queries relevant to the tender, if any, within this stipulated time. Company will not be liable to respond to any such clarifications/queries received after the stipulated deadline.
(xxiii)	Extension of Bid Closing Date	:	The Company expects the bidders to adhere to the Bid submission end date timeline. Bidders are requested to refrain from seeking extension of "Bid Closing date" and such request for Bid Closing Date extension shall not be entertained by the Company. However, OIL at its discretion may extend the Bid Closing Date due to unforeseen circumstances.

3.0 GUIDELINES FOR PARTICIPATING IN OIL'S E-PROCUREMENT:

3.1 To participate in OIL's E-procurement tender, bidders should have a legally valid digital certificate **of Class 3 with Organization's Name and Encryption certificate** as per Indian IT Act from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India (http://www.cca.gov.in). **Digital Signature Certificates having "Organization Name" field as "Personal" are not acceptable**. However, aforesaid Digital Signature Certificates having Bidder's Name in the "Organization Name" field are acceptable. **"Only in case of sole proprietorship firms, Digital Signature Certificates issued in the name of the proprietor is also acceptable provided the bid is submitted in the capacity of a proprietorship firm."**

3.2 Digital Signature Certificate comes in a pair of signing/verification and encryption/decryption certificate. Bidder should have both the Signing/verification and Encryption/Decryption certificate for Signing and

encryption, decryption purpose respectively. The driver needs to be installed once, without which the DSC will not be recognized. While participating on e-Tendering the DSC token should be connected to your system.

3.3 Encryption certificate is mandatorily required for submission of bid. In case bidder created response with one certificate (using encryption key) and bidder change his Digital Signature Certificate then old certificate [Used for encryption] is required in order to decrypt his encrypted response for getting the EDIT mode of the response. Once decryption is done, bidder may use new DSC certificate for uploading and submission of their offer. It is the sole responsibility of the bidder to keep their DSC certificate properly. In case of loss of the certificate, OIL INDIA LTD. will not be responsible.

3.4 For participation, applicants already having User ID & Password for OIL's E-Procurement Portal need to register against the IFB. New vendors/existing vendors not having User ID & Password for OIL's E-Procurement Portal shall obtain User ID & password through online vendor registration system in E-Portal.

3.4.1 Bidders without having E-Tender Login ID and password should complete their online registration at least 07 (Seven) days prior to the scheduled bid closing date and time of the tender. For online registration, bidder may visit OIL's E-Tender site - https://etender.srm.oilindia.in/irj/portal.

3.4.2 Necessary Login ID & Password will be issued by OIL only after submitting the complete online registration by the Bidder. In the event of late registration/incomplete registration by bidder, OIL INDIA LIMITED shall not be responsible for late allotment of User ID & Password and request for bid closing date extension on that plea shall not be entertained by Company.

3.5 Parties, who do not have a User ID, can click on Guest login button in the E-Tender portal to view and download the tender. The detailed guidelines are given in User Manual available in OIL's E-Procurement site. For any clarification in this regard, bidders may contact E-Tender Support Cell at Duliajan at erp_mm@oilindia.in and esupport@oilindia.in, Ph.: 0374- 2807171/7192.

3.6 The link for OIL's E-Procurement Portal is available on OIL's web site (www.oil-india.com).

4.0 IMPORTANT NOTES: Bidders shall take note of the following important points while participating in OIL's e-procurement tender:

4.1 BACKING OUT BY BIDDER: In case any bidder withdraws their bid within the bid validity period, as declared in the "Bid Security Declaration Form", bidder shall be suspended for the period of two years. This suspension of two year shall be automatic without conducting any enquiry.

4.2 BACKING OUT BY L-1 BIDDER AFTER ISSUE OF LOA: In case LOA issued is not accepted by the L1 bidder or the Performance Security is not submitted as per the terms of the contract within the time specified in the Bid Document the

bidder shall be suspended for the period of two years. This suspension of two years shall be automatic without conducting any enquiry.

4.3 **FURNISHING FRAUDULENT INFORMATION/DOCUMENT**: The information and documents furnish by the bidder/contractor in respect of the subject tender/contract are accepted to be true and genuine. However, if it is detected during technical scrutiny or after award of the contract or after expiry of the contract, that the bidder had submitted any fake/fraudulent document or furnished false statement, the offer/contract shall be rejected/cancelled, as the case may be and the bidder (if fake document/false statement pertains to such bidder) shall be dealt as per the Banning Policy (available in OIL's website) of Company. The bidder has to submit an undertaking in this regard as per attached **PROFORMA-IX.**

4.4 **ERRING/DEFAULTING AGENCIES:** Erring and defaulting agencies like bidder, contractor, supplier, vendor, service provider will be dealt as per OIL's Banning Policy available in OIL's website: www.oil-india.com.

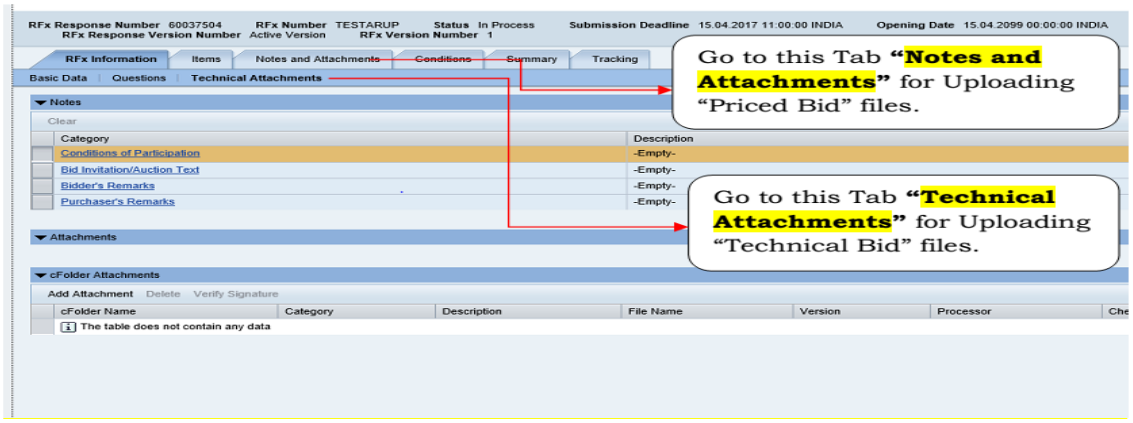
4.5 Bid should be submitted online in OIL's E-procurement site up to 11.00 AM (IST) (Server Time) on the date as mentioned and will be opened on the same day at 2.00 PM (IST) at the office of the GM-Contracts in presence of the authorized representatives of the bidders.

4.6 If the digital signature used for signing is not of "Class-3" with Organizations name, the bid will be rejected.

4.7 The tender is invited under **SINGLE STAGE-TWO BID SYSTEM**. The bidders shall submit both the "**TECHNICAL**" and "**PRICED**" bids through electronic form in the OIL's e-Procurement portal within the Bid Closing Date and Time stipulated in the e-Tender. The Technical Bid should be submitted as per Scope of Work & Technical Specifications along with all technical documents related to the tender and uploaded in **"Technical Attachments" Tab only**. **Bidders to note that no price details should be uploaded in "Technical Attachments" Tab Page. Details of prices as per Price Bid format/Priced bid can be uploaded under "Notes & Attachments" tab. A screen shot in this regard is shown below. Offer not complying with above submission procedure will be rejected as per Bid Evaluation Criteria.**

5.0 **INTEGRITY PACT:** The Integrity Pact is applicable against this tender. OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide Integrity Pact, (PART-VI) of the tender document. This Integrity Pact (PART-VI) has been duly signed digitally by OIL's competent signatory. The (PART-VI) has to be returned by the bidder (along with the Un-priced Techno-Commercial Bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact has been signed by the bidder's authorized signatory who sign the Bid.

6.0 SCREEN SHOTS



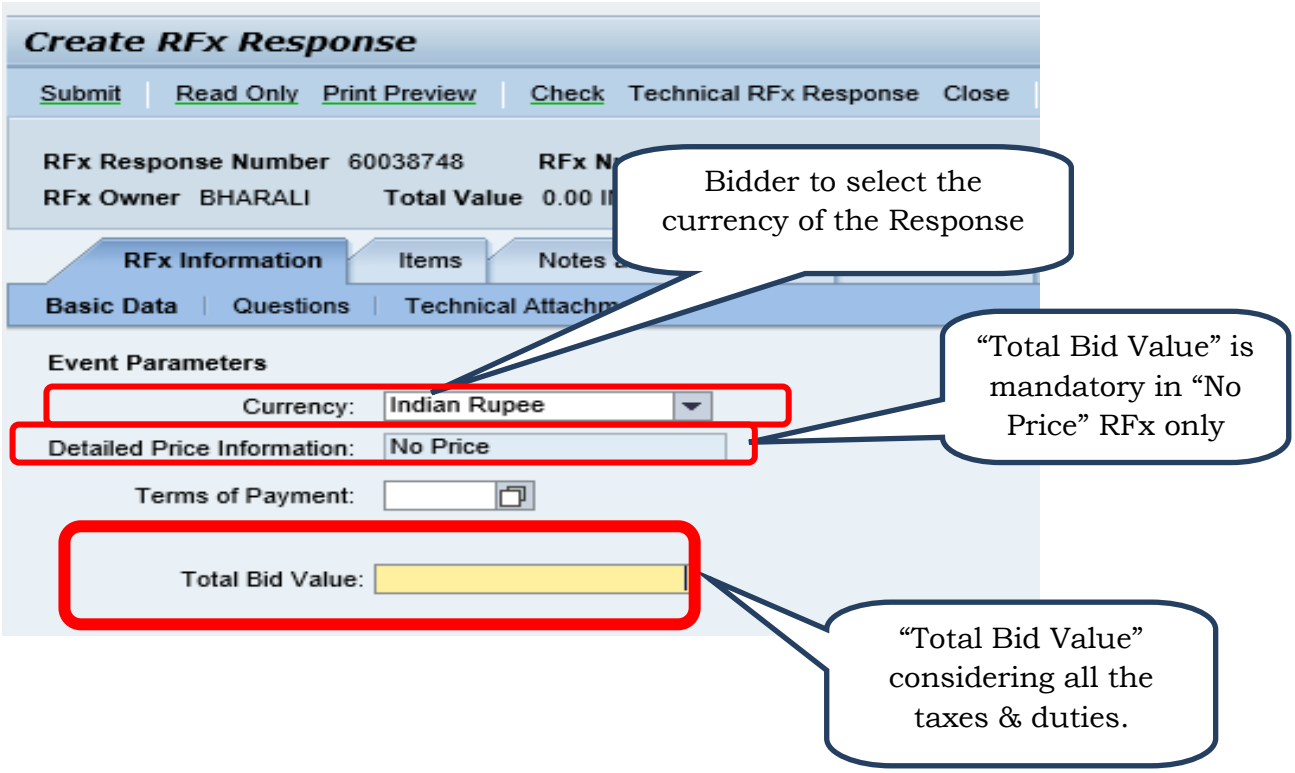
On "EDIT" Mode, Bidders are advised to upload "Technical Bid" and "Priced Bid" in the places as indicated above.

Notes:

* The "Technical Bid" shall contain all techno-commercial details **except the prices**.

** The "Priced bid" must contain the price schedule and the bidder's commercial terms and conditions, if any.For uploading Priced Bid, click on Add Atachment, a browser window will open, select the file from the PC and name the file under Description, Assigned to General Data and click on OK to digitally sign and upload the File. Please click on Save Button of the Response to Save the uploaded files.

7.0 MAINTENANCE OF TOTAL BID VALUE IN THE RESPONSE: For convenience of the Bidders and to improve transparency, the rates/costs quoted by bidders against the E-tender shall be available for online viewing to all the Techno-commercially qualified Bidders against the tender after price bids are opened in the system. For tenders where **Detailed Price Information under RFx Information Tab is "No price"**, the Price Bid is invited against the tender through attachment form under "Notes & Attachment". In such tenders, Bidders must upload their pricing as per the **"Price Bid Format"** under **"Notes & Attachment"** and additionally fill up the **on-line field "Total Bid Value"** under **"RFx Information"** Tab Page with the Total Cost (Including the GST component) as per the amount of the Price Bid in attachment form.



The "Total Bid Value" as entered by the Bidder in the on-line response shall be displayed in the E-tender portal amongst the techno-commercially qualified bidders and Company will not take any responsibility whatsoever towards incorrect information furnished by the bidders on the "Total Bid Value" field.
It is to be noted that Amount mentioned in the "Total Bid Value" field will not be considered for bid evaluation and evaluation will be purely based on the Price bid submitted as per the "Price Bid Format" under "Notes & Attachments" tab page.

8.0 RESTRICTIONS ON PROCUREMENT FROM A BIDDER OF A COUNTRY WHICH SHARES LAND BORDER WITH INDIA:

Subject to **Order No. F. No. 7/10/2021-PPD (1) dated 23.02.2023** (as amended from time to time), issued by Ministry of Finance, Department of Expenditure, Public Procurement Division, Govt. of India, Bidders should take note of the following:

8.1 Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority [Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT)].

8.2 "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), 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.

8.3 "Bidder from a country which shares a land border with India" for the purpose of this Order means:

a. An entity incorporated, established or registered in such a country; or
b. A subsidiary of an entity incorporated, established or registered in such a country; or
c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
d. An entity whose beneficial owner is situated in such a country; or
e. An Indian (or other) agent of such an entity; or
f. A natural person who is a citizen of such a country; or
g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

8.4 The beneficial owner for the purpose of para 8.3 above will be as under:

8.4.1 In case of a company or 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.

Explanation:

a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;

b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;

8.4.2 In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

8.4.3 In case of an unincorporated association 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;

8.4.4 Where no natural person is identified under (8.4.1) or (8.4.2) or (8.4.3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

8.4.5 In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the 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.

8.5 An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

8.6 The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. A declaration as per **Exhibit-I** in this respect to be submitted by the bidder.

8.7 **Validity of registration**: In respect of tenders, registration should be valid at the time of submission of bids and at the time of acceptance of bids. In respect to supply otherwise than by tender, registration should be valid at the time of placement of order. If the bidder was validly registered at the time of acceptance/placement of order, registration shall not be a relevant consideration during contract execution.

8.8 The bidders to provide an undertaking as per **Exhibit-II & Exhibit-III** along with their bid complying with Clause No. 8.6 above for participation in this tender.

8.9 If the undertakings viz. **Exhibit-I**, **Exhibit-II** and **Exhibit-III** given by a bidder whose bid is accepted is found to be false, this would be a ground for debarment/action as per OIL's Banning Policy and further legal action in accordance with law.

9.0 OIL now looks forward to your active participation in the IFB.

Thanking you.

Yours faithfully,
OIL INDIA LIMITED

(BIKRAMJIT BORGOHAIN)
MANAGER-CONTRACTS
For **CGM-CONTRACTS (HoD)**
For **RESIDENT CHIEF EXECUTIVE**

Date: 13.07.2026

INSTRUCTIONS TO BIDDERS

1.0 ELIGIBILITY OF THE BIDDER:

1.1 The eligibility of the bidder are listed under PRE QUALIFICATION CRITERIA (PQC)/ BID EVALUATION CRITERIA (BEC) of the tender document.

1.2 Bidder shall bear all costs associated with the preparation and submission of bid. Oil India Limited, hereinafter referred to as Company, will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

2.0 BID DOCUMENTS:

2.1 The services required, bidding procedures and contract terms are prescribed in the Bid Document. This Bid Document includes the following:

i. A Tender Forwarding Letter.
ii. Instructions to Bidders (ITB)
iii. Bid Evaluation Criteria (BEC) / Pre-Qualifying Criteria (PQC)
iv. General Conditions of Contract (GCC)
v. Special Conditions of Contract (SCC)
vi. Scope of Work (SOW)
vii. Schedule of Work, Unit & Quantity (SOQ)
viii. Price Bidding Format (Attached under "**Notes and Attachments**" tab in the main bidding engine of OIL's E-Tender portal)
ix. Proformas, Annexures, Exhibit & Integrity Pact (IP)
x. Safety Measures (SM)

2.2 The bidder is expected to examine all instructions, forms, terms and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a bid not substantially responsive to the Bid Documents in every respect will be at the Bidder's risk & responsibility and may result in the rejection of its bid.

2.3 Bidders shall be deemed, prior to submitting their bids, to have satisfied themselves about the weather conditions, working culture in the area, socio-political environment, safety & security aspects, law & order situation and law of the land, and obtain for themselves all necessary information as to the risks, contingencies and all other circumstances, which may influence or affect the various obligations under the Contract.

3.0 TRANSFERABILITY OF BID DOCUMENTS:

3.1 Bid Documents are non-transferable. Bid can be submitted only in the name of the bidder in whose name the Bid Document has been issued.

3.2 In case of e-Tender, Bidder must submit the bid using Organizational Class-3 Digital Signature issued by the Competent Authority in favour of the bidder. Bid submitted using Digital Signature other than the Digital Signature of the bidder shall be summarily rejected.

3.3 Unsolicited bids will not be considered and will be rejected straightway.

4.0 AMENDMENT OF BID DOCUMENTS:

4.1 At any time prior to the deadline for submission of bids, the Company may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bid Documents through issuance of an Addendum(s) / Corrigendum(s) / Amendment(s).

4.2 The Addendum will be uploaded in OIL's E-Tender Portal in the Tab "Technical Rfx" and under External Area - "Amendments" folder. The Company may, at its discretion, extend the deadline for bid submission. Bidders are expected to take the Addendum into account in preparation and submission of their bid. **Bidders are to check from time to time the E-Tender portal ["Technical RFx" Tab and under the folder "Amendments"] for any amendments to the bid documents before submission of their bids. No separate intimation shall be sent to the Bidders.**

5.0 PREPARATION OF BIDS:

5.1 Language of Bids: The bid prepared by the bidder and all correspondence and documents relating to the bid exchanged by the Bidder and the OIL shall be written in English language. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in English, duly authenticated by local chamber of Commerce of bidder's country, in which case, for purposes of interpretation of the bid, the translation shall prevail.

5.2 Bidder's / Agent's Name & Address: Bidders should indicate in their bids their detailed postal address including the Fax / Telephone / Cell Phone Nos. and E-mail address. Similar information should also be provided in respect of their authorized Agents in India, if any.

5.3 Documents comprising the bid: Bids are invited under **Single-Stage Two-Bid System**. The bid to be uploaded by the Bidder in OIL's E-Tender portal shall comprise of the following components:

(A) Technical Bid (to be uploaded in "Technical Attachments" tab):

a) Complete technical details of the services offered.
b) Documentary evidence established in accordance with Clause No. 8.0.
c) Bid Security (scanned) in accordance with Clause No. 9.0 hereunder. Original Bid Security should sent as per Clause No. 9.2 (c) below.
d) Bid Form as per **PROFORMA-I**.
e) Statement of Non-compliance as per **PROFORMA–II**.
f) Integrity Pact, digitally signed by OIL's competent personnel.
g) **PROFORMA-IV** attached with the bid document to be signed by the bidder's authorized representative.
h) All other relevant Undertakings and PROFORMAS as applicable as part of Bid.

Note: **No price should be mentioned in the Technical Bid being uploaded in "Technical Attachments" tab. If any price is mentioned by the bidder in their Technical bid, then their bid will be rejected straightway.**

(B) The Price Bid as per the Price Bid Format shall be uploaded in "Notes and Attachments" tab)

Note: The Price Bid Format containing the prices along with the currency quoted and any other commercial information pertaining to the service offered.

6.0 BID FORM: The bidder shall complete the Bid Form and upload the same along with their Technical bid.

7.0 BID PRICE:

7.1 Prices must be quoted by the Bidders online as per the price bid format available in OIL's E-Tender Portal under "Notes & Attachment" Tab. Prices must be quoted by the bidders as per the Price Bidding format.

7.2 Prices quoted by the successful bidder must remain firm during performance of the Contract and must not be subject to variation on any account, except as otherwise mentioned in the bid document.

7.3 All duties (except customs duty which will be borne by the Company) and taxes (excluding GST) including Corporate Income Tax, Personal Tax, Assam Entry Tax etc. and other Cess / levies payable by the successful bidder under the Contract for which this Bid Document is being issued, shall be included in the rates, prices and total Bid Price submitted by the bidder and the evaluation and comparison of bids shall be made considering the quoted GST in the Price Bid Format. For example, personal taxes and / or any corporate taxes arising out of the profits on the contract as per rules of the country shall be borne by the bidder.

8.0 DOCUMENTS ESTABLISHING BIDDER'S ELIGIBILITY AND QUALIFICATIONS: These are listed in PRE-QUALIFICATION CRITERIA (PQC)/BID EVALUATION CRITERIA (BEC), of the tender documents.

9.0 BID SECURITY

9.1 The Bid Security is required to protect the Company against the risk of Bidder's conduct, which would warrant forfeiture of the Bid Security, pursuant to sub-clause 9.8.

9.2 All the bids must be accompanied by Bid Security in Original as prescribed under, for the amount as mentioned in the "Forwarding Letter" of the tender documents:

a) The Bid Security may be submitted in the form of irrevocable Bank Guarantee (as per **PROFORMA-V**) issued by Nationalized or Scheduled Bank in favour of M/s Oil India Limited and payable at DULIAJAN. The Bank Guarantee must be on Non-Judicial Stamp Paper of requisite value as per Indian Stamp Act purchased in the name of Banker. A duly filled undertaking towards details of the BG (as per **PROFORMA-VII**) must also be submitted along with the scanned copy of BG in the technical bid.

Note: In case the Bidder submits Bid security in the form of Bank Guarantee (BG), the BG must be valid for a minimum of **165 (One Hundred Sixty-Five) days** from the original date of bid closing.

b) Alternately Bid Security can also be paid through Bank Draft / Cashier's Cheque / Banker's Cheque / Fixed Deposit Receipt (Account OIL INDIA LIMITED) / irrevocable Letter of Credit / NEFT / RTGS / Electronic Fund Transfer through Online Payment Gateway of OIL's e-tender portal (subject to credit in OIL's account within prescribed time) to designated account of OIL.

i. If the Bid Security is submitted in the form of Bank Draft, Banker's Cheque, Cashier's Cheque, Fixed Deposit Receipt or Letter of Credit, the same should be in favour of "Oil India Limited" payable at Duliajan.

ii. Bid Security amount through NEFT or RTGS mode may be deposited on or before bid closing date and time to the following designated OIL's bank account:

Bank Details of Beneficiary: OIL INDIA LIMITED		
a	Bank Name	STATE BANK OF INDIA
b	Branch Name	Duliajan
c	Branch Address	Duliajan, Dist.-Dibrugarh
d	Bank Account No.	**10494832599**
e	Type of Account	Current Account
f	IFSC Code	**SBIN0002053**
g	MICR Code	786002302
h	SWIFT Code	SBININBB479

iii. If the bid security is submitted through NEFT or RTGS mode, details such **as UTR No., Tender No., Bidder's name & Deposited Amount etc.** must be uploaded with the Unpriced Techno-Commercial Bid documents.

c) **Submission of bid security in the form of Electronic Bank Guarantee (e-BG):**

Bidders/Contractors are advised to submit the e-BG from any of the following banks presently providing facility to issue an e-BG:

Sl. No.	**Bank Name**	**Sl. No.**	**Bank Name**
1	AU Small Finance Bank	18	Indian Bank
2	Axis Bank	19	Indian Overseas Bank
3	Bank of Baroda	20	IndusInd Bank
4	Bank of India	21	Karnataka Bank
5	Bank of Maharashtra	22	Karur Vysya Bank
6	Canara Bank	23	Kotak Mahindra Bank
7	Central Bank of India	24	Punjab and Sind Bank
8	City Union Bank	25	Punjab National Bank
9	DBS Bank	26	RBL Bank
10	DCB Bank	27	Standard Chartered
11	Dhanlaxmi Bak	28	State Bank of India
12	Federal Bank	29	South Indian Bank

13	HDFC Bank	30	Tamilnad Mercantile Bank Ltd
14	HSBC Bank	31	UCO Bank
15	ICICI Bank	32	Union Bank of India
16	IDBI Bank	33	Yes Bank
17	IDFC First Bank		

BENEFICIARY DETAILS FOR ISSUE OF ELECTRONIC BANK GUARANTEE (e-BG)		
A	Name	OIL INDIA LIMITED
B	PAN	AAAC02352C
C	Date of Incorporation	18-02-1959
D	Email ID	bikramjit.borgohain@oilindia.in
E	Mobile No	8133000372
F	Local Address	Duliajan, Dibrugarh, Assam- 786602
G	Registered Address	Duliajan, Dibrugarh, Assam- 786602

d) **Submission of Bid Security/EMD in the form of Insurance Surety Bond:** In case the Bid Security is submitted in the form of Insurance Surety Bond (as per **PROFORMA-K**), then the following instructions are to be followed:

i) The Insurance Surety Bond shall be from an Insurer as per guidelines issued by Insurance Regulatory and Development Authority of India (IRDAI).

ii) The Company shall be the Creditor, the Bidder shall be the Principal debtor and the Insurance company/Insurer shall be the Surety in respect of the Insurance Surety Bond to be issued by the Insurer.

iii) The Insurance Surety Bond should be on Non-Judicial stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the state(s) where the Insurance Surety Bond is submitted or is to be acted upon or the rate prevailing in State where the Insurance Surety Bond is executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Bidder/Insurer issuing the Insurance Surety Bond.

iv) The expiry date and values should be arrived at in accordance with instructions provided in the "Introduction" of the Tender.

v) The Insurance Surety Bond by bidders will be given from Insurer as specified in the Tender.

vi) A letter from the issuing insurer of the requisite Insurance Surety Bond confirming that the said Insurance Surety Bond / all future communication relating to the Insurance Surety Bond shall be forwarded to the Purchaser at its address as mentioned at "ITB".

vii) Bidder must indicate the full postal address of the Insurer along with the Insurer 's E-mail / Phone from where the Insurance Surety Bond has been issued.

viii) Bidder must indicate Name, Address, Contact number and official Email ID of the Controlling Office of the Surety Issuing Branch or any web portal link, from whom / where the Surety Bond can be got confirmed by the Company.

e) In case of Bidders submitting Bid Security in the form of Bank Guarantee / Bank Draft / Cashier's Cheque / Banker's Cheque / Fixed Deposit Receipt / Letter of Credit/Insurance Surety Bond, the original hard copy of Bid Security should reach the office of CGM-CONTRACTS on or before **12.45 p.m. (IST)** on the bid closing / opening date otherwise bid will be rejected.

f) A scanned copy of Bid Security document should also be uploaded along with the Unpriced Techno-Commercial Bid documents.

g) This Bid Security Deposit shall be refunded to all unsuccessful bidders, but is liable to be forfeited in full or part, at Company's discretion, as per **Clause No. 9.8** below. Bids without Bid Security Deposit in the manner specified above will be summarily rejected.

h) No other mode of payment will be accepted by the Company. The Bid Security shall not earn any interest to the bidder from the Company.

Note:

i. Bidders claiming waiver of Bid Security shall upload supporting documents as mentioned in **Para No. 10.0** below along with technical bid.

ii. Any offer not accompanied with the Bid Security shall be treated as invalid and summarily rejected unless the bidder is exempted from submission of Bid Security as per Bid Security Exemption Criteria of this tender and proper proof towards this exemption is submitted by the bidder. Any subsequent deposit of Bid Security after the bid closing date and time shall not be permitted. Also, adjustment of Bid Security due against the instant tender, against dues from the Company or on any account shall not be permitted.

9.3 Any bid not secured in accordance with sub-clause 9.2 above shall be rejected by the Company as non-responsive.

9.4 The bidders shall extend the validity of the Bid Security suitably, if and when specifically advised by OIL, at the bidder's cost.

9.5 Unsuccessful Bidder's Bid Security will be discharged and / or returned within 30 days after finalization of the Tender.

9.6 Successful Bidder's Bid Security will be discharged and / or returned upon Bidder's furnishing the Performance Security and signing of the contract. Successful bidder will however ensure validity of the Bid Security till such time the Performance Security in conformity with Clause No. 24.0 below is furnished.

9.7 Bid Security shall not accrue any interest during its period of validity or extended validity.

9.8 The Bid Security may be forfeited:

a. If the bidder withdraws the bid within its original / extended validity.
b. If the bidder modifies / revises their bid suo-moto within its original / extended validity.
c. If the bidder does not accept the contract.
d. If the bidder does not furnish Performance Security Deposit within the stipulated time as per tender / contract.
e. If it is established that the bidder has submitted fraudulent documents or has indulged into corrupt and fraudulent practice, the bid security shall be forfeited after due process in addition to other action against the bidder.

9.9 In case any bidder withdraws their bid during the period of bid validity, Bid Security will be forfeited, and the party shall be debarred as per the prevailing Banning Policy of the Company (OIL).

9.10 A bid shall be rejected straightway if Original Bid Security is not received within the stipulated date & time mentioned in the Tender and / or if the Bid Security validity is shorter than the validity indicated in Tender and / or if the Bid Security amount is lesser than the amount indicated in the Tender.

9.11 The Bank Guarantee issuing bank branch must ensure the following:

The Bank Guarantee issued by the bank must be routed through SFMS platform as per the following details:

(i) MT 760 / MT 760 COV for issuance of bank guarantee.
(ii) MT 760 / MT 767 COV for amendment of bank guarantee.

[Tender Number should reflect in the SFMS text under MT 760 / MT 760 COV]

The above message/intimation shall be sent through SFMS by the BG issuing Bank branch to ICICI Bank Ltd., Duliajan Branch, IFS Code – ICIC0000213; SWIFT Code - ICICINBBXXX. Branch Address: ICICI Bank Ltd, Kunja Bhavan, Daily Bazaar, Duliajan, Dibrugarh, Assam – 786602. The Bank details are as under:

Bank Details of Beneficiary		
A	Bank Name	ICICI Bank Ltd.
B	Branch Name	DULIAJAN
C	Branch Address	Kunja Bhavan, Daily Bazaar, Duliajan, Dibrugarh, Assam – 786602
D	IFSC Code	ICIC0000213
E	Unique identifier code (Field 7037)	OIL503988890
F	Company Name	Oil India Limited
H	SWIFT Code	ICICINBBXXX

10.0 EXEMPTION FROM SUBMISSION OF BID SECURITY(This, being a Works Contract is excluded from the purview of Public Procurement Policy for MSEs Order,2012): In case any bidder is exempted from paying the bid security, they should upload the supporting documents along with their technical bid. The detailed guidelines for exemption of the Bid security are given below.

a. **Govt. Department & Public Sector Undertaking (PSUs)** are exempted from submission of bid security.

Note:

i. Bids without EMD shall be rejected, if the technical offer does not include a valid copy of relevant Document/Certificate towards exemption of EMD, issued by appropriate authority.

ii. The Purchase Preference Policy for MSE bidders shall not be applicable in this tender.

11.0 PERIOD OF VALIDITY OF BIDS

11.1 Bids shall remain valid as per the requirement mentioned in forwarding letter from the date of closing of bid prescribed by the Company. Bids of shorter validity will be rejected as being non-responsive. If nothing is mentioned by the bidder in their bid about the bid validity, it will be presumed that the bid is valid for **120 days** from Bid Closing Date.

11.2 In exceptional circumstances, the Company may solicit the Bidder's consent to an extension of the period of validity. The request and the response thereto shall be made in writing through Fax or e-mail. A Bidder may refuse the request. A Bidder granting the request will neither be required nor permitted to modify their Bid.

12.0 SIGNING & SUBMISSION OF BIDS:

12.1 Signing of bids:

12.1.1 Bids are to be submitted online through OIL's E-procurement portal with digital signature. The bid and all attached documents should be digitally signed by the bidder using "Class 3" digital certificates with Organization's Name [e-commerce application (Certificate with personal verification and Organisation Name)] as per Indian IT Act 2000 obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India before bid is uploaded. Digital Signature Certificates having Bidder's Name in the "Organization Name" field are only acceptable. Digital Signature Certificate having "Organization Name" field other than Bidder's Name shall be rejected summarily.

The bid including all uploaded documents shall be digitally signed by duly authorized representative of the bidder holding a Power of Attorney to bind the Bidder to the contract.

If any modifications are made to a document after attaching digital signature, the digital signature shall again be attached to such documents before uploading the same.

In case the digital signature is not of "Class-3" with organization name, the bid will be rejected. Bidder is responsible for ensuring the validity of digital signature and its proper usage by their employees.

12.1.2 The original and all copies of the bid shall be typed or written in indelible inks. Since bids are to be submitted ONLINE with digital signature, manual signature is NOT relevant. The Letter of Authority (as per **PROFORMA-IV**) shall be indicated by written Power of Attorney accompanying the Bid.

12.1.3 Any physical documents submitted by bidders shall contain no interlineations, white fluid erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such correction shall be initialed by the person or persons who has / have digitally signed the Bid.

12.1.4 Any Bid, which is incomplete, ambiguous, or not in compliance with the Bidding process shall be rejected.

12.2 Submission of bids:

The tender is processed under **Single Stage Two-Bid System**. Bidder shall submit the Technical bid and Priced bid along with all the Annexures and Proforma (wherever applicable) and copies of documents in electronic form through OIL's e-procurement portal within the Bid Closing Date & Time stipulated in the e-tender. For submission of Bids online at OIL's E-Tender Portal, detailed instructions is available in "User Manual" available in OIL's E-Tender Portal. Guidelines for bid submission are also provided in the "Forwarding Letter". The Technical Bid is to be submitted as per Terms of Reference/Technical Specifications of the bid document and Priced Bid as per the Price Schedule. The Technical Bid should be uploaded in the "Technical Attachment" Tab Page only. Prices to be quoted as per Price Bid Format and should be uploaded as 'Attachment' under "Notes & Attachments" Tab. No price should be given in the "Technical Attachment", otherwise bid shall be rejected. The priced bid submitted in physical form shall not be considered. However, the following documents in one set should necessarily be submitted in physical form in sealed envelope super-scribing the Tender no., Brief Description of services and Bid Closing/Opening date & Time along with the bidder's name and should be submitted to CGM-Contracts, Oil India Ltd., Duliajan-786602 (Assam) on or before 12.45 Hrs (IST) on the bid closing date indicated in the IFB:

a) Printed catalogue and literature if called for in the bid document.
b) Any other document required to be submitted in original as per bid document.

Documents sent through E-mail / Fax / Telephonic method will not be considered.

12.2.1 All the conditions of the contract to be made with the successful bidder are given in various Sections of the Bid Document. Bidders are requested to state their non-compliance to each clause as per **PROFORMA-II** of the bid document and the same should be uploaded along with the Technical Bid.

12.2.2 Timely delivery of the documents in physical form as stated in Para 12.2 above is the responsibility of the bidder. Bidders should send the same through Registered Post or by Courier Services or by hand delivery to the Officer in Charge of the particular tender before the Bid Closing Date and Time. Company shall not be responsible for any postal delay / transit loss.

12.2.3 Bids received through the e-procurement portal shall only be accepted. Bids received in any other form shall not be accepted.

13.0 DEADLINE FOR SUBMISSION OF BIDS:

13.1 Bids should be submitted online as per the online tender submission deadline. Bidders will not be permitted by System to make any changes in their bid/quote after the bid submission deadline is reached. Bidders are requested to take note of this and arrange to submit their bids within the submission deadline to avoid last minute rush/network problems.

13.2 No bid can be submitted after the submission deadline is reached. The system time displayed on the e-procurement web page shall decide the submission deadline.

13.3 The documents in physical form as stated in Para 12.2 must be received by Company at the address specified in the "Forwarding Letter" on or before 12.45 Hrs. (IST) on the Bid Closing Date mentioned in the "Forwarding Letter". Timely delivery of the same at the address mentioned in the Forwarding Letter is the responsibility of the Bidders.

14.0 LATE BIDS: Bidders are advised in their own interest to ensure that their bids are uploaded in system much before the closing date and time of the bid. The documents in physical form if received by the Company after the deadline for submission prescribed by the Company shall be rejected and shall be returned to the Bidders in unopened condition immediately.

15.0 MODIFICATION AND WITHDRAWAL OF BIDS:

15.1 The Bidder after submission of Bid may modify or withdraw its Bid prior to Bid Closing Date & Time in the e-portal using Digital Signature by the person or persons who has / have digitally signed the Bid. Withdrawal or modification of bid through physical correspondence shall not be considered and accepted.

15.2 No Bid can be modified or withdrawn subsequent to the deadline for submission of Bids.

15.3 No Bid can be withdrawn in the interval between the deadline for submission of Bids and the expiry of the period of Bid Validity specified by the Bidder on the Bid Form. Withdrawal of a Bid during this interval by a Bidder shall be debarred from participation in future tenders of OIL.

16.0 EXTENSION OF BID SUBMISSION DATE: Normally no request for extension of Bid Closing Date & Time will be entertained. However, OIL at its discretion, may extend the Bid Closing Date and / or Time due to any reasons.

17.0 BID OPENING AND EVALUATION:

17.1 Company will open the Bids, including submission made pursuant to Clause 12.2, in presence of Bidder's representatives who choose to attend at the date, time and place mentioned in the Forwarding Letter. However, an authorization letter (as per **PROFORMA-III**) from the Bidder must be produced by the Bidder's representative at the time of Bid Opening. Unless this Letter is presented, the representative will not be allowed to attend the Bid Opening. The Bidder's representatives who are allowed to attend the Bid Opening shall sign a register evidencing their attendance. Only one representative against each Bid will be allowed to attend.

17.2 In technical bid opening, only "Technical Attachment" will be opened. Bidders therefore should ensure that technical bid is uploaded in the "Technical Attachment" Tab Page only in the E-portal.

17.3 In case of any unscheduled holiday or Bandh on the Bid Opening Date, the Bids will be opened on the next full working day. Accordingly, Bid Closing Date / time will get extended up to the next working day and time.

17.4 Bids which have been withdrawn pursuant to **Clause 15.0** shall not be opened. Company will examine bids to determine whether they are complete, whether requisite Bid Security Declarations have been furnished, whether documents have been digitally signed and whether the bids are generally in order.

17.5 At bid opening, Company will announce the Bidder's names, written notifications of bid modifications or withdrawal, if any, the presence of requisite Bid Security Declaration and such other details as the Company may consider appropriate.

17.6 Normally no clarifications shall be sought from the Bidders. However, for assisting in the evaluation of the bids especially on the issues where the Bidder confirms compliance in

the evaluation and contradiction exists on the same issues due to lack of required supporting documents in the Bid (i.e. document is deficient or missing), or due to some statement at other place of the Bid (i.e. reconfirmation of confirmation) or vice versa, clarifications may be sought by OIL. In all the above situations, the Bidder will not be allowed to change the basic structure of the Bid already submitted by them and no change in the price or substance of the Bid shall be sought, offered or permitted.

17.7 Prior to the detailed evaluation, Company will determine the substantial responsiveness of each bid to the requirement of the Bid Documents. For purpose of these paragraphs, a substantially responsive bid is one, which conforms to all the terms and conditions of the Bid Document without material deviations or reservation. A material deviation or reservation is one which affects in any substantial way the scope, quality, or performance of work, or which limits in any substantial way, in-consistent way with the Bid Documents, the Company's right or the bidder's obligations under the contract, and the rectification of which deviation or reservation would affect unfairly the competitive position of other bidders presenting substantial responsive bids. The Company's determination of Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.

17.8 A Bid determined as not substantially responsive will be rejected by the Company and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

17.9 The Company may waive minor informality or nonconformity or irregularity in a Bid, which does not constitute a material deviation, provided such waiver, does not prejudice or affect the relative ranking of any Bidder.

18.0 OPENING OF PRICED BIDS:

18.1 In case of composite bid system, Price bids will be opened on the scheduled bid closing date itself.

18.2 In case of two-bid system, Company will open the Priced Bids of the techno-commercially qualified Bidders on a specific date in presence of representatives of the qualified bidders. The techno-commercially qualified Bidders will be intimated about the Priced Bid Opening Date & Time in advance.

18.3 In case of any unscheduled holiday or Bandh on the Priced Bid Opening Date, the Bids will be opened on the next working day.

18.4 The Company will examine the Price quoted by Bidders to determine whether they are complete, any computational errors have been made, the documents have been properly signed, and the bids are generally in order.

Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price (that is obtained by multiplying the unit price and quantity) the unit price shall prevail and the total price shall be corrected accordingly. If there is a discrepancy between words, and figures, the amount in words will prevail. If any Bidder does not accept the correction of the errors, their Bid will be rejected.

19.0 EVALUATION AND COMPARISON OF BIDS: The Company will evaluate and compare the bids as per BEC/PQC of the Tender Documents.

19.1 Discounts / rebates:

19.1.1 Unconditional discounts / rebates, if any, given in the bid will be considered for evaluation.

19.1.2 Post bid or conditional discounts / rebates offered by any bidder shall not be considered for evaluation of bids. However, if the lowest bidder happens to be the final acceptable bidder for award of contract, and if they have offered any discounts / rebates, the contract shall be awarded after taking into account such discounts/rebates.

20.0 CONTACTING THE COMPANY:

20.1 Except as otherwise provided in **Clause 17.0** above, no Bidder shall contact Company on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded except as required by Company vide sub-clause 17.6.

20.2 An effort by a Bidder to influence the Company in the Company's bid evaluation, bid comparison or Contract award decisions may result in the rejection of their bid.

21.0 AWARD OF CONTRACT:

21.1 Award criteria: The Company will award the Contract to the successful Bidder as per the evaluation criteria mentioned under BEC/PQC of the tender document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

22.0 COMPANY'S RIGHT TO ACCEPT OR REJECT ANY BID: Company reserves the right to accept or reject any or all bids and to annul the bidding process and reject all bids, at any time prior to award of contract, without thereby incurring any liability to the affected bidder, or bidders or any obligation to inform the affected bidder of the grounds for Company's action.

23.0 NOTIFICATION OF AWARD:

23.1 Prior to the expiry of the period of bid validity or extended validity, Company will notify the successful Bidder in writing by registered letter or by fax or E-mail (to be confirmed in writing by registered / couriered letter) that its Bid has been accepted.

23.2 The notification of award will constitute the formation of the Contract.

23.3 Upon the successful Bidder's furnishing of Performance Security pursuant to Clause 24.0 below, the Company will promptly notify each un-successful Bidder.

24.0 PERFORMANCE SECURITY:

Successful bidder has to submit Performance Security amount as mentioned in Forwarding Letter, within **30 (Thirty) days** from the date of issue of Letter of Award (LOA).

24.1 a) The Performance Security should be submitted in the form of irrevocable Bank Guarantee (as per **PROFORMA-VII**) issued by Nationalized or Scheduled Bank in favour of M/s Oil India Limited and payable at DULIAJAN. The Bank Guarantee must be on Non-Judicial Stamp Paper of requisite value as per Indian Stamp Act purchased in the name of Banker. A duly filled 'Undertaking' towards details of BG (as per **PROFORMA-XIII**) must also be submitted along with the original BG.

b) Alternately, the Performance Security can also be paid through Bank Draft / Cashier's Cheque / Banker's Cheque / Fixed Deposit Receipt (Account OIL INDIA LIMITED) / irrevocable Letter of Credit / NEFT / RTGS/ Electronic Fund Transfer (subject to credit in OIL's account within prescribed time) to designated account of OIL.

i. If the Performance Security is submitted in the form of Bank Draft, Banker's Cheque, Cashier's Cheque, Fixed Deposit Receipt or Letter of Credit, the same should be in favour of "Oil India Limited" payable at Duliajan.

ii. Performance Security amount through NEFT or RTGS mode may be deposited on or

before the date and time specified in Letter of Award (LOA) to the following designated OIL's bank account:

Bank Details of Beneficiary: OIL INDIA LIMITED		
a	Bank Name	STATE BANK OF INDIA
b	Branch Name	Duliajan
c	Branch Address	Duliajan, Dist.-Dibrugarh
d	Bank Account No.	**10494832599**
e	Type of Account	Current Account
f	IFSC Code	**SBIN0002053**
g	MICR Code	786002302
h	SWIFT Code	SBININBB479

iii. If the Performance security is submitted through NEFT or RTGS mode, the bidder shall submit details such as **UTR No., Contract No., Bidder's name & Deposited Amount etc.**

c) **Submission of Performance Security in the form of Electronic Bank Guarantee (e-BG):**

Bidders/Contractors are advised to submit the e-BG from any of the following banks presently providing facility to issue an e-BG:

Sl. No.	**Bank Name**	**Sl. No.**	**Bank Name**
1	AU Small Finance Bank	18	Indian Bank
2	Axis Bank	19	Indian Overseas Bank
3	Bank of Baroda	20	IndusInd Bank
4	Bank of India	21	Karnataka Bank
5	Bank of Maharashtra	22	Karur Vysya Bank
6	Canara Bank	23	Kotak Mahindra Bank
7	Central Bank of India	24	Punjab and Sind Bank
8	City Union Bank	25	Punjab National Bank
9	DBS Bank	26	RBL Bank
10	DCB Bank	27	Standard Chartered
11	Dhanlaxmi Bak	28	State Bank of India
12	Federal Bank	29	South Indian Bank
13	HDFC Bank	30	Tamilnad Mercantile Bank Ltd

14	HSBC Bank	31	UCO Bank
15	ICICI Bank	32	Union Bank of India
16	IDBI Bank	33	Yes Bank
17	IDFC First Bank		

BENEFICIARY DETAILS FOR ISSUE OF ELECTRONIC BANK GUARANTEE (e-BG)		
A	Name	OIL INDIA LIMITED
B	PAN	AAAC02352C
C	Date of Incorporation	18-02-1959
D	Email ID	bikramjit.borgohain@oilindia.in
E	Mobile No	8133000372
F	Local Address	Duliajan, Dibrugarh, Assam- 786602
G	Registered Address	Duliajan, Dibrugarh, Assam- 786602

d) **Submission of Performance Security in the form of Insurance Surety Bond:** In case the Performance Security is submitted in the form of Insurance Surety Bond (as per **PROFORMA-L**), then the following instructions are to be followed:

i) The Insurance Surety Bond shall be from an Insurer as per guidelines issued by Insurance Regulatory and Development Authority of India (IRDAI).

ii) The Company shall be the Creditor, the Contractor shall be the Principal debtor and the Insurance company/Insurer shall be the Surety in respect of the Insurance Surety Bond to be issued by the Insurer.

iii) The Insurance Surety Bond should be on Non-Judicial stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the state(s) where the Insurance Surety Bond is submitted or is to be acted upon or the rate prevailing in State where the Insurance Surety Bond is executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Contractor/ Insurer issuing the Insurance Surety Bond.

iv) The expiry date and values should be arrived at in accordance with instructions provided in the “Introduction” of the Tender.

v) The Insurance Surety Bond by Contractors will be given from Insurer as specified in the Tender.

vi) A letter from the issuing insurer of the requisite Insurance Surety Bond confirming that the said Insurance Surety Bond / all future communication relating to the Insurance Surety Bond shall be forwarded to the Purchaser at its address as mentioned at "ITB".

vii) Contractor must indicate the full postal address of the Insurer along with the Insurer 's E-mail / Phone from where the Insurance Surety Bond has been issued.

viii) Contractor must indicate Name, Address, Contact number and official Email ID of the Controlling Office of the Surety Issuing Branch or any web portal link, from whom / where the Surety Bond can be got confirmed by the Company.

e) In case of Bidders submitting Performance Security in the form of Bank Guarantee/Bank Draft/Cashier's Cheque/Banker's Cheque/Fixed Deposit Receipt/Letter of Credit/Insurance Surety Bond, the original hard copy of Performance Security shall be submitted within the time frame as stipulated in the LOA.

f) No other mode of payment other than the mode covered under Point Nos. a, b, c & d will be accepted by the Company.

24.2 In case performance security is submitted in the form of Fixed/ Term Deposit, the following details must be attached in the form of declaration by the vendor/party for confirmation of Fixed Deposit from the issuing bank.

Full address of the issuing bank
Branch Code
Authorised signatory with full name and designation
Phone (Mobile) Numbers of the branch
Email address of the branch
Such fixed/term deposit must be pledged in favour of OIL and it must in the printed form on the physical original FDR in words "Pledged in favour of Oil India Limited"

24.3 To avoid delay in confirmation of Fixed/ Term deposit from the issuing bank and consequent delay in processing of bills and payment, party shall arrange the confirmation mail regarding issue of fixed/term deposit with the following details from **bank's official email id** to Oil India's following e-mail id (**FD_PS@OILINDIA.IN**)

FD No.	**Issue Date**	**Maturity Date**	**FD Amount**	**Beneficiary/ Contractor Name**	**Whether above FD is pledged in favour of 'Oil India Limited' (Yes/No)**	**FD amount pledged (in ₹) as per bank's books of accounts**	**Mode of FD Renewal (Auto Renewal/Auto closure)**	**Remarks (if any) of the issuing Bank**

24.4 Performance Security shall not accrue any interest during its period of validity or extended validity.

24.5 The Bank Guarantee issuing bank branch must ensure the following:

The Bank Guarantee issued by the bank must be routed through SFMS platform as per the following details:

(i) MT 760/MT 760 COV for issuance of bank guarantee.

(ii) MT 760/MT 767 COV for amendment of bank guarantee.

[Contract Number should reflect in the SFMS text under MT 760/MT 760 COV]

The above message/intimation shall be sent through SFMS by the BG issuing Bank branch to ICICI Bank Ltd., Duliajan Branch, IFS Code – ICIC0000213; SWIFT Code - ICICINBBXXX. Branch Address: ICICI Bank Ltd, Kunja Bhavan, Daily Bazaar, Duliajan, Dibrugarh, Assam – 786602. The Bank details are as under:

Bank Details of Beneficiary		
A	Bank Name	ICICI Bank Ltd.
B	Branch Name	DULIAJAN
C	Branch Address	Kunja Bhavan, Daily Bazaar, Duliajan, Dibrugarh, Assam – 786602
D	IFSC Code	ICIC0000213
E	Unique identifier code (Field 7037)	OIL503988890
F	Company name	Oil India Limited
G	SWIFT Code	ICICINBBXXX

24.6 This Performance Security must be valid for **03 (Three)** months after the date of expiry of the contract period/defect liability period (if any). In the event of contract being extended within the provisions of the contract agreement, the contractor will have to extend suitably the validity of the "Security Deposit" for the extended period.

24.7 The Performance Security Deposit will be refunded to the Contractor after **03 (three) months** of satisfactory completion of works/defect liability period (if any) under the contract (including extension, if any), but a part or whole of which shall be used by the Company in realization of liquidated damages or claims, if any or for adjustment of compensation or loss due to the Company for any reason.

25.0 SIGNING OF CONTRACT:

25.1 At the same time as the Company notifies the successful Bidder that its Bid has been accepted, the Company will either call the successful Bidder for signing of the agreement or send the Contract Form provided in the Bid Documents, along with the General & Special Conditions of Contract, Technical Specifications, Schedule of Rates incorporating all agreements agreed between the two parties.

25.2 The successful Bidder shall sign and date the contract and return it to the Company after receipt of LOA. Till the contract is signed, the LOA issued to the successful bidder shall remain binding amongst the two parties.

25.3 In the event of failure on the part of the successful Bidder to sign the contract, OIL reserves the right to terminate the LOA issued to the successful Bidder and invoke the Performance Security if submitted by the successful Bidder. In case the Bidder fails to sign the contract or submit the Performance Security within the stipulated time as defined in the tender document, Oil India Limited will suspend the Bidder for a period of two years without conducting any enquiry.

26.0 **CREDIT FACILITY:** Bidders should indicate clearly in the Bid about availability of any credit facility inclusive of Government-to-Government credits indicating the applicable terms and conditions of such credit.

27.0 **MOBILIZATION AND ADVANCE PAYMENT:**

27.1 Request for advance payment shall not be normally considered. However, depending on the merit and at the discretion of the Company, advance against mobilization charge may be given at an interest rate of 1% above the prevailing Bank rate (CC rate) of SBI from the date of payment of the advance till recovery / refund.

27.2 Advance payment agreed to by the Company shall be paid only against submission of an acceptable bank guarantee whose value should be equivalent to the amount of advance plus the amount of interest covering the period of advance. Bank guarantee shall be valid for 2 months beyond completion of mobilization and the same may be invoked in the event of Contractor's failure to mobilize as per agreement.

27.3 In the event of any extension to the mobilization period, Contractor shall have to enhance the value of the bank guarantee to cover the interest for the extended period and also to extend the validity of bank guarantee accordingly.

28.0 **GOODS AND SERVICES TAX**:

28.1 In view of **GST** Implementation from 1st July 2017, all taxes and duties including Excise Duty, CST / VAT, Service tax, Entry Tax and other indirect taxes and duties have been submerged in **GST**. Accordingly, reference of Excise Duty, Service Tax, VAT, Sales Tax, Entry Tax or any other form of indirect tax except of **GST** mentioned in the bidding document shall be ignored.

Bidders are required to submit copy of the GST Registration Certificate while submitting the bids wherever **GST** (CGST & SGST / UTGST or IGST) is applicable.

28.2 Bidder should also mention the **Harmonised System of Nomenclature (HSN)** and **Service Accounting Codes (SAC)** at the designated place in the Price Bid Format.

28.3 **Where the OIL is entitled to avail the input tax credit of GST:**

OIL will reimburse the GST to the Supplier of Goods / Services (Service Provider) at actual against submission of Invoices as per format specified in rules/ regulation of GST to enable OIL to claim input tax credit of GST paid. In case of any variation in the executed quantities, the amount on which the GST is applicable shall be modified in same proportion. Returns and details required to be filled under GST laws &rules should be timely filed by supplier with requisite details.

The input tax credit of **GST** quoted shall be considered for evaluation of bids, as per evaluation criteria of tender document.

28.4 **Where the OIL is not entitled to avail/take the full input tax credit of GST:**

OIL will reimburse GST to the Supplier of Goods / Services (Service Provider) at actual against submission of Invoices as per format specified in rules / regulation of GST subject to the ceiling amount of GST as quoted by the bidder. In case of any variation in the executed quantities (If directed and / or certified by the In-Charge) the ceiling amount on which GST is applicable will be modified on pro-rata basis.

The bids will be evaluated based on total price including **GST**.

28.5 It is the responsibility of the bidder to quote the correct GST rate. The classification of goods / services as per GST (Goods & Service Tax) Act should be correctly done by the

contractor to ensure that input tax credit on GST (Goods & Service Tax) is not lost to the OIL on account of any error on the part of the contractor.

28.6 Further, it is the responsibility of the bidders to make all possible efforts to make their accounting / IT system GST compliant in order to ensure availability of Input Tax Credit (ITC) to Oil India Ltd.

28.7 GST liability, if any, on account of supply of free samples against any tender shall be to bidder's account.

28.8 In case the bidder is covered under Composition Scheme under GST laws, then bidder should quote the price inclusive of the GST (CGST & SGST / UTGST or IGST). Further, such bidder should mention "Cover under composition system" in column for GST (CGST & SGST/UTGST or IGST) of price schedule.

28.9 OIL will prefer to deal with registered bidder under GST. Therefore, bidders are requested to get themselves registered under GST, if not registered yet. However, in case any unregistered bidder is submitting their bid, their prices will be loaded with applicable GST while evaluation of bid.

28.10 Procurement of Specific Goods: Earlier, there is no tax incidence in case of import of specified goods (i.e. the goods covered under List-34 of Customs Notification no. 12/2012-Cus dated. 17.03.2012 as amended). Customs duty is not payable as per the policy. However, under GST regime, IGST Plus GST compensation cess (if applicable) would be leviable on such imports. Bidders should quote GST as inclusive considering IGST component for the imported Materials portion while quoting their prices on destination basis. However, GST rate to be specified in the price bid format.

28.11 The Supplier of Goods / Services may note the Anti-profiteering Clause (Clause No. 12.5) of Part-I GCC and quote their prices accordingly.

28.12 In case the GST rating of bidder on the GST portal / Govt. official website is negative / black listed, then the bid may be rejected by OIL.

29.0 INTEGRITY PACT:

29.1 OIL shall be entering into an Integrity Pact with the Bidders as per format enclosed vide **"INTEGRITY PACT"** of the Bid Document. The Integrity Pact has been duly signed digitally by OIL's competent signatory and uploaded in the OIL's e-portal. The Integrity Pact shall be returned by the bidder (along with the technical Bid) duly signed by the same signatory who signed the Bid i.e. who is duly authorized to sign the Bid. Uploading the Integrity Pact in the OIL's E-portal with digital signature will be construed that all pages of the Integrity Pact has been signed by the bidder's authorized signatory who has signed the bid. If any bidder refuses to sign Integrity Pact or declines to submit the Integrity Pact, their bid shall be rejected straightway.

29.2 In case of a joint venture, all the partners of the joint venture should sign the Integrity pact;

29.3 In the event of any dispute between the management and the contractor relating to those contracts where Integrity Pact is applicable, in case, both the parties are agreeable, they may try to settle dispute through mediation before the panel of Independent External Monitors (IEMs) in a time bound manner. If required, the organizations may adopt any mediation rules for this purpose. In case, the dispute remains unresolved even after mediation by the panel of IEMs, the organization may take further action as per the terms and conditions of the contract.

29.4 OIL has appointed **Shri Ajit Mohan Sharan, IAS (Retd.), Former Secretary, Ministry of Ayush, Govt. of India** and **Dr. Ved Prakash, ITS (Retd.), Ex-Additional Director General Foreign Trade, Ministry of Commerce** as Independent External Monitors (IEM) for a period of 03 (Three) years to oversee implementation of Integrity Pact in OIL. Bidders may contact the Independent External Monitors for any matter relating to the Integrity Pact at the following addresses:

a. Shri Ajit Mohan Sharan, IAS (Retd.), Former Secretary, Ministry of Ayush, Govt. of India
E-Mail ID: ams057@gmail.com

b. Dr. Ved Prakash, ITS (Retd.), Ex-Additional Director General Foreign Trade, Ministry of Commerce
E-Mail ID: ved60prakash@gmail.com

30.0 LOCAL CONDITIONS:

It is imperative for each Bidder to be fully informed themselves of all Indian as well as local conditions, factors and legislation which may have any effect on the execution of the work covered under the Bidding Document. The bidders shall be deemed, prior to submitting their bids to have satisfied themselves of all the aspects covering the nature of the work as stipulated in the Bidding Document and obtain for themselves all necessary information as to the risks, contingencies and all other circumstances, which may influence or affect the various obligations under the Contract.

No request will be considered for clarifications from the Company (OIL) regarding such conditions, factors and legislation. It is understood and agreed that such conditions, factors and legislation have been properly investigated and considered by the Bidders while submitting the Bids. Failure to do so shall not relieve the Bidders from responsibility to estimate properly the cost of performing the work within the provided timeframe. Company (OIL) will assume no responsibility for any understandings or representations concerning conditions made by any of their officers prior to award of the Contract. Company (OIL) shall not permit any Changes to the time schedule of the Contract or any financial adjustments arising from the Bidder's lack of knowledge and its effect on the cost of execution of the Contract.

31.0 SPECIFICATIONS: Before submission of Bids, Bidders are requested to make themselves fully conversant with all Conditions of the Bid Document and other relevant information related to the works / services to be executed under the contract.

32.0 Bidders are advised to go through uploaded bid documents thoroughly before creation of their bids. Bidders may contact the following in case of any query:

Shri. Bikramjit Borgohain, Manager (Contracts)

E-mail: bikramjit.borgohain@oilindia.in; contracts@oilindia.in

End of ITB

BID EVALUATION CRITERIA (BEC)/ PRE QUALIFICATION CRITERIA (PQC)

1.0 GENERAL CONFORMITY:

The bid shall conform to the specifications and terms and conditions given in the Bidding Documents. Bids will be rejected in case material and services offered do not conform to the required parameters stipulated in the technical specifications. Notwithstanding the general conformity of the bid to the stipulated specifications, the following requirements will have to be particularly met by the Bidders without which the same will be considered as non-responsive and will not be considered for evaluation. All the documents related to BEC shall be submitted along with the Technical Bid.

2.0 ELIGIBILITY CRITERIA:

The Bidder must be incorporated/constituted in India and must maintain more than or equal to 20% local content for the offered services. With regard to calculation of local content and submission of documents during bidding & execution of contracts, notification vide letter no. FP-20013/2/2017-FP-PNG dated 17.11.2020 of MoPNG (or as amended from time to time) shall be applicable.

If such local content is not maintained during execution of contract, OIL reserves the right to invoke the Performance Securities submitted by the bidding and supporting companies. In this regard, the bidder must submit an undertaking from the authorized signatory of bid having the power of Attorney along with the bid stating the bidder meets the minimum LC requirement and such undertaking shall become part of the contract.

Whether or not the bidders want to avail PP-LC benefit against this tender, it is mandatory for them to meet the following at the bidding stage:

(a) Without specifying the unit rates and bid amount in the technical bid, the bidder must specify the **percentage (%) of local content** in their bid as per format prescribed in **PROFORMA-XVI (duly signed & sealed by the Power of Attorney holder),** without which the bid may be rejected being non-compliant. Such undertaking shall become a part of the contract, if awarded.

(b) The aforesaid undertaking of the bidder shall also be supported by a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of other than companies) giving the percentage of local content.

(c) Along with the technical bid, bidder must submit a copy of their Certificate of Incorporation/Registration or any other valid document(s) which substantially establishes its constitution in India.

3.0 TECHNICAL EVALUATION CRITERIA:

3.1 The Bidder must be the OEM (Original Equipment manufacturer) of both Gas Insulated Switchgear voltage level 33kV (or above) and Air Insulated Switchgear voltage level 11kV (or above). In this regard, the bidder must submit an OEM Declaration/Certificate on its letterhead, duly signed by an authorized signatory, confirming the same.

OR

The bidder must be an Authorized Business Partner/Dealer/Distributor/System Integrator/Channel Partner/Implementer of the OEM. In this regard, the bidder shall submit an authorization certificate, as per the enclosed format (**Annexure–A**), issued by the Original Equipment Manufacturer (OEM) of both Gas Insulated Switchgear (GIS) of voltage level 33 kV and Air Insulated Switchgear (AIS) of voltage level 11 kV, authorizing the bidder to participate in the tender. The bidder shall also submit, along with the technical bid, a duly filled-in and signed Agreement (format enclosed as **Annexure–B**) executed between the OEM and the bidder (Authorized Business Partner/Dealer/Distributor/Channel Partner) for fulfilling the obligations under the contract. Any bid not meeting this requirement shall be liable for rejection.

3.2 The bidder must have successfully executed/completed '**SIMILAR WORKS'** over the last 07 (seven) years reckoned from the Original Bid Closing Date in PSUs/Central Government/State Government Organization/Nationalized Banks/Public Limited Company, in India as under:

One similar completed works costing not less than the amount equal to **Rs. 10,27,15,200.00** ;

OR

Two similar completed works each costing not less than the amount equal to **Rs. 6,41,97,000.00**;

OR

Three similar completed works each costing not less than the amount equal to **Rs. 5,13,57,600.00** .

3.3 The bidder shall submit Type Test Certificates issued by NABL/BIS/CPRI/ILAC accredited laboratories/STL members/central govt. approved laboratories or any other reputed national or international laboratories in the name of the Original Equipment Manufacturer (OEM) only.

a) For the offered make, model and rating of the 33 kV GIS Switchgear and 11 kV AIS Switchgear, the following Type Test Certificates not older than **15 (fifteen) years** reckoned from the original bid closing date must be submitted along with the bid:

i) Temperature Rise Test
ii) Dielectric Test
iii) Internal Arc Classification Test for Cable Chamber and Busbar Chamber
iv) Short-Time Withstand Current and Peak Withstand Current Tests

b) For the offered make and rating **[33 kV/11 kV, 5 MVA]** Power Transformer, the following Type Test Certificates not older than **05 (five) years** reckoned from the original bid closing date must be submitted along with the bid.

i) Temperature Rise Test
ii) Dielectric Test
iii) Short-Circuit Withstand Test

3.4 As part of the execution of the job, the bidder shall deploy personnel meeting the specifications stipulated under the Special Terms and Conditions [Clause 4(iv) and Clause 5(g)] and possessing the requisite qualifications and experience to carry out the work in accordance with the Scope of Work during the contract period. The bidder shall submit the credentials of such personnel during the mobilization period of the contract.

In this regard, the bidder shall submit an undertaking along with the bid confirming that the specified personnel shall be deployed during execution of the contract and that their credentials shall be submitted during the mobilization period of the contract.

Notes to Clause 3.2 above:

A. **'SIMILAR WORK'** mentioned above means;

"*Supply, installation, testing and commissioning of Gas Insulated Switchgear substation of voltage level of 33KV or above integrated within an E-House/Containerised/Modular/Portable Sub-Station having minimum three GIS feeders* with associated switchgears/transformers/cabling/civil works"

B. For proof of requisite experience (refer Clause No. 3.2 above), the following documents/photocopy (self-attested/attested) must be submitted along with the bid:

i) Contract document/LOI/LOA/WO showing details of work,

AND

ii) Job Completion Certificate issued by the end user/client in their official letter head duly sealed and signed showing:

a) Gross value of job done
b) Nature of jobs done and Work Order No./Contract No.
c) Contract period and date of completion.

OR

SES (Service Entry Sheet)/Certificate of Payment (COP) issued by the company indicating the following:

a) Work Order No./Contract No.
b) Gross value of jobs done.

c) Period of service
d) Nature of service

C. Only Letter of Intent (LOI)/Letter of Award (LOA) and/or Work Order(s), Job Completion certificates are not acceptable as evidence of experience. However, in case the requisite experience is against OIL's contract, the bidder shall only be required to categorically specify OIL's Contract No.

D. Mere award of contract(s) shall not be counted towards experience. Successful completion of the awarded contract(s) to the extent of value, as stipulated respectively under Clause No. 3.2 shall only be treated as acceptable experience.

E. Following work experience will also be taken into consideration:

(a) If the prospective bidder is executing **'SIMILAR WORK'** which is still running and the contract value executed prior to original bid closing date is equal to or more than the minimum prescribed value in the BEC.

(b) In case the start date of the requisite experience is beyond the prescribed 07 (seven) years reckoned from the original bid closing date, but completion is within the prescribed 07 (seven) years reckoned from the original bid closing date and the value executed within the last 07 (seven) years reckoned from the original bid closing date is equal to or more than the minimum quantum prescribed in the BEC.

(c) If the prospective bidder has executed a contract in which **'SIMILAR WORK'** is a component of the contract.

- In case the document submitted as per **Para B** above, are not sufficient to satisfy a) work defined above b) minimum prescribed value c) prescribed period of 07 years, for proof of work experience as per '**SIMILAR WORK**' against **Para E** above, the bidder shall have to additionally submit a certificate clearly specifying the period and value, issued by end user or a practicing Chartered/Cost Accountant Firm (with Membership Number & Firm Registration Number).

F. In case requisite experience is against **OIL's Contract**, bidder shall only be required to categorically specify OIL's Contract Number and date.

G. Experience of executing '**SIMILAR WORK**' through 'sub-contracting' shall not be considered for evaluation.

H. **'SIMILAR WORK**' executed by a bidder for its own organization/subsidiary cannot be considered as experience for the purpose of meeting BEC.

I. Bids submitted for part of the **'SIMILAR WORK'** will be rejected.

J. Bid will be rejected if not accompanied with adequate documentary proof in support of Work experience as mentioned in Para 3.2.

K. Oil India Limited (OIL) reserves the right to contact the Client(s) referred by the Bidder for authentication of the documents submitted by the Bidder. OIL may contact the clients/operators under intimation/copy to the respective Bidder. It will be the responsibility of the Bidder to take up the matter with his Client(s) and arrange for the confirmation as desired by OIL.]

L. Bidders submitting their bid based on the experience of their Technical Collaborator/Joint Venture/Parent/Subsidiary/Co-subsidiary/Sister Subsidiary/MOU with another party shall not be considered. Bids from Consortium, Joint Venture shall also not be considered.

M. Only one bid against a party offering individually as well as under Proprietorship/Partnership firms shall be accepted. In case any bidder is found to submit more than one bid including separate bids under proprietorship as well as under any Partnership firm then all the bids submitted by the bidder in his own name or in the name of firm where he/she is a partner/sole proprietor will be rejected.

4.0 MOBILIZATION PERIOD:

The bidders must confirm their compliance in their "technical" bid to complete the mobilization **within thirty (30) days** from the date of issue of mobilization notice by Electrical Department i.e. after issuance of Letter of Award (LOA). Offers without confirmation of stipulated mobilization time or with mobilization time more than **30 (Thirty) days** shall be summarily rejected. The bidder shall confirm compliance of this in their technical bid.

5.0 FINANCIAL CRITERIA:

5.1 Annual Financial Turnover of the bidder in any of preceding 03 (three) financial/accounting years, reckoned from the original bid closing date should be at least **Rs. 4,81,47,800.00** only.

5.2 **Net worth** of bidder must be positive for preceding financial/accounting year.

Note: The Net worth to be considered against Clause 4.1.2 above, should be read in conjunction with the definition of Net worth as mentioned in Section 2 (57) of the Companies Act, 2013.

Note:

- Annual Financial Turnover of the bidder from operations shall mean: "Aggregate value of the realisation of amount made from the sale, supply or distribution of goods or on account of services rendered, or both, by the company (bidder) during a financial year" as per the Companies Act, 2013 Section 2 (91).

- Net worth shall mean: "Share capital + Reserves created out of profits and securities Premium – Aggregate value of accumulated losses (excluding revaluation reserves) – deferred expenditure – Miscellaneous Expenditure to the extent not written off and carried forward Loss - Reserves created out of write back of depreciation and amalgamation"

- The Net worth to be considered against the clause above, should be read in conjunction with the definition of Net worth as mentioned in Section 2 (57) of The Companies Act, 2013.

Notes to BEC Clause 5.0 above:

A. For proof of Annual Turnover & Net worth any one of the following document must be submitted along with the bid:

(i) A certificate issued by a practicing Chartered/Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover & Net worth as per format prescribed in **Proforma-XV**.

OR

(ii) Financial Statements (Balance Sheet & Profit & Loss account along with all the schedules/notes forming part of the Balance sheet & Profit and Loss Account) audited by the auditors appointed under the statute like Companies Act etc. wherever applicable.

*Note:

- Mention of UDIN (Unique Document Identification Number) is mandatory for all Certificates issued w.e.f. February 1, 2019 by Chartered Accountant in Practice.
- In case the bidder is a Central Govt. organization/PSU/State Govt. organization /Semi-State Govt. Organization or any other Central/State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, bidder to provide documentary evidences for the same.

B. Considering the time required for preparation of Financial Statements, if the last date of preceding financial/accounting year falls within the preceding six months /within the due date for furnishing of audit report as per Section 139(1) of IT Act, 1961 (read along with latest circulars/notifications issued by CBDT from time to time) reckoned from the original bid closing date and the Financial Statements of the preceding financial/accounting year are not available with the bidder, then the financial turnover of the previous three financial/accounting years excluding the preceding financial/accounting year will be considered. In such cases, the Net worth of the previous financial/accounting year excluding the preceding financial /accounting year will be considered. However, the bidder has to submit an undertaking in support of the same along with their technical bid as per **PROFORMA-X**.

C. In case the bidder is a Central Govt. organization/PSU/State Govt. organization /Semi-State Govt. Organization or any other Central/State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, bidder to provide documentary evidence for the same.

D. In case the bidder is a Government Department, they are exempted from submission of documents mentioned under **Para-A. & Para-B.** above.

E. Bid will be rejected if not accompanied with adequate documentary proof in support of Annual turnover and Net worth as mentioned in Para 5.1 & 5.2.

6.0 COMMERCIAL EVALUATION CRITERIA

6.1 Bids are to be submitted under Single-Stage Two-Bid System i.e., Un-priced Techno-Commercial Bid and Price Bid in their respective fields in e-tender portal. Only the Price Bid should contain the quoted price**.**

6.2 The price quoted by the successful bidder must be firm during the performance of the contract and not subject to variation on any account except as mentioned in the bid document. Any bid submitted with adjustable price quotation other than the above will be treated as non- responsive and rejected.

Note: The breakup of the quoted/offered price i.e., the duly filled Price Bid Format MUST NOT be uploaded with the technical bid; otherwise, the bid shall be rejected straightway.

6.3 Bid Security in Original shall be furnished as a part of the Technical Bid and shall reach the office of CGM- Contracts, OIL at Duliajan on or before 12.45 Hrs (IST) on the bid closing date. A scanned copy of the bid security shall however be uploaded in OIL's E-Procurement portal along with the Technical Bid. The amount of Bid Security shall be **₹ 25,67,900.00.** Bid without proper & valid Bid Security will be rejected.

For detailed may please refer to **Clause No. 12.0 of INSTRUCTIONS TO BIDDERS (ITB).**

6.4 Bid Documents / User Id & Password for OIL's E-Tender portal are not transferable.

6.5 Any bid received in the form of Physical document/ Telex/ Cable/ Fax/ E-mail will not be accepted.

6.6 Bids shall be typed or written in indelible ink. The bidder or his authorized representative shall sign the bid digitally, failing which the bid will be rejected.

6.7 Bids shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by bidder, in which case such corrections shall be initiated by the persons(s) signing (digitally) the bid. However, white fluid should not be used for making corrections. Any bid not meeting this requirement shall be rejected.

6.8 Any bid containing false statement will be rejected and action will be taken by Company as per Bid Document.

6.9 Bidder must accept and comply with the following provisions as given in the Tender Document in toto, failing which offer will be rejected:

(i) Firm price
(ii) Bid Security
(iii) Period of validity of Bid
(iv) Price Schedule
(v) Performance Bank Guarantee / Security deposit

(vi) Delivery / Completion Schedule
(vii) Scope of work
(viii) Guarantee of material / work
(ix) Liquidated Damages clause
(x) Tax liabilities
(xi) Arbitration / Resolution of Dispute Clause
(xii) Force Majeure
(xiii) Applicable Laws
(xiv) Specifications
(xv) Integrity Pact
(xvi) Mobilization

6.10 There should not be any indication of price in the Un-priced Techno-Commercial Bid. A bid will be straightway rejected if this is given in the Un-priced Techno-Commercial Bid.

6.11 Bid received with validity of offer less than **One Hundred and Twenty (120) Days** from Bid Closing Date will be rejected.

6.12 The Integrity Pact is applicable against this tender. OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide **PROFORMA-XVII** of the tender document. This Integrity Pact proforma has been duly signed by OIL's competent signatory. The proforma must be returned by the bidder (along with the Un-priced Techno-Commercial Bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact have been signed by the bidder's authorized signatory who sign the Bid.

6.13 Bidders shall submit declaration as per **Appendix-1** that they are neither bankrupt nor undergoing any insolvency resolution process or liquidation or bankruptcy proceeding under any law OR no insolvency resolution process or liquidation or bankruptcy proceeding is initiated under any law against them.

6.14 Bidders shall submit declaration as per **Appendix-2** confirming that neither the bidder nor any of their allied concerns, partners or associates or directors or proprietors involved in any capacity, are currently put on holiday list/banning list by OIL debarring them from carrying on business dealings with OIL.

6.15 The bidder shall submit an undertaking/declaration as per **Appendix-3** confirming that they have read and understood OIL's Banning Policy and that neither they nor any of their allied concerns or partners or associates or directors, or proprietors involved in any capacity, are currently on OIL's Holiday/Banning List. Further, the bidder shall confirm that neither they nor any of their aforementioned entities have, during the last three years, been involved in any transgression with any company conforming to the Transparency International (TI) approach or with any Public Sector Enterprise of India that could justify exclusion from the tender process. The bidder shall also disclose details of all such allied entities, if any, as required under the Banning Policy.

7.0 PRICE EVALUATION CRITERIA

7.1 Price bid shall be opened in respect of only the techno-commercially acceptable bidders whose bids have been found to be substantially responsive. A

substantially responsive bid is one that meets the terms and conditions of the Tender and/or the acceptance of which bid will not result in indeterminate liability on OIL.

7.2 If a bidder quotes Total Charges/Consideration as NIL, the bid shall be treated as unresponsive and will not be considered.

7.3 It is to be clearly understood that the assumptions made in respect of the quantities for various operations are only for the purpose of evaluation of the bid and the Contractor will be paid on the basis of the actual number of days/parameters.

7.4 The bidders are advised not to offer any discount/rebate separately and to offer their prices after considering discount/rebate, if any.

7.5 Conditional and unsolicited discount will not be considered in evaluation. However, if such bidder happens to be the lowest recommended bidder, unsolicited discount without any condition will be considered for computing the contract price.

7.6 The inter-se-ranking of the techno-commercially qualified bidders will be determined on overall lowest cost basis (L-1 offer) i.e., considering the Total quoted price inclusive of all liabilities and GST.

7.7 Based on the evaluation of techno-commercially qualified bidders, the job will be awarded to the L-1 bidder.

7.8 In case of identical overall lowest offered rate by more than 01 (one) bidder, the selection will be made by draw of lot between the parties offering the same overall lowest price.

7.9 OIL will prefer to deal with registered bidder under GST. Therefore, bidders are requested to get themselves registered under GST, if not registered yet. However, in case any unregistered bidder is submitting their bid, their prices will be loaded with applicable GST while evaluation of bid.

7.10 When a bidder mentions taxes as extra without specifying the rates & amount, the offer will be loaded with maximum value towards taxes received against the tender for comparison purposes. If the bidder emerges as lowest bidder after such loading, in the event of order on that bidder, taxes mentioned by OIL on the Purchase Order/Contracts will be binding on the bidder.

7.11 Input Tax Credit on GST (Goods & Service Tax) for this service is NOT available to OIL & the bids will be evaluated based on total price including GST.

7.12 For evaluation purpose, quoted unit rates against each Line Item of the price bidding format shall be considered only upto 02 (two) decimal places without rounding off for evaluation.

8.0 PURCHASE PREFERENCE CLAUSE

8.1 PURCHASE PREFERENCE TO MSE BIDDERS (NOT APPLIACBLE FOR THIS TENDER): Purchase Preference to Micro and Small Enterprises is applicable for this tender. Documentation required to be submitted by MSEs: Categorization and various criteria applicable to MSE bidders shall be guided by the Gazette Notification No. CG-DL-E-26062020-220191 dated 26.06.2020 (and as amended time to time) issued by MINISTRY OF MICRO, SMALL AND MEDIUM ENTERPRISES. The bidder claiming the MSE status (MSE-General, MSE-SC/ST, MSE-Woman) against this tender has to submit Udyam Registration Number with Udyam Registration Certificate along with the technical bid for availing the benefits

applicable to MSEs. Note: In case bidding MSE is owned by Schedule Caste or Schedule Tribe or Woman entrepreneur, valid documentary evidence issued by the agency who has registered the bidder as MSE owned by SC/ST/Woman entrepreneur should also be enclosed.

8.2 PURCHASE PREFERENCE POLICY (LINKED WITH LOCAL CONTENT) (PP-MII): Purchase preference under Public Procurement (Preference to Make in India) Order, 2017 of Department for Promotion of Industry and Internal Trade (DPIIT), Govt. of India as revised vide Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 (and as amended time to time) with modifications as notified vide MoPNG Order No. FP-20013/2/2017-FP-PNG-Part (4) (E-41432) dated 26th April 2022, shall be applicable in this tender. Bidders to check the provisions of the Order for their eligibility to bid and seek benefits for Purchase preference, accordingly.

8.3 Contract shall be awarded for the entire scope of work under this tender subject to concurrent application of Public Procurement Policy for MSE Order 2012 and PP(MII) Order 2017 as per Order No. F.1/4/2021-PPD dated 18.05.2023 issued by Public Procurement Division, Department of Expenditure, Ministry of Finance, Govt. of India and any subsequent amendment thereto.

Note: Services under this tender is not splitable.

9.0 GENERAL:

9.1 In case bidder takes exception to any clause of bidding document not covered under BEC/PQC, then the Company has the discretion to load or reject the offer on account of such exception if the bidder does not withdraw / modify the deviation when/as advised by company. The loading so done by the company will be final and binding on the bidders. No deviation will however be accepted in the clauses covered under BEC/PQC.

9.2 Bidders should provide self-attested copies of GST Registration Certificate, PAN Card, ESIC registration (if applicable), P.F. Registration Number OR Declaration (Declaration by applicant that provisions of Provident Fund Act are not applicable to them. In case P.F. is required to be deposited later on, the same will be deposited by the bidder (Applicant). In case successful bidder doesn't have P.F. Code at the time of bidding and PF Act is applicable on him / her, the same has to be provided by him / her before signing of contract agreement and issue of Work Order by OIL.

9.3 To ascertain the substantial responsiveness of the bid the Company reserves the right to ask the bidder for clarification in respect of clauses covered under BEC-BRC also and such clarifications fulfilling the BEC-BRC clauses in toto must be received or before the deadline given by the company, failing which the offer will be evaluated based on the submission. However, mere submission of such clarification shall not make the offer responsive, unless company is satisfied with the substantial responsiveness of the offer.

9.4 If any of the clauses in the BEC-BRC contradict with other clauses of bidding document elsewhere, the clauses in the BEC-BRC shall prevail.

9.5 Bidder(s) must note that requisite information(s) / financial values etc. as required in the BEC-BRC & Tender must be clearly understandable from the supporting documents submitted by the Bidder(s); otherwise Bids shall be rejected.

9.6 OIL will not be responsible for delay, loss or non-receipt of applications for participating in the bid sent by mail and will not entertain any correspondence in this regard.

9.7 The originals of such documents [furnished by bidder(s)] shall have to be produced by bidder(s) to OIL as and when asked for.

9.8 Any bidder who are on Holiday/ Banning/ Suspension list of OIL on due date of submission of bid/ during the process of evaluation of the bids, the offers of such bidders shall not be considered and will be straightaway rejected.

10.0 Bidders have to submit a declaration as per the format prescribed in **PROFORMA-XIV** regarding compliance of Safety Measures along with the technical bid.

11.0 **CHECKLIST FOR BEC-BRC:** Enclosed as **TECHNICAL EVALUATION SHEET (PROFORMA-XI)** and **COMMERCIAL CHECK-LIST (PROFORMA-XII).** To be submitted along with the technical bid. In case of non-submission of the checklist, the offer shall be liable for rejection.

12.0 **COMPLIANCE OF THE COMPETITION ACT, 2002**: The bidder shall strictly comply with the provisions of the Competition Act, 2002, more particularly, Section-3 of the Act. Any violation the provisions of the Act shall attract penal action under the Act.

13.0 Bidders should submit an undertaking that their bid is compliant to Order No. F. 7/10/2021-PPD (1) dated 23.02.2023 issued by Ministry of Finance, Department of Expenditure, Public Procurement Division, Govt. of India (including subsequent amendments thereto, if any), regarding restrictions on procurement from a bidder of a country which shares land border with India.

In this regard, bidders must submit duly sealed & signed undertaking as per format provided vide **Exhibit-I, Exhibit-II** and **Exhibit-III** along with the technical bid.

14.0 **VERIFICATION AND CERTIFICATION OF DOCUMENTS BY INDEPENDENT THIRD-PARTY INSPECTION AGENCIES (TPIA)::**

14.1 Oil India Limited (OIL) has engaged the following 17 (Seventeen) Independent Inspection Agencies for a period of 04 (Four) years up to 06.06.2028 to verify the authenticity of documents required against BEC to be submitted by the bidders against the tender:

Sl. No.	Name of Independent Inspection Agency	Contact E-mail ID
i.	M/s. Alfred H Knight India Private Limited	a. rkjain@ahkgroup.com b. Pradeep.mathur@ahkgroup.com c. info@ahkgroup.com
ii.	M/s. TUV India Private Limited	a. noida@tuv-nord.com b. mumbai@tuv-nord.com c. salim@tuv-nord.com
iii.	M/s Conformity India International Private Limited	a. mktg@ciindia.in
iv.	M/s Ravi Energic Private Limited	a. baroda@ravienergic.com b. tpia@ravienergic.com
v.	M/s SGS India Private Limited	a. dhaval.vora@sgs.com b. sgs.india@sgs.com
vi.	M/s Assure Quality Management Certification Services Private Limited	a. aqmcs@aqmcs.com
vii.	M/s. ISSPL Limited	a. oilandgas@irclass.org b. industrial_services@irclass.org
viii.	M/s. TÜV Rheinland (India) Pvt. Ltd.	a. Shailesh.deotale@ind.tuv.com b. ravi.kumar@ind.tuv.com c. Kaushal.gohil@ind.tuv.com d. info@ind.tuv.com
ix.	M/s Gulf Lloyds (India) Ltd.	a. contact@gulflloyds.com b. inspection@gulflloyds.com
x.	M/s Baltic Testing India Pvt. Ltd.	a. office@balticcontrolindia.com
xi.	M/s Sanmarg Engineering Validation & Assessment	a. Amitra@sanmargeva.com
xii.	M/s Meenar Global Consultants LLP	a. sales@mgellp.in
xiii.	M/s Rites Limited	a. nrinspn@rites.com b. info@rites.com c. sbu.ninsp@rites.com
xiv.	M/s Bureau Veritas (India) Private Limited	a. bvindia.corporate@bureauveritas.com
xv.	M/s TUV SUD South Asia Private Limited	a. Hemant.chavan@tuvsud.com b. Jayashree.rane@tuvsud.com
xvi.	M/s Adornment Engineers India Private Limited	a. jks@adornmentengineers.com
xvii.	M/s TCRC Inspections Pvt. Ltd.	a. admin@tereinspections.com b. ashismallick@teregroup.com c. tenders@teregroup.com

14.2 Bidders are required to have their following documents verified and certified by any one of the empanelled Independent Third-Party Inspection Agencies listed below:

(i) Technical Criteria: BEC Clause No. 3.0 - Technical Criteria

(ii) Financial Criteria: Line of Credit, if incorporated in the tender.

(iii) General Requirement: Bidder's Certificate of Incorporation, if applicable.

(iv) Additional Documents: Not Applicable

The Inspection Certificate, duly issued by the selected agency, must be submitted along with the Technical Bid. All costs related to verification and certification by the Thirty-Party Inspection Agencies shall be borne solely by the respective bidders. Payments in this regard shall be made directly by the bidders to the Inspection Agencies. OIL shall not be held responsible for any payment-related dispute between the bidders and the inspection agencies.

14.3 **The verified and certified documents (As mentioned in Para 14.2 above) must be submitted along with the Technical Bid**s. Any bid submitted with un-verified supporting documents shall not be considered. However, in case a bidder submits its bid along with all relevant supporting documents as per BEC without getting all/some of them verified by the designated Independent Inspection agency, such bid can be provisionally considered, provided it is accompanied by an Undertaking by the Bidder on their official letterhead towards submission of the duly verified and certified copies and Inspection Certificate within 07 (Seven) days from the actual date of bid opening. **No reminders or clarifications will be issued by the Company in this regard, and failure to submit the verified/ certified documents within the stipulated time shall result in outright rejection of the bid, at the sole risk and responsibility of the bidder.**

14.4 The methodology of verification/ certification of documents followed by the agencies is broadly as under, but not limited to:

(a) It is the sole responsibility of the bidders intending to participate in the tender to thoroughly understand the requirements of the tender, particularly the documents required under BEC. The bidders must present all relevant documents to any of the empanelled third-party certifying agencies for verification/certification. The TPI Agencies shall verify the authenticity of the documents only. They will not verify whether the documents produced by the bidder are sufficient for meeting the requirements of the tender or not. Neither OIL nor the Inspection Agencies shall be responsible for the selection or appropriateness of the documents submitted for verification. It is entirely the bidder's responsibility to ensure that the appropriate documents are verified/certified in support of BEC compliance.

(b) The concerned Independent Third-Party Inspection Agencies shall depute their qualified/competent inspector to the Bidder's premises to check the original documents and certify the copies which the bidder shall submit along with their bids.

(c) On issuance of the Inspection Certificate to the bidder, TPI agency should share a copy of the same to concerned Purchase Officer through email directly (Email ID: **bikramjit.borgohain@oilindia.in**). OIL will reserve the right to ask the inspection agencies to verify the documents with source, if required, at no extra cost to OIL. Verification/Certification of documents by OIL's empanelled third-party inspection agencies shall not automatically make the bidder techno-commercially acceptable or eligible for award of contract.

Notes:

(i) If any documents, LOI/LOA/Orders/Contracts, etc., submitted towards BEC are issued by Oil India Limited, such documents need not be verified by TPI agency.

(ii) Undertaking from TPI Agency as per format (**PROFORMA-M**) enclosed should be submitted along with the Bid.

(iii) In case of clarifications sought by OIL against BEC, supporting documents (historical in nature) to those submitted in the original bid will also have to be verified from the same TPI agency which has originally verified their bid documents. OIL shall categorically mention the documents that are to be submitted with TPI verification in the clarification sought. In case the bidder fails to submit the TPI verified documents, as sought by OIL, as part of their clarification, their offer will be liable for rejection.

************End of PQC/BEC************

PART-I

GENERAL CONDITIONS OF CONTRACT (GCC)

1.0 APPLICABILITY, DEFINITION & INTERPRETATION:

1.1 Applicability

All clauses in the General Conditions of Contract [GCC] shall apply to all transactions except as otherwise stated in the Special Conditions of Contract [SCC] and/or BEC-BRC. Furthermore, in the event if there is any conflict between the Principal text of the Agreement and the Appendixes, the Principal text will prevail.

1.2 Definition & Interpretation

In the contract (as hereinafter defined) the following words and expressions shall have the meaning hereby assigned to them except where the context otherwise requires:

1.2.1 COMPANY/OIL/Operator:

Shall mean Oil India Limited [OIL] a public sector undertaking, incorporated under COMPANY's Act 1956 having its registered office at Duliajan-786602, Assam, India and includes its successor and permitted assigns.

1.2.2 CONTRACTOR:

Shall mean the person or persons, firm or COMPANY or corporation incorporated in India or abroad, who has been awarded with the contract and includes contractor's legal representatives, his successors and permitted assigns.

1.2.3 Contract:

Shall mean a written agreement between the COMPANY and the CONTRACTOR for execution of the services/works including all contract documents and subsequent amendments, if any.

1.2.4 Site:

Shall mean the place in which the operations/services are to be carried out or places approved by OIL for the purposes of the CONTRACT together with any other places designated in the CONTRACT as forming part of the site.

1.2.5 COMPANY's Site Representative/Engineer:

Shall mean the person or the persons appointed by the COMPANY from time to time to act on its behalf at the site for overall co- ordination, supervision and project management at site.

1.2.6 Sub-Contract:

Shall mean order/ contract placed by the CONTRACTOR for any portion of the CONTRACT or work sublet with necessary written consent of COMPANY on third

party. Such sub-letting shall not relieve the CONTRACTOR from any obligation, duty or responsibility under the CONTRACT.

1.2.7 Sub-Contractor:

Shall mean any person or firm or COMPANY (other than CONTRACTOR) to whom any part of the work has been entrusted by CONTRACTOR, with written consent of OIL or the persons appointed by OIL, successors and permitted assigns of such persons, firm or COMPANY**.**

1.2.8 Contractor's Representative:

Shall mean such person/or persons duly appointed representative at the site and base as the CONTRACTOR may designate in writing to the COMPANY as having authority to act for the CONTRACTOR in matters affecting the work and to provide the requisite services.

1.2.9 Contract Price/Value*:*

Shall mean the sum accepted or the sum calculated in accordance with the rates accepted in tender and/or the contract rates as payable to the CONTRACTOR for the entire execution and completion of the services/works, including amendments/modification/change order issued by the COMPANY.

1.2.10 Firm price:

The prices will remain unchanged, except for statutory changes, during currency of the CONTRACT unless specifically agreed to in writing by COMPANY.

1.2.11 Service/Works/Operations:

Shall mean and include all items and things to be supplied/done and all work /Service to be performed by the CONTRACTOR as specified in the Scope of Work under this CONTRACT and shall also include all extra, additional, altered or substituted works/services as required for the purpose of successful execution of the Contract.

1.2.12 Equipment/Materials/Goods:

Shall mean and include any equipment, machinery, instruments, stores, goods which CONTRACTOR is required to provide to the COMPANY for/under the CONTRACT and amendments thereto.

1.2.13 Drawings:

Shall mean and include all Engineering sketches, general arrangements/ layout drawings, sectional plans, all elevations, photographs, etc. related to the CONTRACT together with modification and revision thereto.

1.2.14 Specifications:

Means and includes all technical specifications, provision attached and referred to in the tender/contract document regarding method and manner of performing the

services and qualities of the service/materials to be provided under the contract and also as modified by the COMPANY/its site representative during the execution of contract in the best interest of service.

1.2.15 Engineer In-charge (EIC):

Shall mean the person designated from time to time by the COMPANY and shall include those who are expressly authorized by the COMPANY to act for and on its behalf for operation of the contract.

1.2.16 Inspectors:

Shall mean any person or outside Agency nominated by COMPANY to inspect equipment, materials and services, if any, in the CONTRACT (stage wise as well as final) as per the terms of the CONTRACT.

1.2.17 Tests:

Shall mean such process or processes to be carried out by the CONTRACTOR as are prescribed in the CONTRACT, considered necessary by the COMPANY or their representative to ascertain quality, workmanship, performance and efficiency of equipment or services thereof.

1.2.18 Approval:

Shall mean and include the written consent duly signed by COMPANY or their authorized official in respect of all documents, drawings or other particulars in relation to the CONTRACT.

1.2.19 Day:

Shall mean a calendar day of twenty –four (24) consecutive hours beginning at 00:00 hours with reference to local time at the site.

1.2.20 Month:

Shall mean a calendar month as per Gregorian calendar.

1.2.21 Year:

Shall mean calendar year as per Gregorian calendar.

1.2.22 Working day:

Means any day which is not declared to be holiday by the COMPANY.

1.2.23 Bid/offer:

Shall mean the proposal/Offer along with supporting documents submitted by the bidder in response to the tender or enquiry in accordance with the terms of Tender or Enquiry, for consideration by COMPANY, prior to award of contract.

1.2.24 Guarantee:

Shall mean the period and other conditions governing the warranty/guarantee of the services as provided in the CONTRACT.

1.2.25 Mobilization:

Shall mean rendering the equipment fully manned and equipped as per CONTRACT and ready to begin work at site designated by the COMPANY and accepted by the COMPANY after inspection.

1.2.26 De-mobilization:

Shall mean the removal of all items forming part of the Mobilization from the site of the COMPANY and inspection and acceptance thereafter by the COMPANY including compliance of requirement in relation to re-export of imported equipment/materials under concessional duty scheme in accordance with relevant notification from Customs Authorities.

1.2.27 Willful Misconduct:

Shall mean intentional disregard of good and prudent standards of performance or proper conduct under the Contract with knowledge that it is likely to result in any injury to any person or persons or loss or damage of property of the Company or Third Party.

1.2.28 Gross Negligence:

Shall mean any act or failure to act (whether sole, joint or concurrent) by a person or entity which was intended to cause, or which was in reckless disregard of or unjustifiable indifference to, avoidable and harmful consequences such person or entity knew, or should have known, would result from such act or failure to act. Notwithstanding the foregoing, Gross negligence shall not include any action taken in good faith for the safeguard of life or property.

1.2.29 Criminal Negligence:

Shall mean that the crime happened negligently, there was duty of care upon the Person but inadvertently due to his negligence, the duty was breached, which causes harm to the people in the form of death or serious injury.

1.2.30 GST Legislations:

'GST legislations' means 'any or all of the following legislations as may be applicable to the CONTRACTOR and OIL:

(A) The Central Goods & Services Tax Act, 2017;
(B) The Integrated Goods & Services Act, 2017;
(C) The Union Territory Goods & Services Tax Act, 2017;
(D) The respective State Goods & Service Tax Acts'
(E) The Goods and Services (Compensation to States) Act, 2017
(F) The Customs Act and the Customs Tariff Act.

(G) Any other applicable Act related to GST

2.0 CONTRACT DOCUMENT:

2.1 Governing language: The governing language for the CONTRACT shall be English. All CONTRACT documents and all correspondence and communication to be given and all other documentation to be prepared and supplied under the CONTRACT shall be written in English and the CONTRACT shall be construed and interpreted in accordance with English language.

2.2 Entire Agreement: The CONTRACT constitutes the entire agreement between OIL and the CONTRACTOR with respect to the subject matter of the CONTRACT and supersedes all communication, negotiations and agreement (whether written or oral) of the parties with respect thereto made prior to the date of this agreement, unless such communication(s) expressly forms part of the contract or included by reference.

2.3 Amendment in CONTRACT: No Amendment of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto. OIL shall not be bound by any printed conditions, provisions in the CONTRACTOR's BID, forms of acknowledgement of CONTRACT, invoice and other documents which purport to impose any condition at variance with or supplement to CONTRACT.

3.0 WAIVERS AND AMENDMENTS:

3.1 Waivers: It is fully understood and agreed that none of the terms and conditions of this contract shall be deemed waived by either party unless such waiver is executed in writing only by the duly authorized representatives of both the parties. The failure of either party to execute any right shall not act as a waiver of such right by such party.

3.2 Change Program: It is agreed that CONTRACTOR shall carry out work in accordance with the completion program (e.g. Drilling programme) to be furnished by the COMPANY, which may be changed from time to time by reasonable modifications in the program as COMPANY sees fit. COMPANY's instruction in this regard shall be final and binding.

4.0 CONTRACT TIMELINE:

4.1 Effective Date of Contract: The contract shall become effective as of the date COMPANY notifies the CONTRACTOR in writing that it has been awarded the contract. This date of issuance of Letter of Award (LOA) by the COMPANY will be the Effective Date of Contract. All terms and conditions of the contract shall come into force with the date of issuance of LOA.

4.2 Date of Commencement of Operation:

The date on which the mobilization is completed in all respects and CONTRACTOR is ready to commence operation as per the contract provision [Certified by the COMPANY's representative] will be treated as the date of Commencement of

Operation.

4.3 Duration of the contract:

The contract shall be valid for a period as defined in the LOA and Special Conditions of Contract [SCC].

5.0 SCOPE OF WORK/CONTRACT:

Scope of the CONTRACT shall be as defined in the CONTRACT, specifications, drawings and Appendices.

6.0 GENERAL OBLIGATION OF CONTRACTOR:

CONTRACTOR shall, in accordance with and subject to the terms and conditions of this Contract:

6.1 Perform the work described in the Terms of Reference/Scope of Work. The CONTRACTOR shall execute the work with professional competence and in an efficient and workman like manner.

6.2 Except as otherwise provided in the Terms of Reference and the special Conditions of the contract, employ all labours/personnel as required to perform the work.

6.3 Perform all other obligations, work and services which are required by the terms of this contract or which reasonably can be implied from such terms as being necessary for the successful and timely completion of the work.

6.4 Comply with all applicable statutory obligations specified in the contract.

6.5 CONTRACTOR shall be deemed to have satisfied himself before submitting their bid as to the correctness and sufficiency of its bid for the services required and of the rates and prices quoted, which rates and prices shall, except insofar as otherwise provided, cover all its obligations under the contract.

6.6 CONTRACTOR shall be deemed, prior to submitting their bids, to have satisfied themselves about the weather conditions, working culture in the area, socio-political environment, safety & security aspects, law & order situation and law of the land, and obtain for themselves all necessary information as to the risks, contingencies and all other circumstances, which may influence or affect the various obligations under the Contract.

6.7 CONTRACTOR shall give or provide all necessary supervision during the performance of the services and as long thereafter within the warranty period as COMPANY may consider necessary for the proper fulfilling of CONTRACTOR's obligations under the contract.

7.0 GENERAL OBLIGATION OF COMPANY:

COMPANY shall, in accordance with and subject to the terms and conditions of this contract:

7.1 Pay CONTRACTOR in accordance with terms and conditions of the contract.

7.2 Allow CONTRACTOR access, subject to normal security and safety procedures, to all areas as required for orderly performance of the work as specified in the Scope of Works of the contract or work connected therewith.

7.3 Perform all other obligations required of COMPANY by the terms of this contract.

8.0 DUTIES AND POWER /AUTHORITY:

8.1 OIL's site representative/engineer:

The duties and authorities of OIL's site representative/engineer are to act on behalf of OIL for:

i. Overall supervision, co-ordination and Project Management at site

ii. Proper and optimum utilization of equipment and services.

iii. Monitoring of performance and progress

iv. Commenting/ countersigning on reports made by the CONTRACTOR's representative at site in respect of works, receipts, consumption etc. after satisfying himself with the facts of the respective cases.

v. He shall have the authority, but not obligation at all times and any time to inspect/test/examine/ verify any equipment machinery, instruments, tools, materials, personnel, procedures and reports etc. directly or indirectly pertaining to the execution of the work. However this shall not construe to imply an acceptance by the inspector.

Hence, the overall responsibility of quality of work shall rest solely with the CONTRACTOR.

vi. Each and every document emerging from site in support of any claim by the CONTRACTOR has to have the countersignature/ comments of the OIL's representative/engineer without which no claim shall be entertained by the OIL.

8.2 CONTRACTOR's representative:

(a) The CONTRACTOR's representative shall have all the powers requisite for the performance of the Service/Works, subject to holding due authorisation from the CONTRACTOR.

(b) Representative(s) shall liaise with OIL's representative/engineer for the proper co-ordination and timely completion of the works and on any matter pertaining to the works.

(c) Representative(s) shall extend full co-operation to OIL's representative/inspector/engineer in the manner required by them for supervision/inspection/observation of equipment, material, procedures, performance, reports and records pertaining to works.

(d) To have complete charge of CONTRACTOR's personnel engaged in the performance of the work and to ensure compliance of rules and regulations and

safety practice.

9.0 Personnel to be deployed by contractor:

CONTRACTOR warrants that it shall provide competent, qualified and sufficiently experienced personnel to perform the work correctly and efficiently.

9.1 The CONTRACTOR should ensure that their personnel observe all statutory safety requirement including those prescribed by the COMPANY. Upon COMPANY's written request, CONTRACTOR, entirely at its own expense, shall remove immediately any personnel of the CONTRACTOR determined by the COMPANY to be unsuitable and shall promptly replace such personnel with personnel acceptable to the COMPANY. Replacement personnel should be mobilized within 15 days from the date of issuance of notice without affecting the operation of the COMPANY.

9.2 The CONTRACTOR shall be solely responsible throughout the period of the contract for providing all requirements of their personnel including but not limited to, their transportation to & fro from Duliajan/field site, enroute/ local boarding, lodging, personal protective gear & medical attention etc. COMPANY shall have no responsibility or liability in this regard.

9.3 However, COMPANY shall provide available medical assistance/facilities to CONTRACTOR's Personnel in case of emergency at its own establishment on chargeable basis.

9.4 CONTRACTOR's key personnel shall be fluent in English language (both writing and speaking).

10.0 PERFORMANCE SECURITY:

10.1 On receipt of notification of award from the COMPANY, the CONTRACTOR shall furnish the Performance Security to COMPANY within **30 (Thirty)** days from the date of issue of LOA for an amount specified in the Forwarding Letter and Letter of Award (LOA) as per Proforma-Form and must be in the form of Insurance Surety Bond or Bank Draft/ Cashier's cheque/Banker's cheque*/NEFT/RTGS/Electronic fund transfer to designated account of OIL# or Fixed Deposit Receipt (account OIL INDIA LIMITED) or irrevocable Bank Guarantee or irrevocable Letter of Credit (LC) from:

a. Any schedule Indian Bank or Any Branch of an International bank situated in India and registered with Reserve Bank of India as scheduled foreign bank in case of domestic CONTRACTOR/service provider.

OR

b. Any scheduled bank in India or from International bank who has its branch in India registered with Reserve Bank of India, in case of foreign CONTRACTOR/service provider.

OR

c. Any foreign Bank which is not a Scheduled Bank in India, provided the Bank Guarantee issued by such Bank is counter-guaranteed by any Branch situated in India of any Scheduled Bank incorporated in India.

Note: Bank Guarantee issued by a Scheduled Bank of India at the request of some other Non-Schedule Bank of India shall not be acceptable.

10.2 Bank Guarantee issued by a Bank, amongst others, must contain the following particulars of such bank:

Full address
Branch Code
Code Nos. of the authorized signatory with full name and designation.
Phone Nos.
Fax Nos.
E-mail address.

10.3 The domestic CONTRACTOR/service provider(s) will have to submit the Bank Guarantee from any of the scheduled banks and on non- judicial stamp paper of requisite value as per the Indian Stamp Act, purchased in the name of the issuing banker.

10.4 The foreign CONTRACTOR/service provider(s) will submit the Bank Guarantee from Banks of Indian origin situated in their country. In case no such bank of Indian origin is situated in their country, the Bank Guarantee may be submitted from the bankers as specified above.

10.5 The Performance Security shall be denominated in the currency of the contract.

10.6 The Performance Security specified above must be valid for the entire duration of the Contract and claim period should be valid for a minimum of 03 (three) months beyond the contract period. The Performance Security will be discharged by COMPANY not later than 30 days following its expiry of claim period. In the event of any extension of the Contract period, Bank Guarantee should be extended by CONTRACTOR by the period equivalent to the extended period.

10.7 The Performance Security shall be encashed by COMPANY on account of CONTRACTOR's failure to fulfil its obligations under the Contract and/or non-performance/un-satisfactory performance of the Contractor. Company shall not be required to proof any loss or damage on account of Contractor's non-performance/un-satisfactory performance.

10.8 The Performance Security will not accrue any interest during its period of validity or extended validity.

10.9 Failure of the successful Bidder to comply with the requirements of clause 10.0 shall constitute sufficient grounds for annulment of the award. In such an eventuality, action will be initiated as per the Banning Policy of OIL in vogue.

Subject to credit in OIL's account within prescribed time

* The validity of Bank Draft/Cashier's/Banker's cheque (as applicable) should not be less than 3 months.

In the event CONTRACTOR fails to honour any of the commitments entered into under this agreement, and /or in the event of termination of the contract under

provisions of Integrity Pact and /or in respect of any amount due from the CONTRACTOR to OIL, OIL shall have unconditional option under the guarantee to invoke the above bank guarantee and claim the amount from the bank. The bank shall be obliged to pay the amount to OIL on demand.

11.0 SIGNING OF CONTRACT:

11.1 The successful bidder is required to sign a formal detailed contract with OIL within a maximum period of 60 days of date of LOA. Until the contract is signed, the LOA **as well as GCC & SCC as prescribed in the Tender**, shall remain binding amongst the two parties. In the event of failure on the part of the successful Bidder to sign the contract, OIL reserves the right to terminate the LOA issued to the successful Bidder and invoke the Performance Security if submitted by the successful Bidder. Such CONTRACTOR shall be put on holiday as per the Banning Policy of OIL [available at www.oil-india.in].

12.0 CLAIMS, TAXES & DUTIES:

12.1 Claims: CONTRACTOR agrees to pay all claims, taxes and fees for equipment, labour, materials, services and supplies to be furnished by it hereunder and agrees to allow no lien or charge resulting from such claims to be fixed upon any property of COMPANY. COMPANY may, at its option, pay and discharge any liens or overdue charges for CONTRACTOR's equipment, labour, materials, services and supplies under this CONTRACT and may thereupon deduct the amount or amounts so paid from any sum due, or thereafter become due, to CONTRACTOR hereunder.

12.2 Notice of claims: CONTRACTOR or COMPANY, as the case may be, shall promptly give the other, notice in writing of any claim made or proceeding commenced for which that party is entitled to indemnification under the CONTRACT. Each party shall confer with the other concerning the defense of any such claims or proceeding, shall permit the other to be represented by counsel in defense thereof, and shall not affect settlement of or compromise any such claim or proceeding without the other's written consent.

12.3 Taxes:

12.3.1 CONTRACTOR, unless specified otherwise in the CONTRACT, shall bear all tax liabilities, duties, Govt. levies etc. including GST and customs duty, Corporate and personnel taxes levied or imposed on the CONTRACTOR on account of payments received by it from the COMPNAY for the work done under this CONTRACT. It shall be the responsibility of 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.

12.3.2 Tax levied on CONTRACTOR as per the provisions of Indian Income Tax Act and any other enactment/rules on income derived/payments received under the contract will be on CONTRACTOR's account.

12.3.3 CONTRACTOR shall be responsible for payment of personal taxes, if any, for all the personnel deployed in India by CONTRACTOR.

12.3.4 The CONTRACTOR shall furnish to the COMPANY, if and when called upon to do so, relevant statement of accounts or any other information pertaining to work done under the contract for submitting the same to the Tax authorities, on specific request from them in accordance with provisions under the law. CONTRACTOR shall be responsible for preparing and filing the return of income etc. within the prescribed time limit to the appropriate authority.

12.3.5 Prior to start of operations under the contract, the CONTRACTOR shall furnish the COMPANY with the necessary documents, as asked for by the COMPANY and/ or any other information pertaining to the contract, which may be required to be submitted to the Income Tax authorities at the time of obtaining "No Objection Certificate" for releasing payments to the CONTRACTOR.

12.3.6 Corporate income tax will be deducted at source from the invoice at the specified rate of income tax as per the provisions of Indian Income Tax Act as may be in force from time to time and COMPANY will issue TDS Certificate to the CONTRACTOR as per the provisions of Income Tax Act.

12.3.7 Corporate and personnel taxes on CONTRACTOR shall be the liability of the CONTRACTOR and the COMPANY shall not assume any responsibility on this account.

12.3.8 All local taxes, levies and duties, sales tax, octroi, etc. on purchases and sales made by CONTRACTOR shall be borne by the CONTRACTOR.

12.3.9 CONTRACTOR shall provide all the necessary compliances/ invoice/documents for enabling OIL to avail Input tax credit benefits in respect of the payments of GST which are payable against the CONTRACT. The CONTRACTOR should provide tax invoice issued under GST legislations for the goods and Services (indicating GST). Payment towards the components of GST shall be released by OIL only against appropriate documents i.e.: Tax Invoice/Bill of entry for availing input tax credit (as applicable).

12.3.10 The tax invoices as per above provisions should contain all the particulars as required under the invoicing rules under the GST legislations, including, but not limited to the following:

i. Name, Address and the GST Registration Number (under the relevant Tax Rules) of the Service Provider (CONTRACTOR)

ii. Name and Address and GST Registration Number of the Service Receiver (Address of OIL)

iii. Description, Classification and Value of taxable service/goods and the amount of applicable tax (CGST, SGST, IGST, UTGST and cess)

12.3.11 In case of imported goods, CONTRACTOR/supplier is required to provide original Bill of Entry or copy of Bill of Entry duly attested by Custom authority.

12.3.12 The CONTRACTOR should mention the Place of supply in the invoice raised under GST Law.

12.3.13 OIL would not accept any invoice without its GSTIN mentioned on the invoice

Note: CONTRACTOR who is under composition levy of the GST legislation would raise Bill of supply instead of Tax invoice, which will have GSTIN of supplier as well as OIL.

12.4 Goods and Services Tax:

12.4.1 "GST" shall mean Goods and Services Tax charged on the supply of material(s) and services. The term "GST" shall be construed to include the Integrated Goods and Services Tax (hereinafter referred to as "IGST") or Central Goods and Services Tax (hereinafter referred to as "CGST") or State Goods and Services Tax (hereinafter referred to as "SGST") or Union Territory Goods and Services Tax (hereinafter referred to as "UTGST") depending upon the import/interstate or intrastate supplies, as the case may be. It shall also mean GST compensation Cess, if applicable.

12.4.2 Where the OIL is entitled to avail the input tax credit of GST:

OIL will reimburse the GST to the Supplier of Goods/Services (Service Provider) at actual against submission of Invoices as per format specified in rules/ regulation of GST to enable OIL to claim input tax credit of GST paid. In case of any variation in the executed quantities, the amount on which the GST is applicable shall be modified in same proportion. Returns and details required to be filled under GST laws &rules should be timely filed by supplier with requisite details.

12.4.3 Where the OIL is not entitled to avail/take the full input tax credit of GST:

OIL will reimburse GST to the Supplier of Goods/Services (Service Provider) at actual against submission of Invoices as per format specified in rules/ regulation of GST subject to the ceiling amount of GST as quoted by the bidder. In case of any variation in the executed quantities (If directed and/or certified by the In-Charge) the ceiling amount on which GST is applicable will be modified on pro-rata basis.

12.4.4 The CONTRACTOR will be under obligation for charging correct rate of tax as prescribed under the respective tax laws. Further the CONTRACTOR shall avail and pass on benefits of all exemptions/concessions available under tax laws. Any error of interpretation of applicability of taxes/ duties by the CONTRACTOR shall be to CONTRACTOR's account.

12.4.5 In case of statutory variation in GST, other than due to change in turnover, payable on the contract value during contract period, the Supplier of Goods/ Services (Service Provider) shall submit a copy of the 'Government Notification' to evidence the rate as applicable on the Bid due date and on the date of revision.

12.4.6 Beyond the contract period, in case OIL is not entitled for input tax credit of GST, then any increase in the rate of GST beyond the contractual delivery period shall be to Service provider's account whereas any decrease in the rate GST shall be passed on to the OIL.

12.4.7 Beyond the contract period, in case OIL is entitled for input tax credit of GST, then statutory variation in applicable GST on supply and on incidental services, shall be

to OIL's account.

12.4.8 Claim for payment of GST/ Statutory variation, should be raised within two [02] months from the date of issue of 'Government Notification' for payment of differential (in %) GST, otherwise claim in respect of above shall not be entertained for payment of arrears.

12.4.9 The base date for the purpose of applying statutory variation shall be the Bid Opening Date.

12.4.10 The CONTRACTOR will be liable to ensure to have registered with the respective tax authorities, wherever applicable and to submit self- attested copy of such registration certificate(s) and the CONTRACTOR will be responsible for procurement of material in its own registration (GSTIN) and also to issue its own Road Permit/ E-way Bill, if applicable etc.

12.5 Anti-profiteering clause

12.5.1 As per Clause 171 of GST Act it is mandatory to pass on the benefit due to reduction in rate of tax or from input tax credit to the consumer by way of commensurate reduction in prices.

12.5.2 In case rating of Contractor is negative/black listed after award of work for supply of goods/services, then OIL shall not be obligated or liable to pay or reimburse GST to such vendor/Contractor and shall also be entitled to deduct/recover such GST along with all penalties/interest, if any, incurred by OIL.

13.0 CUSTOMS DUTY, IF APPLICABLE:

13.1.1 CONTRACTOR shall be responsible to import the equipment/tools/spares/ consumables etc. required for execution of the contract. The CONTRACTOR shall undertake to complete all the formalities as required under the Customs Act/Foreign Trade Policy (FTP) and indemnify OIL from all the liabilities of Customs in this regard.

13.1.2 CONTRACTOR will be solely responsible for payment of all applicable Customs Duty and to comply all Rules and Regulations. Total Contract Price/Value is inclusive of all Customs Duty, if not mentioned otherwise elsewhere in the Contract.

13.1.3 Above clause is to be read with Customs Duty Clause in SCC, if any.

14.0 INSURANCE:

14.1 The Contractor shall at its own expense arrange secure and maintain insurance with reputed insurance companies to the satisfaction of the Company as follows:

a) The Contractor shall, at his own expense, arrange appropriate comprehensive insurance (All-risks insurance cover with suitable limit as per International Standard) to cover all risks assumed by the Contractor under this Contract in respect of its equipment, tools including but not limited to well equipment & tools, any other belongings and personnel during the entire period of this Contract including extensions thereof.

b) The Contractor shall also carry adequate insurance cover against damage/loss to third party/person/property.

c) The Contractor at his cost shall arrange, secure and maintain insurance as may be necessary and to its full value for all such amounts to protect the works-in-progress from time to time and the interest of Company against all risks as detailed herein subject to the satisfaction of the Company and irrespective of acceptance of the Work.

d) The responsibility to maintain adequate insurance coverage at all times during the period of the Contract shall be that of the Contractor alone and OIL will have no liability on this account. The Contractor's failure in this regard shall not relieve him of any of his responsibilities & obligations under the Contract.

e) All costs on account of insurance liabilities covered under the Contract will be to the Contractor's account.

14.2 Deductible:

The Contractor shall take policy with minimum deductible as per IRDA prescribed for the policy(ies) that portion of any loss not covered by the insurance provided for in this article solely by reason of a deductible provision in such insurance policies that shall be the account of the Contractor.

14.3 The Contractor shall require all of its sub-Contractor to provide such of the foregoing insurance coverage as Contractor is obliged to provide under this Contract and inform the Company about the coverage prior to the commencement of agreements with its sub-Contractors.

14.4 All insurance taken out by Contractor or their sub-contractor shall be endorsed to provide that the underwriters waive their rights of recourse on the Company and to the extent of the liabilities assumed by Contractor under this Contract.

14.5 Waiver of subrogation:

All insurance policies of the Contractor and its Sub-Contractor with respect to the operations conducted hereunder as set forth in clauses hereof, shall be endorsed by the underwriter in accordance with the following policy wording:

"The insurers hereby waive their rights of subrogation against Oil India Limited or any of their employees or their affiliates and assignees."

14.6 Loss Payee Clause:

The Insurance Policies should mention the following in Loss Payee Clause:

“In respect of Insurance claims in which OIL’s interest is involved, written consent of OIL will be required”.

14.7 Additional Assured:

"Oil India Limited" is to be included as Additional Assured in the Insurance Policies (except in case of Workmen's Compensation/Employer's Liability insurance).

14.8 Certificate of Insurance:

Before commencing performance of the CONTRACT, CONTRACTOR shall furnish OIL with certificates of insurance indicating:

a) Kinds and amounts of insurance as required herein
b) Details of coverage
c) Insurance corporation or companies carrying the aforesaid coverage
d) Effective and expiry dates of policies
e) That OIL shall be given thirty (30) days written advance notice of any material change in the policy
f) Waiver of subrogation endorsement has been attached to all policies.

Note: An undertaking by the service provider has to be mandatorily provided during the Mobilisation time that they have taken all the Insurance provisions as per the contract and as the Law and Insurance Regulation.

14.9 If any of the above policy expire or/are cancelled during the term of this CONTRACT and CONTRACTOR fails for any reason to renew such policies, OIL in no case shall be liable for any loss/damage occurred during the term when the policy is not effective. Furthermore, a penal interest @ 1% of the Total contract value shall be charged towards not fulfilling of the contractual obligations. Notwithstanding above, should there be a lapse in any insurance required to be taken by the Contractor for any reason whatsoever, loss/damage claims resulting therefrom shall be to the sole account of Contractor.

14.10 The Contractor on demand from the Company shall furnish the Insurance Policy having detail terms and conditions, with respect to any Certificate of Insurance submitted to the Company.

14.11 On account payment to OIL in case of claim

In case any loss or damage happen and where Company's interest is involved, The Company reserves the right to recover the loss amount from the Contractor prior to final settlement of the claim.

14.12 The CONTRACTOR shall at all time during the currency of the contract provide, pay for and maintain the following insurance amongst others:

i) **Employees Compensation (EC) Policy or Employer's Liability Policy insurance** as required by the laws of the country of origin of the employee.

ii) **Commercial General Liability Insurance:** Commercial General Public Liability Insurance covering liabilities including contractual liability for bodily injury,

including death of persons, and liabilities for damage of property. This insurance must cover all operations of CONTRACTOR required to fulfil the provisions under this Contract.

iii) **Comprehensive General Automotive Liability:** Automobile Public Liability Insurance covering owned, non-owned and hired automobiles used in the performance of the work hereunder, with bodily injury limits and property damage limits shall be governed by Indian Insurance Regulations.

iv) **Carrier's Legal Liability Insurance:** Carrier's Legal Liability Insurance in respect of **all CONTRACTOR's items** to be transported by the CONTRACTOR to the site of work, for physical loss or destruction of or damage to goods or merchandise, while in transit.

v) **Public Liability Act Policy:** Public Liability Act Policy, if applicable, covering the statutory liability arising out of accidents occurring during the currency of the contract due to handling hazardous substances as provided in the Public Liability Insurance Act 1991 and the Rules framed there under. In case there is no usage of hazardous substance, the Contractor should provide an undertaking during mobilization as per format enclosed regarding non-inclusion of hazardous substances within the ambit of the contract.

vi) **Pradhan Mantri Suraksha Bima Yojana (PMSBY) and Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY):** CONTRACTOR shall, ensure that all his/its personnel deployed under this contract have obtained additional insurance coverage under the Pradhan Mantri Suraksha Bima Yojana (PMSBY) and Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) through the participating banks and submit the proof of such insurance coverage to the satisfaction of OIL.

Note: This will be applicable for only Indian citizens and within the prescribed age group defined under the scheme for the insurance coverage.

vii) Any other insurance policy set forth in the SCC

15.0 LIABILITY:

15.1 Except as otherwise expressly provided herein, neither COMPANY nor its servants, agents, nominees, CONTRACTORs, or sub- CONTRACTORs shall have any liability or responsibility whatsoever to whomsoever for loss of or damage to the equipment and/or loss of or damage to the property of the CONTRACTOR and/or their CONTRACTORs or sub-CONTRACTORs, irrespective of how such loss or damage is caused and even if caused by the negligence of COMPANY and/or its servants, agent, nominees, assignees, CONTRACTORs and sub-CONTRACTORs.

15.2 The CONTRACTOR shall protect, defend, indemnify and hold harmless COMPANY from and against such loss or damage and any suit, claim or expense resulting there from. Neither COMPANY nor its servants, agents, nominees, assignees, CONTRACTORs, sub-CONTRACTORs shall have any liability or responsibility whatsoever for injury to, illness, or death of any employee of the CONTRACTOR and/or of its CONTRACTORs or sub-CONTRACTOR irrespective of how such injury, illness or death is caused and even if caused by the negligence of COMPANY and/or

its servants, agents nominees, assignees, CONTRACTORs and sub-CONTRACTORs. CONTRACTOR shall protect, defend, indemnify and hold harmless COMPANY from and against such liabilities and any suit, claim or expense resulting there from.

15.3 The CONTRACTOR hereby agrees to waive its right of recourse and further agrees to cause its underwriters to waive their right of subrogation against COMPANY and/or its underwriters, servants, agents, nominees, assignees, CONTRACTORs and sub- CONTRACTORs for loss or damage to the equipment of the CONTRACTOR and/or its sub-CONTRACTORs and/or their employees when such loss or damage or liabilities arises out of or in connection with the performance of the contract limited to the CONTRACTOR's liabilities agreed to under this Contract.

15.4 The CONTRACTOR hereby further agrees to waive its right of recourse and agrees to cause its underwriters to waive their right of subrogation against COMPANY and/or its underwriters, servants, agents, nominees, assignees, CONTRACTORs and sub-CONTRACTORs for injury to, illness or death of any employee of the CONTRACTOR and of its CONTRACTORs, sub-CONTRACTORs and/or their employees when such injury, illness or death arises out of or in connection with the performance of the contract limited to the CONTRACTOR's liabilities agreed to under this Contract.

15.5 Except as otherwise expressly provided herein, neither CONTRACTOR nor its servants, agents, nominees, CONTRACTORs or sub- CONTRACTORs shall have any liability or responsibility whatsoever to whomsoever for loss of or damage to the equipment and/or loss or damage to the property of the COMPANY and/or their CONTRACTORs or sub-CONTRACTORs, irrespective of how such loss or damage is caused and even if caused by the negligence of CONTRACTOR and/or its servants, agents, nominees, assignees, CONTRACTORs and sub- CONTRACTORs. The COMPANY shall protect, defend, indemnify and hold harmless CONTRACTOR from and against such loss or damage and any suit, claim or expense resulting there from.

15.6 Except as otherwise expressly provided herein, neither CONTRACTOR nor its servants, agents, nominees, assignees, CONTRACTORs, sub- CONTRACTORs shall have any liability or responsibility whatsoever to whomsoever for injury or illness, or death of any employee of the COMPANY and/or of its CONTRACTORs or sub-CONTRACTORs irrespective of how such injury, illness or death is caused and even if caused by the negligence of CONTRACTOR and/or its servants, agents, nominees, assignees, CONTRACTORs and sub- CONTRACTORs. COMPANY shall protect, defend indemnify and hold harmless CONTRACTOR from and against such liabilities and any suit, claim or expense resulting there from.

15.7 The COMPANY agrees to waive its right of recourse and further agrees to cause its underwriters to waive their right of subrogation against CONTRACTOR and/or its underwriters, servants, agents, nominees, assignees, CONTRACTORs and sub-CONTRACTORs for loss or damage to the equipment of COMPANY and/or its CONTRACTORs or sub-CONTRACTORs when such loss or damage or liabilities arises out of or in connection with the performance of the contract.

15.8 The COMPANY hereby further agrees to waive its right of recourse and agrees to

cause it underwriters to waive their right of subrogation against CONTRACTOR and/or its underwriters, servants, agents, nominees, assignees, CONTRACTORs and sub- CONTRACTORs for injury to, illness or death of any employee of the COMPANY and of its CONTRACTORs, sub-CONTRACTORs and/or their employees when such injury, illness or death arises out of or in connection with the performance of the Contract.

16.0 LIMITATION OF LIABILITY:

a) Notwithstanding any other provisions herein to the contrary, except only in cases of Wilful misconduct and/or criminal acts and/or criminal negligence, neither the CONTRACTOR nor the COMPANY (OIL) shall be liable to the other, whether in Contract, tort, or otherwise, for any consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided however that this exclusion shall not apply to any obligation of the CONTRACTOR to pay Liquidated Damages to the COMPANY and/or COMPANY's right to forfeit the Performance Bank Guarantee(s) in terms of the contract.

b) Notwithstanding any other provisions incorporated elsewhere in the contract, the aggregate liability of the CONTRACTOR in respect of this contract, whether under Contract, in tort or otherwise, shall not exceed 100% of the Contract Price (if not specified otherwise in SCC), provided however that this limitation shall not apply to the cost of repairing or replacing defective equipment by the CONTRACTOR, or to any obligation of the CONTRACTOR to indemnify the COMPANY with respect to Intellectual Property Rights.

c) COMPANY shall indemnify and keep indemnified CONTRACTOR harmless from and against any and all claims, costs, losses and liabilities in excess of the aggregate liability amount in terms of clause (b) above.

17.0 LIABILITY OF UNION GOVERNMENT OF INDIA:

It is expressly understood and agreed upon by and between CONTRACTOR and OIL INDIA LIMITED, and that OIL INDIA LIMITED 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 Union of India is not a party to this agreement and has no liabilities, obligations or rights, whatsoever hereunder. It is expressly understood and agreed that OIL INDIA LIMITED 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 general principles of the Contract law. The bidder/ CONTRACTOR expressly agrees, acknowledges and understands that OIL INDIA LIMITED is not an agent, representative or delegate of the Union of India. It is further understood and agreed that Union of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the contract. Accordingly, bidder/ CONTRACTOR hereby expressly waives, releases and foregoes any and all actions or claims, including cross claims, impleader claims or counter claims against the Union of India arising out of this contract and covenants not to sue the Union of India as to any manner, claim, cause of action or thing whatsoever arising of or under this agreement.

18.0 CONSEQUENTIAL DAMAGE:

Except as otherwise expressly provided, neither party shall be liable to the other for special, indirect or consequential damages resulting from or arising out of the contract, including but without limitation, to loss or profit or business interruptions, howsoever caused and regardless of whether such loss or damage was caused by the negligence (either sole or concurrent) of either party, its employees, agents or sub- CONTRACTORs.

19.0 RISK PURCHASE:

In the event, CONTRACTOR's failure to provide the services as per the Contractual scope, terms and conditions, COMPANY (OIL) reserves the right to hire the services from any other source at the CONTRACTOR's risk & cost and the difference in cost shall be borne by the CONTRACTOR. Further, OIL shall retain the right of forfeiture of Performance Bank Guarantee and any other action as deemed fit. In certain operational situations OIL reserves the right to take over the site including the service equipment at the risk and cost of the CONTRACTOR.

20.0 INDEMNITY AGREEMENT:

20.1 Except as provided hereof CONTRACTOR agrees to protect, defend, indemnify and hold COMPANY harmless from and against all claims, suits, demands and causes of action, liabilities, expenses, cost, liens and judgments of every kind and character, without limit, which may arise in favour of CONTRACTOR's employees, agents, CONTRACTORs and sub-CONTRACTORs or their employees or in favour of any third party(is) on account of bodily injury or death, or damage to personnel/property as a result of the operations contemplated hereby, regardless of whether or not said claims, demands or causes of action arise out of the negligence or otherwise, in whole or in part or other faults.

20.2 Except as provided hereof COMPANY agrees to protect, defend, indemnify and hold CONTRACTOR harmless from and against all claims, suits, demands and causes of action, liabilities, expenses, cost, liens and judgments of every kind and character, without limit, which may arise in favour of COMPANY's employees, agents, CONTRACTORs and sub-CONTRACTORs or their employees or in favour of any third party(is) on account of bodily injury or death, or damage to personnel/property as a result of the operations contemplated hereby, regardless of whether or not said claims, demands or causes of action arise out of the negligence or otherwise, in whole or in part or other faults.

21.0 INDEMNITY APPLICATION:

The indemnities given herein above, whether given by COMPANY or CONTRACTOR shall be without regard to fault or to the negligence of either party even though said loss, damage, liability, claim, demand, expense, cost or cause of action may be caused, occasioned by or contributed to by the negligence, either sole or concurrent of either party.

22.0 ROYALTY PATENTS:

Each party shall hold harmless and indemnify the other from and against all claim and proceedings for or on account of any patent rights, design, trade mark or other protected rights arising from any use of materials, equipment, processes, inventions and methods, which have not been imposed on the attending party by the terms of the contract or the specifications forming part thereof.

23.0 WARRANTY AND REMEDY OF DEFECTS:

23.1 CONTRACTOR warrants that they shall perform the work in a first class, workmanlike, and professional manner and in accordance with their highest degree of quality, efficiency and current state of the art technology/industry practices and in conformity with all specifications, standards and drawings set forth or referred to in the Terms of Reference and with instructions and guidance, which COMPANY may, from time to time, furnish to the CONTRACTOR.

23.2 Should COMPANY discover at any time during the tenure of the Contract or till the Unit/equipment/tools are demobilised from site or base camp (if applicable) that the work does not conform to the foregoing warranty, CONTRACTOR shall after receipt of notice from COMPANY, promptly perform any and all corrective work required to make the services conform to the Warranty. Such corrective Work shall be performed entirely at CONTRACTOR's own expenses. If such corrective Work is not performed within a reasonable time, the COMPANY, at its option may have such remedial Work performed by others and charge the cost thereof to CONTRACTOR subject to a maximum of the contract value payable for the defective work which needs corrective action which the CONTRACTOR must pay promptly. In case CONTRACTOR fails to perform remedial work, or pay promptly in respect thereof, the performance security shall be forfeited.

24.0 SUBCONTRACTING/ASSIGNMENT:

24.1 CONTRACTOR shall not subcontract, transfer or assign the contract, or any part under this contract, to any third party(ies). Except for the main services under this contract, CONTRACTOR may sub-contract the petty support services subject to COMPANY's prior written approval. However, CONTRACTOR shall be fully responsible for complete execution and performance of the services under the Contract.

24.2 Consequent upon of placement of contract, if successful bidder(s)(other than Micro/Small Enterprise) is procuring materials/services from their sub-vendor, who is a Micro or Small Enterprise registered with District Industry Centers or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of MSME with prior consent in writing of the purchasing authority/Engineer in Charge the details like Name, Registration No., Address, Contact No., details of material and value of procurement made, etc. of such enterprises shall be furnished by the CONTRACTOR at the time of submission of invoice/bill.

25.0 RECORDS, REPORTS AND INSPECTION:

The CONTRACTOR shall, at all times during the currency of the contract, permit the COMPANY and its authorized employees and representatives to inspect all the Work performed and to witness and check all the measurements and tests made in connection with the said work. The CONTRACTOR shall keep an authentic, accurate history and logs including safety records of each service item with major items consumed, which shall be open at all reasonable times for inspection by the COMPANY's designated representatives and its authorized employees. The CONTRACTOR shall provide the COMPANY's designated representatives with a daily written report, on form prescribed by the COMPANY showing details of operations during the preceding 24 hours and any other information related to the said services requested by the COMPANY whenever so requested. The CONTRACTOR shall not, without COMPANY's written consent allow any third person(s) access to the said information or give out to any third person information in connection therewith.

26.0 CONFIDENTIALITY, USE OF CONTRACT DOCUMENTS AND INFORMATION:

26.1 CONTRACTOR shall not, without COMPANY's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing pattern, sample or information furnished by or on behalf of COMPANY in connection therewith, to any person other than a person employed by CONTRACTOR in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only, as may be necessary for purposes of such performance with prior permission from COMPANY. However, nothing hereinabove contained shall deprive the CONTRACTOR of the right to use or disclose any information which is:

a) possessed by the CONTRACTOR, as evidenced by the CONTRACTOR's written records, before receipt thereof from the COMPANY which however the CONTRACTOR shall immediately inform to COMPANY ; or

b) required to be disclosed by the CONTRACTOR pursuant to an order of a court of competent jurisdiction or other governmental agency having the power to order such disclosure, provided the CONTRACTOR uses its best efforts to provide timely notice to COMPANY of such order to permit COMPANY an opportunity to contest such order subject to prior permission from COMPANY.

26.2 CONTRACTOR shall not, without COMPANY's prior written consent, make use of any document or information except for purposes of performing the contract.

26.3 Any document supplied to the CONTRACTOR in relation to the contract other than the Contract itself remain the property of COMPANY and shall be returned (in all copies) to COMPANY on completion of CONTRACTOR's performance under the Contract if so required by COMPANY.

26.4 During the currency of the Contract, COMPANY and its employees, agents, other CONTRACTORs, sub-CONTRACTORs (of any tier) and their employees etc. may be exposed to certain confidential information and data of the CONTRACTOR. Such information and data held by the COMPANY, its employees, agents, other

CONTRACTORs, sub-CONTRACTORs (of any tier) and their employees in the strictest Confidence and shall not be disclosed to any other party except on a need to know basis.

However, the above obligation shall not extend to information which:

i) is, at the time of disclosure, known to the public which CONTRACTOR shall immediately inform COMPANY ;

ii) is lawfully becomes at a later date known to the public through no fault of CONTRACTOR subject to CONTRACTOR's undertaking that no information has been divulged by them to the public;

iii) is lawfully possessed by CONTRACTOR before receipt thereof from COMPANY which should be immediately informed to COMPANY;

iv) is developed by CONTRACTOR independently of the information disclosed by COMPANY which should be shared with the COMPANY;

v) CONTRACTOR is required to produce before competent authorities or by court order subject to prior permission from COMPANY;

27.0 REMUNERATION AND TERMS OF PAYMENT:

27.1 COMPANY shall pay to the CONTRACTOR during the term of the Contract the amount due from time to time calculated according to the rates of payment set and in accordance with other provisions hereof. No other payments shall be due from COMPANY unless specifically provided for in the Contract. All payments will be made in accordance with the terms hereinafter described.

27.2 Request for payment/part payment to third party i.e. other than the party on whom the contract has been awarded will not be entertained by OIL under any circumstances.

27.3 MANNER OF PAYMENT: All payments due by COMPANY to CONTRACTOR hereunder shall be made at CONTRACTOR's designated bank. Bank charges, if any will be on account of the CONTRACTOR.

27.4 Payment of any invoices shall not prejudice the right of COMPANY to question the validity of any charges therein, provided COMPANY within one year after the date of payment shall make and deliver to CONTRACTOR written notice of objection to any item or items the validity of which COMPANY questions.

27.5 INVOICES: Mobilization charges will be invoiced only upon completion of mobilization as certified by COMPANY representative and CONTRACTOR is ready at site for starting the services/ operation. Payment of mobilization charges shall be made within 45 days following the date of receipt of undisputed invoices by COMPANY.

27.6 CONTRACTOR shall send invoice to COMPANY on the day following the end of each month for all daily or monthly charges due to the CONTRACTOR.

27.7 CONTRACTOR will submit 02 (Two) sets of all invoices duly super scribed `Original' and `copy' as applicable to the COMPANY for processing payment. Separate invoices for the charges payable under the contract shall be submitted by the CONTRACTOR for foreign currency and Indian currency.

27.8 Payment of monthly invoices, if undisputed, shall be made within 30 days following the date of receipt of invoice by COMPANY.

27.9 COMPANY shall within 30 days of receipt of the invoice notify the CONTRACTOR of any item under dispute, specifying the reasons thereof, in which event, payment of the disputed amount may be withheld until settlement of the dispute, but payment shall be made of any undisputed portion on or before the due date. This will not prejudice the COMPANY's right to question the validity of the payment at a later date as envisaged in clause no. **27.4** above.

27.10 The acceptance by CONTRACTOR of part payment on any billing not paid on or before the due date shall not be deemed a waiver of CONTRACTOR's rights in any other billing, the payment of which may then or thereafter be due.

27.11 Payment of Final demobilization charges shall be made if applicable within 45 days on receipt of invoice by COMPANY accompanied by the following documents from the CONTRACTOR:

a) Audited account up to completion of the Contract.

b) Tax audit report for the above period as required under the Indian Tax Laws.

c) Documentary evidence regarding the submission of returns and payment to taxes for the expatriate personnel engaged by the CONTRACTOR or by its sub-CONTRACTOR.

d) Proof of re-export of all items including the unutilized spares and consumables (excepting consumables consumed during the contract period) and also cancellation of re-export bond if any.

e) Any other documents as required by applicable Indian Laws.

In case, no demobilization charges are payable, the documents mentioned above will have to be submitted by the CONTRACTOR before release of the final payment by the COMPANY. A certificate from Chartered Accountant on (a), (b) & (c) above will suffice

27.12 CONTRACTOR shall maintain complete and correct records of all information on which CONTRACTOR's invoice are based upto 02 (two) years from the date of last invoice. Such records shall be required for making appropriate adjustments or payments by either party in case of subsequent audit query/objection.

28.0 PAYMENT OF COMMISSION/FEE/REMUNERATION OF INDIAN AGENT/CONSULTANT/REPRESENTATIVE/RETAINER/ASSOCIATE OF FOREIGN PRINCIPAL (APPLICABLE IN ICB TENDERS ONLY):

The Commission/Fee/remuneration of the Indian agent/consultant/associate/

representative/retainer, if any, will be paid within 30 days of the payment of invoice made to the CONTRACTOR, The amount of commission/fee/remuneration as a percentage of invoice value as per contract provisions will be deducted by COMPANY/OIL from the monthly invoices of the CONTRACTOR and paid to the Indian agent/consultant/representative/retainer/associate.

29.0 DETAILS OF STATUTORY PAYMENTS LIKE EPF AND ESI, ETC:

Wherever applicable, the CONTRACTOR (including those engaging 'International Workers') shall have itself registered under Employees' Provident Fund and Miscellaneous Provisions Act, 1952 and Employees' State Insurance Act, 1948 and follow the relevant statutory provisions including Rules made there-under concerning contractual workers.

The CONTRACTOR shall be required to submit the following documents/details to the Corporation:

(i) Copy of PF-ECR duly stamped by the designated Bank, alongwith a print of the digitally signed PDF data sheet of the ECR, as proof of payment, each month, details of this PDF data sheet shall be verified by the appropriate authority (i.e. Payment Making Authority) in the COMPANY from the official website of EPFO (http://www.epfindia.gov.in).

(ii) (a) Copy of the online challan endorsed/stamped by the designated bank as proof of receipt of payment towards monthly contribution of ESI contribution.

(b) Copy of Return of contribution in respect of ESI for each contribution period of the six months i.e. for the contribution period ended 30th Sept and the contribution period ended 31st March.

(iii) As an Annexure to each EPF-ECR and ESI Challan(s), CONTRACTOR shall also furnish the following Certificates:

1) The furnished information is correct to the best of his knowledge.

2) In case any discrepancies or irregularities is /are noticed in this undertaking, then OIL is free to inform the PF/ESIC Authorities.

3) Before the completion of contract, CONTRACTOR shall serve one-month notice to all his contractual workers, informing that their services will be terminated.

4) Within one month on completion/expiry of the contract, CONTRACTOR shall pay all the dues/ terminal dues such as leave with wages, bonus (if applicable), Gratuity (if applicable), to all his contractual workmen, failing which CONTRACTOR's Bank Guarantee/ Security Deposit may be withheld by OIL.

COMPANY may verify the deposit of statutory contribution made by the CONTRACTOR~~s~~ with the EPFO/ESI authorities, where deemed necessary. However, before making payment of the last bill/invoice of the CONTRACTOR, the COMPANY may verify the details/status of the payment towards EPF/ESI made by the CONTRACTOR from the authorities/official website of EPF/ESI (i.e. http://www.epfindia.gov.in and http://www.esic.in). In case the information

furnished by the CONTRACTOR is found to be incorrect the COMPANY shall take appropriate action against the CONTRACTOR in accordance with law.

The CONTRACTOR agrees and undertakes to indemnify OIL for any liabilities arising out of declarations made by him in future on violation or provisions of the EPF Act 1952 and ESI Act 1948.

30.0 TIMELY MOBILIZATION AND LIQUIDATED DAMAGES:

a) Time is the essence of this Contract. If the CONTRACTOR fails to mobilize and deploy the required manpower/equipment and/or fails to commence the operation within the period specified as specified under mobilization clause under SCC, OIL shall have, without prejudice to any other right or remedy in law or contract including sub clause (b) below, the right to terminate the contract.

b) If the contractor is unable to mobilize/deploy and commence the operation within the period specified in sub clause (a) above, it may request OIL for extension of the time with unconditionally agreeing for levy and recovery of LD. Upon receipt of such a request, OIL may at its discretion, extend the period of mobilization and shall recover from the CONTRACTOR, as an ascertained and agreed Liquidated Damages, a sum equivalent to @ 0.5% of contract value including mobilization cost, per week or part thereof of delay subject to maximum of 7.5% of the Contract Price.

c) The parties agree that the sum specified above is not a penalty but a genuine pre-estimate of the loss/damage which will be suffered by OIL on account of delay on the part of the CONTRACTOR and the said amount will be payable without proof of actual loss or damage caused by such delay.

d) LD will be calculated on the basis of Total Contract value [(if not specified otherwise in SCC] excluding duties and taxes, where such duties/taxes have been shown separately in the contract. However, the applicable GST on the LD shall have to be borne by the CONTRACTOR. Accordingly, the liquidated damages shall be recovered from the CONTRACTOR along with applicable GST.

31.0 FORCE MAJEURE:

In the event of either party being rendered unable by `Force Majeure' to perform any obligation required to be performed by them under the contract, the relative obligation of the party affected by such `Force Majeure' will stand suspended as provided herein. The term force majeure as employed herein shall mean Acts of God such as earthquake, hurricane, typhoon, flood, volcanic activity etc.; war (declared /undeclared); riot, revolts, rebellion, terrorism, sabotage by persons other than the CONTRACTOR's Personnel; fires, explosions, ionising radiation or contamination by radio-activity or noxious gas, if not caused by CONTRACTOR's fault; declared epidemic or disaster; acts and regulations of respective Govt. of the two parties, namely the COMPANY and the CONTRACTOR and civil commotions, lockout not attributable to the CONTRACTOR.

Upon occurrence of such cause, the party claiming that it has been rendered unable

as aforesaid thereby, shall notify the other party in writing within 72 (Seventy Two) hours of the alleged beginning and ending thereof, giving full particulars and satisfactory evidence in support of its claim.

Should 'force majeure' condition as stated above occurs and should the same be notified within 72 (Seventy two) hours after its occurrence the `force majeure' rate (if specified in the SCC of the Contract) shall apply for the first 15 (fifteen) days for each such occasion.

Either party shall have the right to terminate the Contract if such `force majeure' conditions continue beyond successive 60 (Sixty) days [or exclusively mentioned in the SCC of the Contract] with prior written notice of 15 days, provided termination of the Contract does not result into safety hazard to the life and property on account of withdrawal of operations or the operation is at critical stage. COMPANY shall have the absolute right to decide whether any safety hazard exists or operation is at critical position and decision of the COMPANY shall binding upon the CONTRACTOR.

Should either party decide not to terminate the Contract even under such condition, no payment would apply after expiry of fifteen (15) days force majeure period**.** [or exclusively mentioned in the SCC of the Contract]

Time for performance of the relative obligation suspended by Force Majeure shall then stand extended by the period for which such cause lasts.

If however, relative obligation of the party affected by such 'Force Majeure' is limited to part of the obligation(s), the contract shall not be terminated and the parties shall continue to perform their respective obligations, which are not affected by the 'force majeure' condition, provided the obligations affected by the 'force majeure' do not preclude the parties in performing the obligations not affected by such conditions.

32.0 SET-OFF:

Any sum of money due and payable to the CONTRACTOR (including Performance Security refundable to them) under this or any other Contract, whether in progress or in future, may be appropriated by OIL and set-off against any claim of OIL (or such other person or persons contracting through OIL) for payment of a sum of money arising out of this contract or under any other contract made by the CONTRACTOR with OIL (or such other person or persons contracting through OIL).

33.0 WITHHOLDING:

COMPANY may withhold or nullify the whole or any part of the amount due to CONTRACTOR, after informing the CONTRACTOR of the reasons in writing, on account of subsequently discovered evidence in order to protect COMPANY from loss on account of :

33.1 For non-completion of jobs assigned as per Scope of Work/Terms of Reference.

33.2 Defective work not remedied by CONTRACTOR.

33.3 Claims by COMPANY's recognized sub-CONTRACTOR of CONTRACTOR or others filed or on the basis of reasonable evidence indicating probable filing of such claims against CONTRACTOR.

33.4 Failure of CONTRACTOR to pay or provide for the payment of salaries/ wages, contributions, taxes or enforced savings with-held from wages etc with respect to personnel engaged by the CONTRACTOR.

33.5 Failure of CONTRACTOR to pay the cost of removal of unnecessary debris, materials, tools, or machinery.

33.6 Any failure by CONTRACTOR to fully reimburse COMPANY under any of the indemnification provisions of this Contract. If, during the progress of the work CONTRACTOR shall allow any indebtedness to accrue for which CONTRACTOR, under any circumstances in the opinion of COMPANY, may be primarily or contingently liable or ultimately responsible and CONTRACTOR shall, within five days after demand is made by COMPANY, fail to pay and discharge such indebtedness, then COMPANY may during the period for which such indebtedness shall remain unpaid, with-hold from the amounts due to CONTRACTOR, a sum equal to the amount of such unpaid indebtedness.

33.7 Withholding will also be effected on account of the following:

i) Order issued by a Court of Law or statutory authority in India.

ii) Income-tax deductible at source according to law prevalent from time to time in the country.

iii) Any obligation of CONTRACTOR which by any law prevalent from time to time to be discharged by COMPANY in the event of CONTRACTOR's failure to adhere to such laws.

iv) Any payment due from CONTRACTOR in respect of unauthorised imports.

When all the above grounds for withholding payments are removed, payment shall thereafter be made for amounts so with-held.

33.8 COMPANY reserves the right to disburse or deposit the amount so withheld to the concerned person(s) or agency or government authority, as the case may be, besides nullifying such amount on account of loss suffered by the COMPANY against **33.2, 33.3, 33.6** & **33.7** above.

34.0 APPLICABLE LAWS:

The Contract shall be deemed to be a Contract made under, governed by and construed in accordance with the laws of India for the time being in force and shall be subject to the sole and exclusive jurisdiction of Courts situated in Dibrugarh (or the Place where the contract is executed) and Principal Bench of Gauhati High Court (or the High Court under whose territorial jurisdiction, the place of execution of contract falls).

This Agreement including all matter connected with this Agreement, shall be

governed by the laws of India (both substantive and procedural) for the time being in force and shall be subject to exclusive jurisdiction of Courts, mentioned hereinabove. Foreign companies, operating in India or entering into Joint ventures in India, shall also be governed by the laws of India and shall be subject to sole and exclusive jurisdiction of above Courts.

The CONTRACTOR shall ensure full compliance of various Indian Laws and Statutory Regulations, as stated below, to the extent applicable, as stated below, but not limited to, in force from time to time and obtain necessary permits/ licenses etc. from appropriate authorities for conducting operations under the Contract:

a) The Mines Act 1952
b) The Oil Mines Regulations, 1984
c) The Employees' Compensation Act, 1923
d) The Code of Wages, 2019
e) The Contract Labour (Regulation & Abolition) Act, 1970 and the rules framed there under
f) The Employees Pension Scheme, 1995
g) The Interstate Migrant Workmen Act., 1979 (Regulation of employment and conditions of service).
h) The Employees Provident Fund and Miscellaneous Provisions Act, 1952
i) Goods and Service Tax Act
j) Customs & Excise Act & Rules
k) Factories Act, 1948
l) Industrial Disputes Act, 1947
m) Payment of Gratuity Act, 1972
n) Environmental Protection Act, 1986 & other pollution control Acts.

Note: The above Acts are only indicative and not exhaustive. The Acts shall include the rules and regulations framed thereunder.

35.0 LABOUR LAWS:

i) CONTRACTOR shall comply with the provisions of various labour related laws, including but not limited to the Code of Wages, 2019, Employee Provident Fund and Miscellaneous Provisions Act 1952, COMPANY's Liability Act 1938, Employees' Compensation Act 1923, Industrial Disputes Act 1947, the Maternity Benefit Act 1961 and Contract Labour (Regulation and Abolition) Act 1970, Employment of Children Act 1938, Employees' State Insurance Act, 1948 or any modifications/amendment thereof or any other law relating thereto and rules made there under from time to time.

ii) No Labour below the age of eighteen [18] years shall be employed on the work.

iii) CONTRACTOR shall not pay less than what is provided under law to labourers engaged by him on the work.

iv) CONTRACTOR shall at his expense comply with all labour laws and keep the COMPANY indemnified in respect thereof.

v) CONTRACTOR shall pay equal wages for men and women in accordance with

applicable Labour laws.

vi) If the CONTRACTOR is covered under the Contract Labour (Regulation and Abolition) Act, he shall obtain a license from licensing authority [i.e. office of the Labour Commissioner] by payment of necessary prescribed fee and the deposit, if any, before starting the work under the Contract. Such fee/deposit shall be borne by the CONTRACTOR.

vii) CONTRACTOR must obtain the PF Code from the concerned PF Authority under Employees Provident Fund and Miscellaneous Provisions Act, 1952. Similarly, CONTRACTOR must obtain ESI Code under Employees State Insurance Act.

viii) CONTRACTOR being the employer of the labours/personnel to be engaged under the contract shall be liable to pay gratuity to the labours/personnel as per the provision of the Payment of Gratuity Act, 1972 and accordingly, shall keep the COMPANY indemnified in respect thereof. If however, COMPANY requires to pay gratuity to such labour(s) as per the direction of the competent authority under the Act, COMPANY shall recover such amount from the outstanding dues payable to the CONTRACTOR under the contract or any other contract(s).

ix) CONTRACTOR shall furnish to Engineer in Charge the distribution return of the number & description, by trades of the work people employed on the works. CONTRACTOR shall also submit on the 4th& 19th of every month to Engineer in Charge a true statement showing in respect of the 2nd half of the preceding month & the 1st half of the current month (1) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them and (2) the number of female workers who have been allowed Maternity Benefit as provided in the Maternity Benefit Act 1961 on Rules made there under and the amount paid to them.

x) Engineer in Charge shall on a report having been made by an inspecting officer as defined in Contract Labour (Regulation and Abolition) Act 1970 have the power to deduct from the money due to the CONTRACTOR any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the Contract for the benefit of workers, non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the Contract or non-observance of the said regulations.

xi) The CONTRACTOR shall indemnify the COMPANY against any payments to be made under and for the observance of the provisions of the aforesaid acts without prejudice to his right to obtain indemnity from his sub-CONTRACTOR.

36.0 STATUTORY REQUIREMENTS:

During the tenure of this CONTRACT nothing shall be done by the CONTRACTOR in contravention of any law, act and/or rules/regulations, thereunder or any amendment

37.0 GENERAL HEALTH, SAFETY & ENVIRONMENT (HSE) GUIDELINES:

37.1 It will be solely the CONTRACTOR's responsibility to fulfil all the legal formalities

with respect to the Health, Safety and Environmental aspects of the entire job (namely; the person employed by him, the equipment, the environment, etc.) under the jurisdiction of the district of that state where it is operating. Ensure that all sub-CONTRACTORs hired by CONTRACTOR comply with the same requirement as the CONTRACTOR himself and shall be liable for ensuring compliance all HSE laws.

37.2 It will be entirely the responsibility of the Contractor/his Supervisor/representative to ensure strict adherence to all HSE measures and statutory rules during operation in OIL's installations and safety of workers engaged by him. The crew members will not refuse to follow any instruction given by company's Installation Manager/Safety Officer/Engineer/Official/ Supervisor/Junior Engineer for safe operation.

37.3 Any compensation arising out of the job carried out by the Contractor whether related to pollution, Safety or Health will be paid by the contractor only.

37.4 Any compensation arising due to accident of the Contractor's personnel while carrying out the job, will be payable by the contractor.

37.5 When there is a significant risk to health, environment or safety of a person or place arising because of a non-compliance of HSE Measures Company shall have the right to direct the contractor to cease work until the non-compliance is corrected.

38.0 POLLUTION AND CONTAMINATION:

The CONTRACTOR shall be liable for all surface and sub-surface pollution to the extent caused by CONTRACTOR and resulting from CONTRACTOR's operation/service or spillage or dumping of solvents/additive substances or pollutants, which the CONTRACTOR brings to the Site for use in connection with Work to be performed under this Contract.

Notwithstanding anything to the contrary contained herein, it is agreed that except on the ground of willful misconduct or criminal misconduct, COMPANY shall release, indemnify and hold CONTRACTOR and its sub-CONTRACTORs harmless from any and all claims, judgments, losses, expenses and any costs related thereto (including but not limited to Court costs and "Attorney's fees") for:

a) Damage to or loss of any reservoir or producing formation; and/ or

b) Damage to or loss of any well; and/ or

c) Any other subsurface damage or loss; and/ or

d) Any property damage or loss or personal injury or death arising out of or in connection with a blowout, fire explosion and loss of well control regardless of cause.

39.0 STATUTORY VARIATION/ NEWLY ENACTED LAW:

39.1 All duties, taxes except otherwise specified in the Contract as applicable on the closing date of bid submission as per relevant acts and rules shall be in CONTRACTOR's account. Variation in case of custom duty on CIF value declared by the bidder shall be to COMPANY account.

39.2 In the event of introduction of any new legislation or any amendment or enforcement of any Act or Law, rules or regulations of Government of India or State Government(s) or Public Body, which becomes effective after the date of submission of Price Bid or revised price bid, if any, for this CONTRACT and which results in increased/decreased cost of the works under the CONTRACT through increased/decreased liability of taxes and/or duties, required to be paid by the CONTRACTOR, (other than personnel and Corporate taxes), the Parties shall agree to a revision in pricing to reflect such change subject to the production of documentary proof to the satisfaction of the COMPANY/CONTRACTOR as applicable to the extent which directly is attributable to such introduction of new legislation or change or amendment as mentioned above and adjudication by the competent authority (applicable when disputed by COMPANY) & the courts wherever levy of such taxes/duties are disputed by COMPANY/CONTRACTOR.

39.3 Any increase in net amount of the duties and taxes (i.e. the amount of taxes/duties payable minus eligible credit of taxes/duties paid on input services/inputs) after the contractual completion/mobilization date during the extended period will be to the CONTRACTOR's account, where delay in completion /mobilization period is attributable to the CONTRACTOR. However, any decrease in net amount of the duties and taxes (i.e. the amount of taxes/duties payable minus eligible credit of taxes/duties paid on input services/inputs) after the contractual completion/mobilization date will be to COMPANY's account.

39.4 The Contract Price and other prices given in the Schedule of Prices are based on the applicable tariff as indicated by the CONTRACTOR in the Schedule of Prices. In case this information subsequently proves to be wrong, incorrect or misleading, COMPANY will have no liability to reimburse/pay to the CONTRACTOR the excess duties, taxes, fees, if any finally levied/imposed by the concerned authorities. However, in such an event, COMPANY will have the right to recover the difference in case the rate of duty/tax finally assessed is on the lower side.

39.5 Notwithstanding the provision contained in Clause-39.1 to 39.4 above, the COMPANY shall not bear any liability in respect of:

i. Personal taxes on the personnel deployed by CONTRACTOR, his sub-CONTRACTOR/sub-sub-CONTRACTORs and Agents etc.

ii. Corporate taxes and Fringe benefit tax in respect of CONTRACTOR and all of their sub-CONTRACTORs, agents etc.

iii. Other taxes & duties including Customs Duty and GST in addition to new taxes etc. in respect of sub-CONTRACTORs, vendors, agents etc. of the CONTRACTOR.

iv. Any liability on the CONTRACTOR, which was accrued under the old law or contract, which the CONTRACTOR is obligated to pay either to the COMPANY or to the Government Authority.

39.6 In order to ascertain the net impact of the amendment/ revisions/enactment of various provisions of taxes/duties, the CONTRACTOR is liable to provide following

disclosure to COMPANY:

i. Details of each of the input services used in relation to providing service to COMPANY including estimated monthly value of input service and GST tax amount.

ii. Details of Inputs (material/consumable) used/required for providing service to COMPANY including estimated monthly value of input and GST paid/payable on purchase of inputs.

39.7 The above provisions would be applicable only in case of variation in rate of taxes and duties on supply of services to OIL and not applicable on taxes and duties on input (goods and services) towards such services.

39.8 Any claim or reduction on account of change in law shall be accompanied with undertaking that the provisions of anti- profiteering clause under GST Act have been complied with.

40.0 SEVERABILITY:

Should any provision of this agreement be found to be invalid, illegal or otherwise not enforceable by any court of law, such finding shall not affect the remaining provisions hereto and they shall remain binding on the parties hereto.

41.0 COMMISSION OF MISCONDUCT/SUBMISSION OF FRAUDULENT DOCUMENT BY THE BIDDER/CONTRACTOR AND BANNING THEREOF:

The information and documents furnished by the bidder/CONTRACTOR in respect of the tender/contract are accepted by COMPANY to be true and genuine. However, if it comes to the notice of the COMPANY anytime either during the pendency of the tender or after award of the contract or after completion the contract that a Bidder/CONTRACTOR furnished fraudulent document/false information in relation to the subject tender/contract or committed any misconduct, appropriate action shall be taken against the Bidder/CONTRACTOR for debarment/banning of the bidder/CONTRACTOR from participating in any future tender of the COMPANY in terms of the COMPANY's Banning Policy, 2017 besides making the CONTRACTOR liable for other penal action including termination of ongoing contract(s) at his/her risk and peril. In such event, the Performance Security in respect of ongoing contract(s) shall be forfeited by the COMPANY.

42.0 SETTLEMENT OF DISPUTES:

42.1 If dispute of any kind whatsoever shall arise between the company 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 facilities, whether during the progress of the facilities 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 any such dispute or difference by mutual consultation, then the dispute may be settled through Settlement Advisory Committee (SAC). In the event, a dispute remains unsettled then Arbitration/ other remedies available under the applicable laws may be availed by the Contractor.

42.2 Resolution of Dispute through SAC:

a) OIL has framed the Conciliation Rules 2020 in conformity with Part III of the Arbitration and Conciliation Act 1996 as amended from time to time for speedier, cost effective and amicable settlement of disputes through conciliation.

b) If the parties fail to resolve such a dispute or difference by mutual consultation as per clause no. 42.1, the dispute, if the parties agree, may be referred to conciliation in accordance with OIL Conciliation Rules 2020 as amended from time to time. A copy of the said Rules has been made available on OIL's Website i.e. www.oil-india.com

c) Where the invitation for conciliation has been accepted by the other party, the parties shall attempt to settle such dispute(s) amicably under OIL conciliation Rules 2020.

d) Parties shall invoke arbitration clauses only after exhausting the option of conciliation as an Alternative Dispute Resolution Mechanism. For the purpose of this clause, the option of conciliation shall be deemed to have been exhausted, even in case of rejection of conciliation by any of the parties.

42.3 Arbitration (Applicable for Suppliers/Contractors other than PSU and MSME):

1. Except as otherwise provided elsewhere in the contract, if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, in connection with construction, meaning, operation, effect, interpretation of the contract or breach thereof which parties are unable to settle mutually through Conciliation/Mediation, the same shall be referred to Arbitration.

2. A party wishing to commence arbitration proceeding shall invoke an Arbitration Clause by giving 30 days' notice to the other party. The notice invoking arbitration shall specify all the points of dispute with details of the amount claimed to be referred to arbitration at the time of invocation of arbitration and not thereafter. If the claim is in foreign currency, the claimant shall indicate its value in Indian Rupee for the purpose of constitution of the arbitral tribunal.

3. The number of arbitrators and the appointing authority will be as under: Claim amount (excluding claim for interest and counter claim, if any)

Claim amount. {excluding claim for interestand counter claim, if any)	**Number of Arbitrator**	**Appointing Authority**
Up to Rs. 25.00 Lakh	Not applicable	Not applicable
Above Rs. 25.00 Lakh Up to Rs. 5 Crore	Sole Arbitrator from the panel of Arbitrators' List maintained by OIL	Mutually to be decided by the Parties.

4. The Parties agree that dispute involving claims below Rs. 25 lakhs and above Rs. 5 crores shall not be subject matter of Arbitration but subject to the exclusive jurisdiction of the Court(s) situated at New Delhi.

5. The parties agree that they shall appoint only those persons as arbitrators who accept the conditions of the arbitration clause. No person shall be appointed as Arbitrator or Presiding Arbitrator who does not accept the conditions of the arbitration clause.

6. If any of the Arbitrators so appointed dies, resigns, becomes incapacitated or withdraws for any reason from the proceedings, it shall be lawful for the concerned party/arbitrators to appoint another person in his place in the same manner as aforesaid. Such person shall proceed with the reference from the stage where his predecessor had left if both parties consent for the same; otherwise, he shall proceed de novo.

7. Parties agree and undertake that neither shall be entitled for any pre- reference or pendente-lite interest on its claims. Parties agree that any claim for such interest made by any party shall be void. Parties agree that a claim for any such interest shall not be considered and shall be void. The Arbitrator or Tribunal shall have no right to award pre-reference or pendent-lite interest in the matter.

8. The arbitral tribunal shall complete the proceedings, make and publish the award within time stipulated in the Arbitration and Conciliation Act, 1996(as amended from time to time)

9. If after commencement of the arbitration proceedings, the parties agree to settle the dispute mutually or refer the dispute to conciliation, the arbitrators shall put the proceedings in abeyance until such period as requested by the parties. Where the proceedings are put in abeyance or terminated on account of mutual settlement of dispute by the parties, the fees payable to the arbitrators shall be determined as under:

    a) 20% of the fees if the claimant has not submitted a statement of claim.
    b) 40% of the fees if the pleadings are complete.
    c) 60% of the fees if the hearing has commenced.
    d) 80% of the fees if the hearing is concluded but the award is yet to be passed.

10. Each party shall be responsible to make arrangements for the travel and stay etc. of the arbitrator appointed by it. Claimant shall also be responsible for making arrangements for travel and stay of the Presiding Arbitrator and the expenses incurred shall be shared equally by the parties. In the case of sole arbitrator, both parties shall equally share all expenditures that may be required to be incurred.

11. The fees and other administrative/secretarial expenses of the arbitrator(s) shall not exceed the model fee as stipulated in the Schedule of the Act and such expenses shall be equally borne by the parties.

12. The seat and venue of the arbitration proceeding shall be New Delhi.

42.4 Arbitration (applicable in case of Contract awarded on Public Sector Enterprise):

1. If the Parties fail to resolve such a dispute or differences by Mutual Consultation/Good Faith Discussions, such disputes or difference shall be taken up by either party for resolution through Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD) as mentioned in DPE Office Memorandum No. 05/0003/2019-FTS-10937 dated 14.12.2022 issued by Department of Public Enterprises, Ministry of Heavy Industries and Public Enterprises, Government of India and its further clarifications, modifications and amendments, issued from time to time.

2. A party wishing to commence arbitration proceedings shall invoke Arbitration Clause and refer the dispute(s) to AMRCD with a copy to the other party. The notice invoking arbitration shall specify all the points of dispute with details of the amount claimed to be referred to arbitration at the time of invocation of arbitration and not thereafter.

3. Upon such reference, the dispute shall be decided by the Competent Authority appointed under the AMRCD, whose decision shall bind the parties finally and conclusively. The parties in the dispute will share equally the cost of the arbitration as intimated by the Arbitrator.

42.5 Arbitration (Applicable to Micro, Small and Medium Enterprise)

In the event of any dispute or difference relating to, arising from, or connected with the Contract, efforts shall be made to resolve the dispute(s) amicably by mutual consultation and in case such dispute(s) cannot be resolved through mutual consultation, then same shall be resolved through the procedure as prescribed in Section-18 of the Micro, Small and Medium Enterprises Development Act, 2006.

42.6 Exclusions

Parties agree that following matters shall not be referred to conciliation or arbitration:

a) Any claim, difference or dispute relating to, connected with or arising out of OIL's decision to initiate any proceedings for suspension or debarment or banning, or decision to suspend or to ban or to debar business dealings with the bidder/CONTRACTOR and/or with any other person involved or connected or dealing with bid/contract/bidder/CONTRACTOR.

b) Any claim, difference or dispute relating to, connected with or arising out of OIL's decision under the provisions of Integrity Pact executed between OIL and the Bidder/CONTRACTOR.

c) Any claim, difference or dispute relating to, connected with or arising out of OIL's decision to comply with any order or directive of any statutory or government authority.

43.0 COMPLETION OF CONTRACT:

Unless otherwise terminated under the provisions of any other relevant Clause or extended through written communication, this Contract shall be deemed to have been completed at the expiry of the Period specified in the contract or period of defect liability, as provided for under the Contract, whichever is later.

44.0 TERMINATION:

44.1 **Termination on expiry of the contract**: This Agreement shall be deemed to have been automatically terminated on the expiry of the contract period unless OIL has exercised its option to extend this contract in accordance with the provisions, if any, of this contract.

44.2 **Termination of contract for death:** If the CONTRACTOR is an individual or a proprietary concern and the individual or the proprietor dies or if the CONTRACTOR is a partnership concern and one of the partners dies then unless, the COMPANY is satisfied that the legal heir of the individual or the proprietary concern or the surviving partners are capable of carrying out and completing Contract, the COMPANY is entitled to cancel the Contract for the uncompleted part without being in any way liable for any compensation payment to the estate of the deceased CONTRACTOR and/or to the surviving partners of the CONTRACTOR's firm on account of the cancellation of Contract. The decision of the COMPANY in such assessment shall be final & binding on the parties. In the event of such cancellation, the COMPANY shall not hold the estate of the deceased CONTRACTOR and/or the surviving partners of CONTRACTOR's firm liable for any damages for non-completion of the Contract.

44.3 **Termination on account of Force Majeure:** Unless the contract provides otherwise, either party shall have the right to terminate this Contract on account of Force Majeure as set forth in Article-31.0 above.

44.4 **Termination on account of insolvency:** In the event that the CONTRACTOR or its collaborator or its guarantor at any time during the term of the Contract, becomes insolvent or makes a voluntary assignment of its assets for the benefit of creditors or is adjudged bankrupt or under the process of insolvency or liquidation, then the COMPANY shall, by a notice in writing have the right to terminate the Contract and all the CONTRACTOR's rights and privileges hereunder, shall stand terminated forthwith.

However, COMPANY shall be at liberty to give the Receiver or Liquidator or Insolvency Professional Manager, as appointed by the Competent Court/Tribunal, the option of carrying out the Contract subject to its technical & financial competence and his providing a guarantee for due and faithful performance of the Contract.

44.5 **Termination for Unsatisfactory Performance**: If the COMPANY considers that, the performance of the CONTRACTOR is unsatisfactory, or not as per the provision of the Contract, the COMPANY shall notify the CONTRACTOR in writing and specify in details the cause of dissatisfaction. The COMPANY shall have the option to terminate the Contract by giving 15 days notice in writing to the CONTRACTOR, if CONTRACTOR fails to comply with the requisitions contained in the said written notice issued by the COMPANY. In the event CONTRACTOR rectifies its non-performance to the satisfaction of the COMPANY, the option of termination may not be exercised by the COMPANY. If however CONTRACTOR repeats non-performance subsequently, COMPANY shall exercise the option to terminate contract by giving 07 days notice. Such CONTRACTOR shall be put on holiday as per the Banning Policy of OIL [available at www.oil-india.in].

44.6 **Termination due to change of ownership and Assignment:** In case the CONTRACTOR's rights and /or obligations under this Contract and/or the CONTRACTOR's rights, title and interest to the equipment/ material, are transferred or assigned without the COMPANY's written consent, the COMPANY may at its option, terminate this Contract. COMPANY shall not be however under any obligation to accord consent to the CONTRACTOR for change of ownership & assignment of the contract.

44.7 If at any time during the term of this Contract, breakdown of CONTRACTOR's equipment results in CONTRACTORs being unable to perform their obligations hereunder for a period of 15 successive days, COMPANY at its option, may terminate this Contract in its entirely or partially to the extent non-performance, without any further right or obligation on the part of the COMPANY, except for the payment of money then due. No notice shall be served by the COMPANY under the condition stated above.

44.8 **Termination for delay in mobilization:** CONTRACTOR is required to mobilize complete equipment alongwith crew for commencement of services at the specified site within the maximum allowed number of days from the date of LOA/Notice for Mobilization as specified in the special conditions of contract. If the CONTRACTOR (successful bidder) fails to complete the mobilization as above, OIL shall have, without prejudice to any other clause of the CONTRACT, the right to terminate the contract.

44.9 Notwithstanding any provisions herein to the contrary, the Contract may be terminated at any time by the COMPANY on giving 30 (thirty) days written notice to the CONTRACTOR due to any other reason not covered under the above Article from **44.1 to 44.8** and in the event of such termination the COMPANY shall not be liable to pay any cost or damage to the CONTRACTOR except for payment of services as per the Contract upto the date of termination.

44.10 **Consequence of Termination:** In all cases of termination herein set forth, the relative obligations of the parties to the Contract shall be limited to the period up to the date of termination. Notwithstanding the termination of this Contract, the parties shall continue to be bound by the provisions of this Contract that reasonably require some action or forbearance after such termination.

Upon termination of this Contract, CONTRACTOR shall return to COMPANY all of COMPANY's properties, which are at the time in CONTRACTOR's possession.

In the event of termination of contract, COMPANY will issue Notice of termination of the contract with date or event after which the contract will be terminated. The contract shall then stand terminated and the CONTRACTOR shall demobilize their personnel & materials.

Demobilization charges shall not be payable by COMPANY in case of Article from **44.4 to 44.7**

45.0 **TO DETERMINE THE CONTRACT:**

In such an event (i.e. termination under Article No. 44.4 to 44.9 above), the contract

shall stand terminated and shall cease to be in force from the date of such notification by the COMPANY. Thereafter the CONTRACTOR shall stop forthwith any of the work then in progress, except those work which the COMPANY may, in writing, require to be done to safeguard any property or work, or installations from damages, and the COMPANY may take over the remaining unfinished work of the CONTRACTOR and complete the same through a fresh CONTRACTOR or by other means, at the risk and cost of the CONTRACTOR, and any of its sureties if any, shall be liable to the COMPANY for any excess cost occasioned by such work having to be so taken over and completed by the COMPANY over and above the cost at the rate/cost specified in the schedule of quantities and rates/prices.

46.0 WITHOUT DETERMINING THE CONTRACT: In such an event (i.e. termination under Article No. 44.4 to 44.9 above), the COMPANY may take over the work of the CONTRACTOR or any part thereof and complete the same through a fresh CONTRACTOR or by other means, at the risk and cost of the CONTRACTOR. The CONTRACTOR and any of its sureties are liable to the COMPANY for any excess cost over and above the cost at the rates specified in the schedule of quantities and rates/prices, occasioned by such work having been taken over and completed by the COMPANY.

47.0 ERRING/DEFAULTING AGENCIES:

Erring and defaulting agencies like bidder, CONTRACTOR, supplier, vendor, service provider will be dealt as per OIL's Banning Policy dated 6th January, 2017 available in OIL's website: www.oil- india.com. Moreover, OIL reserves the right to take legal or any other action on the basis of merit of the case.

48.0 MISCELLANEOUS PROVISIONS:

CONTRACTOR shall give notices and pay all fees at their own cost required to be given or paid by any National or State Statute, Ordinance, or other Law or any regulation, or bye-law of any local or other duly constituted authority as may be in force from time to time in India, in relation to the performance of the services and by the rules & regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the services.

CONTRACTOR shall conform in all respects with the provisions of any Statute, Ordinance of Law as aforesaid and the regulations or bye-law of any local or other duly constituted authority which may be applicable to the services and with such rules and regulation, public bodies and Companies as aforesaid and shall keep COMPANY indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance or Law, regulation or bye-law.

During the tenure of the Contract, CONTRACTOR shall keep the site where the services are being performed reasonably free from all unnecessary obstruction and shall store or dispose of any equipment and surplus materials and clear away and remove from the site any wreckage, rubbish or temporary works no longer required. On the completion of the services, CONTRACTOR shall clear away and remove from the site any surplus materials; rubbish or temporary works of every kind and leave

the whole of the site clean and in workmanlike condition to the satisfaction of the COMPANY.

Key personnel cannot be changed during the tenure of the Contract except due to sickness/death/resignation of the personnel or any other justified situation in which case the replaced person should have equal experience and qualification, which will be again subject to prior approval, by the COMPANY.

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SCHEDULE OF WORK, UNIT AND QUANTITY (SOQ)

A. Job Description: *Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works.*

Line-Item Nos.	Description	UOM	Estimated Quantity
10	a) **Supply, installation, testing and commissioning (SITC) of 33kV GIS Switchboard (5-Panel)** housed within an independent/common E-House (Container). Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.B & C ,L,M,N,U,V). b) **Supply, installation, testing and commissioning (SITC) of 11kV AIS Switchboard (8-Panel)** housed within an independent/common E-House (Container). Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.B & D, L,M,N,U,V). **c)** Supply of **415V VERTICAL DISTRIBUTION BOARD.** Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.K) d) **Supply of 500 KVA, 11/0.415kV Dry Type Station Transformer - 01 number** Details mentioned in point no-12 (DETAILED TECHNICAL	Activity Unit (AU)	1

	SPECIFICATION: Sl No.G) e) **Supply, laying, jointing and termination** of minimum 500 meters of 3C X 300 sq mm XLPE **33 kV, 500 meters of 3C X 240 sqmm 11 kV XLPE grade power cables , and Required length of 1.1 KV Grade LT power & control cables in pucca cable trench/ Elevated cable trays/ through casing pipes for road crossing by HDD**, termination and connection with overhead lines/POLES (2 nos 33KV, 3 nos 11KV), termination and connection in 02 nos 5MVA 33KV/11KV, 2NOS 800KVA 11KV/415V transformers HV and LV Side, termination and connection in all incoming and outgoing feeders of 33 KV GIS, 11KV AIS, 415 V AIS panel incoming and outgoing sides and including: • HDD crossing of PWD road (40 feet width) through two **16" dia, 0.315" thick steel casing pipes**, • Construction of **pucca (RCC) cable trenches**, buried cable trench as applicable. • Design, supply & construction of **cable tray structures**.		

	f) **Design, supply and implementation of earthing system of the entire substation** including e-houses, transformers, switch gears, auxiliary equipment etc. as per IS 3043 for 33KV Substation. **All neutrals shall have separate earthing pits and electrodes.** • Design, construction and implementation of safe step & touch potential based on the fault current level for the entire substation area including the surface areas, handrails, staircases of e-houses as per IEEE-80 Standard. g) **Design, supply and implementation of lightning protection system for entire substation** including e-houses, transformers etc. with separate earthing system. h) **Supply of spares & accessories.**		
20	**Supply, installation, testing and commissioning (SITC) of 11kV Single Panel AIS Switchboard**	SET	1
30	**Supply of 415V Switchboard with two 2500A as incomer, 1no 2500A as bus-coupler, 2nos 1600A ACBS as**	SET	1

	outgoing including 3nos 630A MCCB and and 3nos 400A MCCB housed within an independent/common E-House (Container).		
40	**Installation, testing and commissioning (ITC) of** Line Item No.30 within an independent/common E-House (Container).	Activity Unit (AU)	1
50	Associated civil works including construction of boundary walls, gates of the newly installed 33KV GIS/11KV AIS/ 415V SWITCHBOARD WITH E-HOUSE AND OUTDOOR TRANSFORMERS/ETC. Details mentioned in ANNEXURE-IV(H)	Activity Unit (AU)	1
60	Supply of **800 kVA, 11kV/0.415kV Station Transformers – 2 Nos**.-Outdoor type (As mentioned in point no. 12. DETAILED TECHNICAL SPECIFICATION: Sl No. E)	NUMBER (NO)	2
70	**Installation, testing and commissioning (ITC)** of Line Item No.60 including foundation, design and construction as per OEM design, earthing, lightning protection, cable termination etc.	Activity Unit (AU)	2
80	Supply of **5 MVA, 33/11 kV Power Transformers – 2 Nos**.-Outdoor type (As mentioned in point no. 12. DETAILED TECHNICAL SPECIFICATION: Sl No.F)	NUMBER (NO)	2
90	**Installation, testing and commissioning (ITC)** of Line Item No.80 including foundation, design and construction as per OEM design, earthing, lightning protection, cable termination etc.	Activity Unit (AU)	2

100	Supply of additional 33KV, 3CX300SQMM XLPE ALUMINIUM CABLE-2000M (Will be billed as per actual) (Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-H)	METER (M)	2,000
110	Supply of additional 11KV, 3CX240SQMM XLPE ALUMINIUM CABLE-2000M (Will be billed as per actual) (Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-H).	METER (M)	2,000
120	Supply of additional 1.1KV, **3.5CX240SQMM XLPE ALUMINIUM CABLE-2000M (Will be billed as per actual) (**Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-I).	METER (M)	2,000
130	Laying and termination of additional 33KV, **3CX300SQMM XLPE ALUMINIUM CABLE (Will be billed as per actual) (**As per OIL Approved final cable layout and termination design).	Activity Unit (AU)	1
140	Laying and termination of additional 11KV, **3CX240SQMM XLPE ALUMINIUM CABLE (Will be billed as per actual) (**As per OIL Approved final cable layout and termination design).	Activity Unit (AU)	1
150	Laying and termination of additional 1.1KV, **3.5CX240SQMM XLPE ALUMINIUM CABLE (Will be billed as per actual) (**As per OIL Approved final cable layout and termination design).	Activity Unit (AU)	1

160	Area development of the existing 33KV AIS SWITCHYARD as per details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-W and Associated civil works as per ANNEXURE-IV(H).	LUMPSUM (LSM)	1
170	Supply of testing and measuring instruments. **(**Details mentioned in ANNEXURE-IV(G))	SET	1
180	Supply of Safety items. **(**Details mentioned in ANNEXURE-IV(C)	SET	1
190	Sundry items	LUMPSUM (LSM)	1
200	HDD Pipe laying for road crossing for laying various cables. **(**Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-R).	METER (M)	300

Note: The details of each of the line Items are mentioned in the Scope of Work (SOW) & Special Conditions of Contract (SCC) of the tender.

B. PAYMENT TERMS

The total estimated Contract Price as indicated in Schedule of work, quantities & rates - BOQ of this Contract is inclusive of all statutory liabilities viz. Corporate Income Tax, Personal Tax, etc. and GST. The Company shall pay the Contractor only for actual work done at the all-inclusive rates set down in BOQ of this Contract. Please refer to the attached document 'PAYMENT TERMS'.

All Payments on supply will be made on receipt of materials, positive identification & acceptance of materials by OIL's Engineer at site. Details of Payment is mentioned in **Annexure-P**.

Note: All Invoices are to be sent to the following address:

CGM-ELECTRICAL (HOD)
Oil India Limited,
P.O. Duliajan-786602
Dist. Dibrugarh, Assam

C. COMPLIANCE TOWARDS LOCAL CONTENT

i) Contractor shall have to comply with the provision of Public Procurement (Preference to Make in India) Order, 2017 and as amended time to time by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India.

As compliance to the said order, the Contractor had stated minimum local content as ___ % during the bidding stage, which they must maintain during the execution period.

ii) The Contractor shall submit a Local Content Certificate certifying the percentage of local content along with each invoice.

iii) Such certificate should be supported by a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of other than companies) giving the percentage of local content. [Only in case the awarded Contract value is more than ₹ 10 Crore].

iv) The percentage of Local Content may vary with each invoice while contractor will have to maintain the overall percentage of local content for the total work/purchase of the pro-rata local content requirement. In case it is not satisfied cumulatively in the invoices raise upto that stage, the Contractor shall indicate how the Local Content requirement would be in the subsequent stages.

********End of SOQ*****

SPECIAL CONDITIONS OF CONTRACT (SCC)

The Clauses of SCC shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

1.General Note: The successful bidder shall prepare and align their work plan strictly in accordance with the approved Project Schedule/GANTT chart to ensure adequate readiness for storing all incoming equipment upon arrival at Duliajan. No separate storage facilities will be provided by OIL.

OIL will issue dispatch clearance for all equipment only after confirming that the respective substation civil foundations, soil compaction works, and other preparatory activities required for the erection of the E-Houses are fully completed. Likewise, foundations for all transformers (Power and Distribution) and associated cable trenches must be ready prior to dispatch.

Upon arrival at Duliajan, the custody, storage, and safe keeping of all equipment, including E-Houses, shall rest entirely with the bidder/contractor. The contractor shall be responsible for watch and ward, safe storage, and overall protection of all equipment until final handing over of the installation to OIL.

2.BROAD SCOPE OF WORK

2.1 Design, Manufacturing, Supply, Installation & Commissioning of 33KV GIS,11kV AIS,0.415kV LT Panel, E-house , 2 numbers 33KV/11KV 5 MVA TRANSFORMER, 2 numbers 11KV/.415 KV 800KVA TRANSFORMERS with supply and installation of associated electrical equipment and supply and laying/ termination/ through joints of cables in pucca cable trench outside the E-HOUSE area , CABLE trays under the E-HOUSE area or any other area as required with suitable tray support structure.

2.2 Design, supply and implementation of **earthing system of the entire substation as per IS 3043 for 33KV Substation. All neutrals shall have separate earthing pits and electrodes.**

2.3 Design, construction and implementation of safe step & touch potential based on the fault current level for the entire substation area including the surface areas, handrails, staircases of e-houses as per IEEE-80 Standard. Design, supply and implementation of lightning protection system for entire substation including e-houses, transformers, Roof top solar etc. with separate earthing system.

2.4 The scope of the work under this tender also includes all associated Civil jobs e.g soil testing , design and construction of Foundation structure for the e-houses, outdoor transformers ,cable trays, cable trenches, boundary wall, entry gates, approach roads inside the substation area, leader drains inside substation area as per details given in scope of civil works , HDD for road crossing of HT /LT Cables/ 16 inch dia. 315 in thickness casing pipes (2 nos) etc. as per details mentioned in the contract on LSTK basis.

Note: Being the LSTK nature of the contract the contractor has to provide all manpower, materials, tools, equipment, consumables as per the approved design and drawing in required volume and quantity. However, the contractor

must mandatorily supply all other items in quantities for which the minimum quantity is mentioned in the contract.

- Associated Civil Works: Please refer attachment.

- The successful bidder shall measure the soil bearing capacity as per standard practice and shall formulate the foundation design by taking into consideration the following:

i.) Determination of soil characteristics at site

ii.) Designing of the foundation to suit the dead/dynamic load of the E-house, local conditions including rain/wind etc.

iii) General conditions such as earthquake classification, inundations during monsoon etc.

3. A formal plan shall be submitted within 30 days of mobilization for preliminary civil works, electrical work plan etc.

4. Safety: Refer attachment.

- Other electrical jobs to be carried out are as per the details given scope of work (electrical).

ii. The Contractor shall execute the job using the best engineering practices following all relevant laid down standards considering all safety measures to the satisfaction of OIL's Engineer.

iii. The working area is within OIL operational area of Duliajan.

iv.The Contractor shall appoint a Project Manager possessing a Bachelor's degree in Electrical Engineering (B.E./B. Tech) and having proven experience in the installation, testing, and commissioning of similar works from start of the project till end of the project. Documentary evidence substantiating the qualifications and experience of the proposed Project Manager shall be submitted by the Contractor during Mobilisation period of the Contract.

The Contractor shall also furnish details of the manpower proposed to be engaged during the contract period, along with their respective qualifications and experience.

The Contractor shall ensure that the aforesaid manpower, along with any additional manpower as may be required, is deployed and available at site at all times during the execution of site activities.

v. The Contractor shall deploy OEM's own Expert Engineer(s) starting at least one week prior to the arrival of the E-House(s) at site and shall continue their engagement until completion of all installation, testing, commissioning, and final handover activities to OIL. Further, the Contractor shall ensure deployment of expert engineers from the OEM of the E-House, protection relays, circuit breakers, and transformers during the installation and commissioning stages. The OEM-issued Identity Card (I-Card) of all such personnel shall be mandatorily produced at site during execution of the work. For the purpose of this clause, OEM' s own Expert Engineer(s) shall refer to the OEM of the 33 kV GIS Panel and 11 kV AIS Panel.

vi The CONTRACTOR shall be solely responsible throughout the period of the contract for providing all requirements of their personnel including but not

limited to, their transportation to & fro from Duliajan / field site, enroute / local boarding, lodging, personal protective gear & medical attention etc. COMPANY shall have no responsibility or liability in this regard.

vii. Necessary ladders, tools, safety gadgets, vehicle(s) etc. shall be arranged by the Contractor. The to and fro movement of engineer(s)/labourer(s) if any to the site shall also be contractor's responsibility.

viii. Earthing of the E-house(s) & all electrical equipment and accessories should be done as per the electrical standards IS-3043. All equipment must have double earthing. The earth stripes/wires etc. shall be properly welded/ bolted by the Contractor to the connectors attached to the electrode. The neutral of all transformers shall be solidly earthed and should be sperate from body earthing.

ix. The Contractor must build their own storage facilities at site (OCS2 Project site) for storing all the materials to prevent theft or damage. Plus, CCTVs (04 numbers) covering the entire project site shall be installed to monitor all activities from our office (OIL) & from Vendor's office during the mobilization stage only.

5.0 Instruction with respect to execution of work

A. The work shall commence only on the instruction of OIL Engineers or personnel, and ongoing work may be called off without prior notice if deemed necessary during the execution of the contract.

B. All applicable safety norms shall be adhered to and PPE like shoes, safety belts, helmet etc., arranged by the Contractor and continuously used at workplace.

C. Subsequent to closure of day's work, OIL's representative shall inspect the works carried out and shall reserve the right to ask the Contractor to re-do/rectify any work deemed imperfect or not being in good aesthetic/engineering sense without any additional cost incurred to OIL.

D. Care shall be taken to cause minimum possible disruption to operational activities of OIL while execution of the work. If required, a temporary stoppage of work might be deemed necessary to facilitate operational/maintenance activities.

E. While carrying on the work, no harm shall be caused to any OIL installations, equipment, walkways, walls/fences or other infrastructure. Damages caused, if any, shall be rectified by the Contractor free of cost. In case the Contractor fails to expedite the rectification, charges against the same shall be deducted from the monthly bills.

F. Necessary electrical shutdowns shall be arranged by OIL representatives and necessary clearances shall be handed over to the representatives of the Contractor prior to commencement of work.

G. Contractor must ensure execution of electrical works only by competent persons:

i. Electrical engineer/supervisor should have a valid Electrical Supervisor License of competency issued by any state government & with minimum 3 years of experience

ii. All other technical personal having valid wireman's license/permit issued by any state government and with minimum two years experience.
iii. The list of persons proposed to be engaged for the work shall be submitted to OIL mentioning their previous work experiences. OIL reserves the right to reject person(s) who are deemed to be incompetent for electrical works

The contractor shall submit a clear list of all personnel to be engaged during the contract (both civil and electrical). For each person, details such as technical qualification/certification, work experience, and proof of age document shall be provided. These documents must be produced whenever requested by OIL to ensure compliance.

H. Acceptable makes of Various Equipment: Please refer attachment.

I. Getting CEA inspection done & obtaining approval for energizing the installation.

J. Following colors to be provided for earthing jobs:
a) Neutral earth pit cover to be painted yellow.
b) Body earth pit cover to be painted green.
c) Surge arrestor earth pit cover to be painted black
d) Available earth pit resistance values should be written on the earth pit cover (Both Individual and combined).

6.0 FORCE MAJEURE:
In the event of Force Majeure, no 'force majeure' rate shall apply.

7. SPECIFICATIONS AND APPLICABLE STANDARDS

Please refer Scope of work (electrical) and scope of (civil)/attachments

8. GENERAL TERMS & CONDITIONS
Any other job not specifically mentioned but mandatorily required for supply, installation & commissioning of the 33KV GIS with E-House(s) & Associated Civil Works shall be in Vendor's scope.

9.Inspection:

a) Two stage inspections of the important equipment will be carried out at OEM's manufacturing facility/premises by representatives of the bidder (without any extra cost to OIL), OEM and OIL personnels as follows:

i. In the assembling/manufacturing stage viz. E-House(s),33kV GIS Panel, 11kV AIS Panel, 0.415kV LT Panel, 5MVA Transformer(33/11kV), 800kVA(11/0.415kV) Transformer etc. at respective OEM's manufacturing facility/premises (except the E-HOUSE which may be inspected either at OEM's manufacturing facility/premises or OEM designated E-House manufacture /assembler' works).

ii. 2) Pre-dispatch Inspection of 33kV GIS panel, 11kV AIS Panel, 0.415kV LT Panel, 5MVA Transformer, 800kVA Transformer etc. at respective OEM's manufacturing facility/premises (except the E-HOUSE which may be inspected either at OEM's manufacturing facility/premises or OEM designated E-House manufacture /assembler' works).

iii. 3) Imported items shall also be offered for pre-dispatch inspection at the place of origin and shall be at the discretion of OIL.

10.Warranty

The warranty period of the supplied products shall be 2 years from the date of final acceptance of goods or after completion of installation, commissioning & testing of goods (if included in the scope of supply), at consignee location. OEM Warranty certificates must be submitted by Successful Bidder at the time of delivery of Goods.

The seller should guarantee the rectification of goods in case of any breakdown during the guarantee period. Seller/OEM should have well established Installation, Commissioning, Training, Troubleshooting and Maintenance Service group in INDIA for attending the after sales service.

The equipment or components, or any part thereof, so found defective during warranty period shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer- in-Charge. In case it is felt by OIL that undue delay is being caused by the contractor in doing this, the same will be got done by OIL at the risk and cost of the contractor. The decision of the Engineer-in-charge in this regard shall be final & binding on the contractor. The bidder shall guarantee among other things, the following:

10.1.Quality, strength and performance of the materials used as per manufacturers standards.

10.2.Safe mechanical and electrical stress on all parts under all specified conditions of operation.

10.3 For civil structure: All civil structures to be under defect liability for a period of 12 months from the date of handing over. Any damages, cracks or defects arises during that period to be corrected or rectified by the contractor. No additional payment will be made to the contractor for any repairing works carried out during defect liability period.

11. Power supply: Electricity shall be provided on chargeable basis as per OIL rate applicable to the outside parties. A temporary three phase power supply of not more than 5 KW (INR 14/KWHr) shall be provided, at a single point, during execution of work for lighting & other purposes only, but not for welding. Further arrangements for temporary tapping power connection from this point shall be made by the contractor and for welding purpose, the contractor must arrange his own Diesel engine driven welding set.

12. Water Supply: Water supply shall be made available by the contractor on their own for construction of E-House foundation/pilling works and other civil works.

13. HEALTH SAFETY & ENVIRONMENT POLICY (HSE): Contractor shall abide by the HSE (Health, Safety & Environmental) points of Annexure to letter Ref S&E/G/53/1332 dated 30.09.2021 which are applicable to this contract.

13.1GENERAL HSE POINTS:

13.1.1 It will be solely the Contractor's responsibility to fulfill all the legal formalities with respect to the Health, Safety and Environmental aspects of the entire job (namely; the person employed by him, the equipment, the environment, etc.) under the jurisdiction of the district / state where it is operating. Ensure that all sub-contractors hired by him comply with the same requirement as the contractor himself and shall be liable for ensuring compliance of all HSE laws by the sub or sub-sub contractors.

13.1.2.Every person deployed by the contractor must wear safety gadgets to be provided by the contractor. The Contractor shall provide proper Personnel Protective Equipment as per the hazard identified and risk assessed for the job and conforming to statutory requirement and company PPE schedule. If the Contractor fails to provide the safety items as mentioned above to the working personnel, the Contractor may apply to OIL for providing the same. OIL will provide the safety items, if available.

But in turn, OIL will recover the actual cost of the items by deducting from Contractor's Bill. However, it will be the Contractor's sole responsibility to ensure that the persons engaged by him use the proper PPE while at work. All the safety gears mentioned above are to be provided to the working personnel before commencement of the work.

13.1.3. The Contractor shall appoint a competent and qualified Safety Officer responsible for monitoring and ensuring compliance with all safety requirements at site from the commencement of any civil or electrical work until completion of the project. The Safety Officer shall maintain daily safety reports, safety records, and registers, which shall be made available for inspection by OIL's Engineer as and when required.

13.1.4. The Contractor shall prepare written Safe Operating Procedure (SOP) for the work to be carried out, including an assessment of risk, wherever possible and safe methods to deal with it/them. The SOP should clearly state the risk arising to men, machineries & material from the operation / operations to be done by the contractor and its necessary mitigations. A copy of the SOP to be submitted to the Engineer In Charge for approval.

13.1.5.Contractor has to ensure that all work is carried out in accordance with the Statute and SOP and for the purpose he may deploy adequate qualified and competent personnel for the purpose of carrying out the job in a safe manner.

13.1.6.All persons deployed by the contractor must undergo initial medical examination(IME). IME of the person engaged by the contractor to be carried out in Govt. Health Centres.

13.1.7. It will be entirely the responsibility of the Contractor/his Supervisor/representative to ensure strict adherence to all HSE measures and statutory rules during operation in OIL's installations and safety of workers engaged by him.

13.1.8.Any compensation arising out of the job carried out by the Contractor whether related to pollution, Safety or Health will be paid by the contractor only.

13.1.9.Any compensation arising due to accident of the Contractor's personnel while carrying out the job will be payable by the contractor.

13.1.10.The contractor shall have to report all incidents including near miss to the Engineer In Charge of OIL.

13.1.11.The contractor has to keep a register of the persons employed by him/her. The contractor's supervisor shall take and maintain attendance of his men every day for the work, punctually.

13.1.12.If the company arranges any safety class / training for the working personnel at site (company employee, contractor worker, etc) the contractor will not have any objection to any such training.

13.1.13. The Contractor shall appoint a competent and qualified Safety Officer responsible for monitoring and ensuring compliance with all safety requirements at site from the commencement of any civil or electrical work until completion of the project. The Safety Officer shall maintain daily safety reports, safety records, and registers, which shall be made available for inspection by OIL's Engineer as and when required

13.1.14.Records of daily attendance, accident report (if any) are to be maintained.

13.1.15.A contractor employee must, while at work, take reasonable care for the health and safety of people who are at the employee's place of work and who may be affected by the employee's act or omissions at work.

13.1.16.A contractor employee must, while at work, cooperate with his or her employer or other persons as far as is necessary to enable compliance with any requirement under the act or the regulations that is imposed in the interest of health, safety and welfare of the employee or any other person.

13.1.17.In case Contractor is found non-compliant of HSE laws as required company will have the right for directing the contractor to take action to comply with the requirements, and for further non-compliance, the contractor will be penalized prevailing relevant Acts/Rules/Regulations.

13.1.18.When there is a significant risk to health, environment or safety of a person or place arising because of a non-compliance of HSE Measures Company will have the right to direct the contractor to cease work until the non-compliance is corrected.

13.1.19. The contractor should prevent the frequent change of his contractual employees as far as practicable.

13.1.20.For any HSE matters not specified in the contract document, the contractor will abide the relevant and prevailing Acts/rules/regulations/ pertaining to Health, Safety and Environment.

13.1.21Necessary cold/Hot work/ Electrical isolation /energisation/work at height/vehicle entry permits, etc. are to be obtained from authorized personnel before starting the job (s).

13.1.22First aid box to be provided by the contractor and same has to be kept ready at work site for contractor's personnel while carrying out the job (s).

13.1.23 Proper barricading to be provided to the entire construction site during the course of project work.

13.1.24 Live high voltage electrical equipment are present near to the project site. Contractor has to take extra pre-caution while executing the project. Shutdowns if required shall be provided by OIL.

13.1.25 To arrange daily tool box meeting and regular site safety meetings and maintain records.

14.0 LIQUIDATED DAMAGE:

In the event of the Contractor's default in timely mobilization / completion within the stipulated period, the Contractor shall be liable to pay liquidated damages @ 0.5% of contract value, per week or part thereof of delay subject to maximum ceiling of 7.5% of contract value.

Note: The entire project shall be considered as complete only when all the items/materials/services etc. as identified in the Contract has been completed and are contributing towards successful running of the electrical substation.

15.0 LABOUR CLEARANCE ADVICE/LABOUR CLEARANCE CERTIFICATE:

The Contractor shall obtain and submit the Labour Clearance Advice (LCA) and/or Labour Clearance Certificate (LCC) within the mobilization period.

The following are the three different categories of labour clearances:

i In case of engaging 50 or more contract labours per day, Labour License is to be obtained from Regional Labour Commissioner (Central) and finally LCA from HR Relation Department of OIL, Duliajan.

ii In case of engaging maximum 49 or less contract labours per day, LCA is to be obtained from HR Relation Department of OIL, Duliajan.

iii In case 10 or more Inter-state migrant contract labours are engaged per day, ISMW (Inter-state migrant workers) license is to be obtained from Regional Labour Commissioner (Central) and finally LCA from HR Relation Department of OIL, Duliajan.

Depending on total number of labourers engaged, the LCA/License Decision making is tabulated as 2 by 2 matrix below:

Total Number of Labourers engaged	**09 or less Inter-state Migrant Work-persons.**	**10 or more Inter-state Migrant Work-persons.**
49 or less Contract Labours	-Only LCA required from HR Relations	-Inter-state migrant Work persons license required from labour authority. -LCA Required from HR Relations
50 or more Contract Labours	-Labour license under the Contract Labour (R&A) Act is required from labour authority. -LCA Required from HR Relations	-Inter-state migrant Work-persons license required from labour authority. -Labour license under the Contract Labour (R&A) Act is required from labour authority -LCA Required from HR Relations

16.0 Contractor's Obligation:

16.1 The contractor shall comply with all provisions stipulated by the Ministry of Labour and Employment vide **D.O. No. Z-20025/13/2019-LRC(E)/e-119357 dated 24.04.2026**.

16.2 Contractor shall not engage any person who has attained the age of **60 (sixty) years** as a Contract Labour for execution of the contract. "Contract Labour" shall mean any worker hired in or in connection with the work of an establishment by or through a contractor or sub-contractor, with or without the knowledge of the Principal Employer, as defined under Section 2(m) of the Occupational Safety, Health and Working Conditions Code, 2020.

16.3 The Bidder/Contractor must abide by the following new Labour Codes/notified by Govt. of India on 21.11.2025 and their Rules to be notified:

a) The Code on Wages, 2019.

b) The Industrial Relations Code, 2020.

c) The Code on Social Security, 2020.

d) The Occupational Safety, Health and Working Conditions Code, 2020.

17.0 PAYMENTS TERMS

The total estimated Contract Price as indicated in Schedule of work, quantities & rates - BOQ of this Contract is inclusive of all statutory liabilities viz. Corporate Income Tax, Personal Tax, etc. and GST. The Company shall pay the Contractor only for actual work done at the all-inclusive rates set down in BOQ of this Contract. Please refer to the attached document 'PAYMENT TERMS'.

All Payments on supply will be made on receipt of materials, positive identification & acceptance of materials by OIL's Engineer at site. Details of Payment is mentioned in **Annexure-P**.

Note: All Invoices are to be sent to the following address:

CGM-ELECTRICAL (HOD)
Oil India Limited,
P.O. Duliajan-786602
Dist. Dibrugarh, Assam

17.1 COMPLIANCE TOWARDS LOCAL CONTENT

i) Contractor shall have to comply with the provision of Public Procurement (Preference to Make in India) Order, 2017 and as amended time to time by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India. As compliance to the said order, the Contractor had stated minimum local content as ___ % during the bidding stage, which they must maintain during the execution period.

ii) The Contractor shall submit a Local Content Certificate certifying the percentage of local content along with each invoice.

iii) Such certificate should be supported by a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of other than

companies) giving the percentage of local content. [Only in case the awarded Contract value is more than ₹ 10 Crore].

iv) The percentage of Local Content may vary with each invoice while contractor will have to maintain the overall percentage of local content for the total work/purchase of the pro-rata local content requirement. In case it is not satisfied cumulatively in the invoices raise upto that stage, the Contractor shall indicate how the Local Content requirement would be in the subsequent stages.

18.0 TYPE AND ROUTINE TESTS CERTIFICATES:

The following type test certificates shall be submitted after the award of the contract and before the despatch of the respective equipment:

A. 33kV and 11kV Circuit breakers
i. Electrical / Mechanical endurance test
ii. Proof tests for enclosures:

Circuit breakers (in accordance with IEC 56) – Tests to prove performance when breaking line charging currents.

Tests to prove performance when breaking small inductive currents.
Mechanical and environmental test

B. 5MVA & 800KVA Transformers
I. Pressure Tests

C. Disconnectors and Earthing Switches
Proof tests for enclosures: Disconnectors and Earthing Switches (in accordance with IEC 1259) - bus charging current switching test
D. Current Transformers
Proof tests for enclosures: Current Transformers (in accordance with IEC 185)

E. Potential Transformer
Proof tests for enclosures: Potential Transformer (in accordance with IEC 186)

19.0 MOBILIZATION PERIOD: Within Thirty (30) Days from the date of issuance of Mobilization notice by Electrical Dept., i.e. after issuance of LOA. Following activities are to be completed by the Contractor during Mobilization period:

i) Submission of Electrical Supervisors' certificate of competency to OIL.
ii) Submission of Electrical Workmen Permit to OIL
iii) The Contractor shall obtain Labour Clearance from competent authority and submit a copy of the same.
iv)Necessary Gate Pass/Entry Pass from CISF Unit, Duliajan for entry.
v) The Contractor shall mobilize all requisite Crew and Equipment/machinery required for execution of the job, such that the Job can be executed as soon as the necessary Work Permit is issued by OIL.
vi) The Contractor's Electrical License & Electrical License of its sub-contractor (if applicable) must remain valid throughout the contract period. The contractor must submit an undertaking confirming the license's validity for the entire contract duration and commit to renewing it if it expires during the contract period.
vii) Construction of a temporary facility for storage of man/material at the site as per the contract.
viii)List of OEM personnels to be involved in the project along with designation to be submitted to OIL.

ix)Gantt chart for the entire project to be submitted to OIL.
x) Submission of the formal plan for preliminary civil works, electrical work plan etc. to be submitted to OIL.

Mobilization shall be deemed to be completed upon completion of the above activities. The date on which the mobilization is completed in all respects is treated as the date of commencement of the contract. Mobilization completion shall be issued by OIL (by the User Department) via written intimation or e-mail upon successful completion of mobilization.

20.0 DURATION OF CONTRACT: Sixteen (16) months from the date of commencement of the Contract i.e. after completion of mobilization.

21.0 AREA OF OPERATION: OCS-2 Switchyard area, Electrical Department.

22.0 PERFORMANCE SECURITY: 10% of Contract value. The performance security shall be valid for **27 (Twenty-Seven) months** beyond the contract period.

23.0 FORCE MAJEURE: In the event of Force Majeure, no 'force majeure' rate shall apply.

24.0 SUB-CONTRACTING: Except for the main services under this contract, the contractor may subcontract the following Petty Support Services subject to Company's (i.e., OIL INDIA LIMITED) prior approval. However, CONTRACTOR shall be fully responsible for complete execution and performance of the services under the Contract.

"*Manufacture of E-House, cable termination, cable laying, cable trenching, cable HDD works, all civil works, 33kV, 11kV & 415V panel testing & installation (excluding commissioning), 5MVA & 800KVA Transformer testing & installation (excluding commissioning).*"

Note:

(i) All Electrical Subcontractors shall possess a valid Electrical Contractors License. The Contractor shall submit a valid Electrical Contractor's License in their own name. Alternatively, the Contractor shall provide the details of the licensed Electrical Contractor under whose authorization the work will be executed under this contract.

(ii) The contractor shall deploy OEM approved/ recommended Subcontractors (electrical and civil) only.

25.0 Records, Reports & Inspection The CONTRACTOR shall, at all times during the currency of the contract, permit the COMPANY and its authorized employees and representatives to inspect all the Work performed and to witness and check all the measurements and tests made in connection with the said work. The CONTRACTOR shall keep an authentic, accurate history and logs including safety records of each service item with major items consumed, which shall be open at all reasonable times for inspection by the COMPANY's designated representatives and its authorized employees. The CONTRACTOR shall provide the COMPANY's designated representatives with a daily written report, on form prescribed by the COMPANY showing details of operations during the preceding 24 hours and any other information related to the said services requested by the COMPANY whenever so requested. The CONTRACTOR shall not, without COMPANY's written consent allow any third person(s) access to the said information or give out to any third

person information in connection therewith.

26.0 INSURANCE: As per GCC of the Contract.

27.0 Financing of trade receivables of Micro and Small Enterprises (MSEs) through Trade Receivables Discounting System (TReDS) platform:

a. Based on the initiatives of Government of India to help MSE vendors get immediate access to liquid fund based on Buyers credit rating by discounting, OIL has registered itself on TReDS platform with M/s RXIL and M/s A TREDS Ltd. (Invoice Mart). MSE vendors can avail this benefit by registering themselves with any of the exchanges providing e-discounting / electronic factoring services on TReDS platform and following the procedures defined therein, provided OIL is also participating in such TReDS Platform as a Buyer.

b. MSE Vendor should be aware that all costs relating to availing the facility of discounting on TReDS platform including but not limited to Registration charges, Transaction charges for financing, Discounting Charges, Interest on financing, or any other charges known by any name shall be borne by MSE Vendor.

c. MSE Vendor hereby agrees to indemnify, hold harmless and keep OIL and its affiliates, Directors, officers, representatives, agents and employees indemnified, from any and all damages, losses, claims and liabilities (including legal costs) which may arise from Sellers submission, posting or display, participation, in any manner, on the TReDS Platform or from the use of Services or from the Buyer's breach of any of the terms and conditions of the Usage Terms or of this Agreement and any Applicable Law on a full indemnity basis.

d. OIL shall not be liable for any special, indirect, punitive, incidental, or consequential damages or any damages whatsoever (including but not limited to damages for loss of profits or savings, business interruption, loss of information), whether in contract, tort, equity or otherwise or any other damages resulting from using TReDS platform for discounting their (MSE Vendor's) invoices.

Note:

(i) Buyer means OIL who has placed Purchase Order / Contract on a MSE Vendor (Seller).

(ii) Seller means a MSE vendor, who has been awarded Purchase Order / Contract by OIL (Buyer).

28.0 GOODS AND SERVICES TAX:

a. In view of **GST** Implementation from 1st July 2017, all taxes and duties including Excise Duty, CST/VAT, Service tax, Entry Tax and other indirect taxes and duties have been submerged in **GST**. Accordingly reference of Excise Duty, Service Tax, VAT, Sales Tax, Entry Tax or any other form of indirect tax except of **GST** mentioned in the bidding document shall be ignored.

Bidders are required to submit copy of the GST Registration Certificate while submitting the bids wherever **GST** (CGST & SGST/UTGST or IGST) is applicable.

b. "GST" shall mean Goods and Services Tax charged on the supply of material(s)

and services. The term "GST" shall be construed to include the Integrated Goods and Services Tax (hereinafter referred to as "IGST") or Central Goods and Services Tax (hereinafter referred to as "CGST") or State Goods and Services Tax (hereinafter referred to as "SGST") or Union Territory Goods and Services Tax (hereinafter referred to as "UTGST") depending upon the import / interstate or intrastate supplies, as the case may be. It shall also mean GST compensation Cess, if applicable.

c. Quoted price/rate(s) should be inclusive of all taxes and duties, except GST (i.e. IGST or CGST and SGST/UTGST applicable in case of interstate supply or intra state supply respectively and cess on GST if applicable) on the final service. However, GST rate (including cess) to be provided in the respective places in the Price Bid .Please note that the responsibility of payment of GST (CGST & SGST or IGST or UTGST) lies with the Supplier of Goods/Services (Service Provider) only. Supplier of Goods/Services (Service Provider) providing taxable service shall issue an Invoice/Bill, as the case may be as per rules/regulation of GST. Further, returns and details required to be filled under GST laws & rules should be timely filed by Supplier of Goods/Services (Service Provider) with requisite details.

d. Bidder should also mention the Harmonised System of Nomenclature (HSN) and Service Accounting Codes (SAC) at the designated place in SOR.

e. Where the OIL is entitled to avail the input tax credit of GST: OIL will reimburse the GST to the Supplier of Goods / Services (Service Provider) at actual against submission of Invoices as per format specified in rules/ regulation of GST to enable OIL to claim input tax credit of GST paid. In case of any variation in the executed quantities, the amount on which the GST is applicable shall be modified in same proportion. Returns and details required to be filled under GST laws &rules should be timely filed by supplier with requisite details.

f. The input tax credit of GST quoted shall be considered for evaluation of bids, as per evaluation criteria of tender document.

g. Where the OIL is not entitled to avail/take the full input tax credit of GST: OIL will reimburse GST to the Supplier of Goods / Services (Service Provider) at actual against submission of Invoices as per format specified in rules/ regulation of GST subject to the ceiling amount of GST as quoted by the bidder. In case of any variation in the executed quantities, (If directed and/or certified by the In-Charge) the ceiling amount on which GST is applicable will be modified on pro-rata basis.

h. The bids will be evaluated based on total price including GST.

i. Payments to Service Provider for claiming GST amount will be made provided the above formalities are fulfilled. Further, OIL may seek copies of challan and certificate from Chartered Accountant for deposit of GST collected from OIL.

j. Contractor/Contractor shall be required to issue tax invoice in accordance with GST Act and/or Rules so that input credit can be availed by OIL. In the event that the contractor / Contractor fails to provide the invoice in the form and manner prescribed under the GST Act read with GST Invoicing Rules there under, OIL shall

not be liable to make any payment on account of GST against such invoice.

k. GST shall be paid against receipt of tax invoice and proof of payment of GST to government. In case of non-receipt of tax invoice or non-payment of GST by the contractor/Contractor, OIL shall withhold the payment of GST.

l. GST payable under reverse charge mechanism for specified services or goods under GST act or rules, if any, shall not be paid to the contractor/Contractor but will be directly deposited to the government by OIL.

m. Where OIL has the obligation to discharge GST liability under reverse charge mechanism and OIL has paid or is /liable to pay GST to the Government on which interest or penalties becomes payable as per GST laws for any reason which is not attributable to OIL or ITC with respect to such payments is not available to OIL for any reason which is not attributable to OIL, then OIL shall be entitled to deduct/setoff/recover such amounts against any amounts paid or payable by OIL to Contractor/Supplier.

n. Notwithstanding anything contained anywhere in the Agreement, in the event that the input tax credit of the GST charged by the Contractor / Contractor is denied by the tax authorities to OIL for reasons attributable to Contractor / Contractor, OIL shall be entitled to recover such amount from the Contractor / Contractor by way of adjustment from the next invoice. In addition to the amount of GST, OIL shall also be entitled to recover interest at the rate prescribed under GST Act and penalty, in case any penalty is imposed by the tax authorities on OIL.

o. TDS under GST, if applicable, shall be deducted from contractors/Contractor's bill at applicable rate and a certificate as per rules for tax so deducted shall be provided to the contractor/Contractor.

p. The Contractor will be under obligation for charging correct rate of tax as prescribed under the respective tax laws. Further the Contractor shall avail and pass on benefits of all exemptions/concessions available under tax laws. Any error of interpretation of applicability of taxes/ duties by the contractor shall be to contractor's account.

q. It is the responsibility of the bidder to quote the correct GST rate. The classification of goods/services as per GST (Goods & Service Tax) Act should be correctly done by the contractor to ensure that input tax credit on GST (Goods & Service Tax) is not lost to the OIL on account of any error on the part of the contractor.

r. In case, the quoted information related to various taxes, duties & levies subsequently proves wrong, incorrect or misleading, OIL will have no liability to reimburse the difference in the duty/tax, if the finally assessed amount is on the higher side and OIL will have to right to recover the difference and in case the rate of duty/taxes finally assessed is on the lower side.

s. Notwithstanding anything mentioned elsewhere in the Bidding Document the aggregate liability of OIL towards Payment of Taxes & Duties shall be limited to the

volume of GST declared by the bidder in its bid & nothing shall be payable extra except for the statutory variation in taxes & duties.

t. Further, it is the responsibility of the bidders to make all possible efforts to make their accounting/IT system GST compliant in order to ensure availability of Input Tax Credit (ITC) to Oil India Ltd.

u. GST liability, if any on account of supply of free samples against any tender shall be to bidder's account.

v. In case of statutory variation in GST, other than due to change in turnover, payable on the contract value during contract period, the Supplier of Goods/ Services (Service Provider) shall submit a copy of the 'Government Notification' to evidence the rate as applicable on the Bid due date and on the date of revision.

w. Beyond the contract period, in case OIL is not entitled for input tax credit of GST, then any increase in the rate of GST beyond the contractual delivery period shall be to Service provider's account whereas any decrease in the rate GST shall be passed on to the OIL.

x. Beyond the contract period, in case OIL is entitled for input tax credit of GST, then statutory variation in applicable GST on supply and on incidental services, shall be to OIL's account.

y. Claim for payment of GST/ Statutory variation, should be raised within two [02] months from the date of issue of 'Government Notification' for payment of differential (in %) GST, otherwise claim in respect of above shall not be entertained for payment of arrears.

z. The base date for the purpose of applying statutory variation shall be the Bid Opening Date.

aa. The contractor will be liable to ensure to have registered with the respective tax authorities, wherever applicable and to submit self-attested copy of such registration certificate(s) and the Contractor will be responsible for procurement of material in its own registration (GSTIN) and also to issue its own Road Permit/ E-way Bill, if applicable etc.

bb. In case the bidder is covered under Composition Scheme under GST laws, then bidder should quote the price inclusive of the GST (CGST & SGST/UTGST or IGST). Further, such bidder should mention "Cover under composition system" in column for GST (CGST & SGST/UTGST or IGST) of price schedule.

cc. OIL will prefer to deal with registered supplier of goods/services under GST. Therefore, bidders are requested to get themselves registered under GST, if not registered yet. However, in case any unregistered bidder is submitting their bid, their prices will be loaded with applicable GST while evaluation of bid. Where OIL is entitled for input credit of GST, the same will be considered for evaluation of bid as per evaluation methodology of tender document.

dd. Procurement of Specific Goods: Earlier, there is no tax incidence in case of import of specified goods (i.e. the goods covered under List-34 of Customs Notification no. 12/2012-Cus dated. 17.03.2012 as amended). Customs duty is not payable as per the policy. However, under GST regime, IGST Plus GST compensation cess (if applicable) would be leviable on such imports. Bidders should quote GST as inclusive considering IGST component for the imported Materials portion while quoting their prices on destination basis. However, GST rate to be specified in the price bid format.

ee. DOCUMENTATION REQUIREMENT FOR GST:

The Contractor will be under the obligation for invoicing correct tax rate of tax/duties as prescribed under the GST law to OIL, and pass on the benefits, if any, after availing input tax credit.

Any invoice issued shall contain the following particulars:

a) Name, address and GSTIN of the supplier;

b) Serial number of the invoice;

c) Date of issue;

d) Name, address and GSTIN or UIN, if registered of the recipient;

OIL'S GSTIN DETAILS	
GSTIN	18AAACO2352C1ZW
Legal Name	OIL INDIA LTD
Trade Name, if any	OIL INDIA LIMITED

e) Name and address of the recipient and the address of the delivery, along with the State and its code,

f) HSN code of goods or Accounting Code of services[SAC];

g) Description of goods or services;

h) Quantity in case of goods and unit or Unique Quantity Code thereof;

i) Total value of supply of goods or services or both;

j) Taxable value of supply of goods or services or both taking into discount or abatement if any;

k) Rate of tax (IGST,CGST, SGST/ UTGST, cess);

l) Amount of tax charged in respect of taxable goods or services (IGST,CGST, SGST/UTGST, cess);

m) Place of supply along with the name of State, in case of supply in the course of interstate trade or commerce;

n) Address of the delivery where the same is different from the place of supply and

o) Signature or digital signature of the supplier or his authorised representative.

GST invoice shall be prepared in triplicate, in case of supply of goods, in the following manner:

p) The original copy being marked as ORIGINAL FOR RECIPIENT;
q) The duplicate copy being marked as DUPLICATE FOR TRANSPORTER and
r) The triplicate copy being marked as TRIPLICATE FOR SUPPLIER.

In case of any advance given against any supplies contract, the supplier of the goods shall issue Receipt Voucher containing the details of details of advance taken along with particulars as mentioned in clause no. (a), (b), (c), (d), (g), (k), (l), (m) & (o) above.

ff. ANTI-PROFITEERING CLAUSE:

As per Clause 171 of GST Act it is mandatory to pass on the benefit due to reduction in rate of tax or from input tax credit to the consumer by way of commensurate reduction in prices. The Supplier of Goods / Services may note the above and quote their prices accordingly.

gg. In case the GST rating of Contractor on the GST portal / Govt. official website is negative / black listed, then the bids may be rejected by OIL. Further, in case rating of bidder is negative / black listed after award of work for supply of goods / services, then OIL shall not be obligated or liable to pay or reimburse GST to such Contractor and shall also be entitled to deduct / recover such GST along with all penalties / interest, if any, incurred by OIL.

29.0 NOTICES: Any notice given by one party to other, pursuant to this Contract shall be sent in writing or by telex or Fax and confirmed in writing to the applicable address specified below:

Company

a) For contractual matters
CGM-Contracts (HoD)
OIL INDIA LIMITED
PO DULIAJAN - 786602
ASSAM, INDIA
Phone No. 91-374-2808650
Email: contracts@oilindia.in

b) For technical matters
CGM-Electrical (HOD)
Oil India Limited,
P.O. Duliajan-786602
Dist. Dibrugarh, Assam.
Email: pranati@oilindia.in

Contractor

_____
_____

Phone No.:

A notice shall be effective when delivered or on the notice's effective date, whichever is later.

**********End of SCC**********

ANNEXURE-P

PAYMENT TERMS:

A. The following Milestone payment for the installation, testing, commissioning of 33kv GIS with e-house for pontoon with associated civil works.

All the invoices must be uploaded vide oil's vim (Vendor's Invoice Management) portal only

1. 33KV GIS WITH E-HOUSE (Line Item 10)

MILESTONE	***PERCENTAGE OF 33KV GIS WITH E-HOUSE AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 10) TO BE PAID BY OIL TO CONTRACTOR***
On obtaining complete approval for all electrical drawings, make of equipment, electrical SLDs	15%
Supply of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	40%
Installation of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	25%
Testing of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	20%
Commissioning of complete E- House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	

2. 11KV AIS PANEL- EXTRA ONE NUMBER (Line Item 20)

MILESTONE	**PERCENTAGE OF 11KV AIS PANEL AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 20) TO BE PAID BY OIL TO CONTRACTOR**
Supply of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	80%
Installation, testing & commissioning of complete E-House along with 33KV	20%

Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	

3. 415V, LT PCC panel & ITC of 415V, LT PCC panel (Additional LT panel) (Line Item 30 & 40)

MILESTONE	PERCENTAGE OF 415V, LT PCC panel AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 30 & 40) TO BE PAID BY OIL TO CONTRACTOR
Supply of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	80% of line item 30
Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	20% of line item 30 & 100% of line item 40

4. ASSOCIATED CIVIL WORKS (Line Item 50)

MILESTONE	**PERCENTAGE OF ASSOCIATED CIVIL WORKS AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 50) TO BE PAID BY OIL TO CONTRACTOR**
Completion of soil testing	20%
On obtaining complete approval for all civil drawings/structural drawings equipment	20%
Start of piling job/civil foundation job/boundary job	40%
End of piling job/civil foundation job/ boundary job and after commissioning of complete E-House along with 33KV, 11KV Panel, Station transformer and all other equipment	20%

5. Supply of 800 KVA 11/.415V Transformer & ITC of 800 KVA 11/.415V Transformer – 02 numbers (line item 60 & 70)

MILESTONE	PERCENTAGE OF 800 KVA 11/.415V Transformer & ITC of 800 KVA 11/.415V Transformer AMOUNT (AMOUNT QUOTED)

	AGAINST LINE ITEM 60 & 70) TO BE PAID BY OIL TO CONTRACTOR
Supply of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	80% of line item 60
Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	20% of line item 60 & 100% of line-item 70

6. Supply of 2x5MVA, 33/11kV Oil type Transformer & ITC of 2x5MVA, 33/11kV Oil type Transformer – 02 numbers (line item 80 & 90)

MILESTONE	PERCENTAGE OF 2x5MVA, 33/11kV Oil type Transformer & ITC of 2x5MVA, 33/11kV Oil type Transformer AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 80 & 90) TO BE PAID BY OIL TO CONTRACTOR
Supply of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	80% of line item 80
Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment	20% of line item 80 & 100% of line item 90

7. Additional Supply of 33 kV grade UGC cable (3C*300sqmm XLPE, AL) & Laying and termination of 33 kV cable – line item 100 & 130

MILESTONE	PERCENTAGE OF Additional Supply of 33 kV grade UGC cable AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 100) TO BE PAID BY OIL TO CONTRACTOR
Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment (only actuals to be paid out of 2000M quantity)	100%

8. Additional supply of 11kV grade UGC cable (3C*240sqmm XLPE, AL) & Laying and termination of 11 kV cable – line item 110 & 140

MILESTONE	PERCENTAGE OF Additional supply of 11kV grade UGC cable AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 100) TO BE PAID BY OIL TO CONTRACTOR
Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment (only actuals to be paid out of 2000M quantity)	100%

9. Supply of 1.1kV grade UGC cable (3.5C*240sqmm PVCA, AL) Laying and termination of 11 kV cable – line item 120 & 150

MILESTONE	PERCENTAGE OF Additional supply of 1.1kV grade UGC cable AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 100) TO BE PAID BY OIL TO CONTRACTOR
Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment (only actuals to be paid out of 2000M quantity)	100%

10. Area Development - line item 160

MILESTONE	PERCENTAGE OF Area Development AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 100) TO BE PAID BY OIL TO CONTRACTOR
After completion of all civil related works	100%

11. Testing and Measuring Instrument and other- line item 170

MILESTONE	PERCENTAGE OF Testing and Measuring Instrument and other AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 100) TO BE PAID BY OIL TO CONTRACTOR

Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment & handover to OIL	100%

12. Safety Items - line item 180

MILESTONE	PERCENTAGE OF Safety Items AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 100) TO BE PAID BY OIL TO CONTRACTOR
Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment & handover to OIL	100%

13. Sundry Items – line item 190

MILESTONE	PERCENTAGE OF Sundry Items AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 100) TO BE PAID BY OIL TO CONTRACTOR
Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment & handover to OIL	100%

14. HDD pipe laying (using 16" pipes provided by OIL) – line item 200

MILESTONE	PERCENTAGE OF HDD pipe laying AMOUNT (AMOUNT QUOTED AGAINST LINE ITEM 100) TO BE PAID BY OIL TO CONTRACTOR
Installation, testing & commissioning of complete E-House along with 33KV Panel, 11KV Panel, 415V LT Panel, Transformers and all other equipment & handover to OIL	100%

B. I. Payment will be made, up to 100% of the value of work done. Final payment will be made only after satisfactory completion of the work. Such final payment shall be based on the work actually done allowing for deviations and any deductions and the

measurement shall be checked and certified correct by the Company's authorised representative before any such final payment is made.

Note:

i) All Invoices shall be addressed as below (As applicable) and uploaded through Vendor Invoice Management portal only via https://vim.oilindia.in/velocious-portal-app/.

CGM-Electrical (HOD)
Oil India Limited
P.O. Duliajan-786602
Dist. Dibrugarh, Assam

II. The total estimated Contract Price as indicated in Schedule of work, quantities & rates - Part II of this Contract is inclusive of all statutory liabilities viz. Corporate Income Tax, Personal Tax, etc. and GST. The Company shall pay the Contractor only for actual work done at the all-inclusive rates set down in Part-II of this Contract.

III. Payment to Work-persons:

i. Payment to the contractor's personnel will be the responsibility of the contractor. Any dispute regarding payment shall be resolved by the contractor with its workers. OIL will not be a party to any dispute in this matter.
iii. Provisions of all the relevant Statutes / Acts will have to be complied by the Contractor, more particularly, Payment of Wages Act, Minimum Wages Act, Provident Fund, Insurance, ESI, Bonus etc. The contractor shall indemnify the Company against any payments to be made under and for the observance of the provisions of the aforesaid acts / statutes. In the event of the contractor committing a default or breach of any of the provisions of the aforesaid acts as amended from time to time, of furnishing any information or submitting or filling and form / register / slip under the provisions of these acts which is found to be incorrect, may lead to termination of the Contract as per the relevant clauses of the GCC of the Contract.

iv. The Contractor must pay his / her deployed personnels the prevailing minimum wages at the rates as specified by Government of India from time to time and deposit the applicable Provident Fund and ESI contributions with the concerned authorities. Any non-compliance of the same will lead to termination of the contract as per the provision of the Contract.

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INDEX for Scope of Work (SOW):

(i) ANNEXURE-IV(A): SCOPE OF WORK – ELECTRICAL PART

(ii) ANNEXURE-IV(B): LT PANEL SPECIFICATIONS

(iii) ANNEXURE-IV(C): TECHNICAL SPECIFICATION OF THE SAFETY ITEMS

(iv) ANNEXURE-IV(D): TECHNICAL SPECIFICATIONS OF 5 MVA 33KV

(v) ANNEXURE-IV(E): TECHNICAL SPECIFICATIONS OF 800KVA 11KV

(vi) ANNEXURE-IV(F): Technical Specifications of Testing and Measuring Instrument and others the following testing and measuring instruments are to be supplied by the contractor. (Part-A)

(vii) ANNEXURE-IV(G):Technical Specifications of Testing and Measuring Instrument and others the following testing and measuring instruments are to be supplied by the contractor (Part-B)

(viii) ANNEXURE-IV(H): CIVIL PART_SCOPE OF WORK

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ANNEXURE-IV(a)

SCOPE OF WORK – ELECTRICAL PART

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1. INTRODUCTION

{Bidders are requested to voluntarily visit (on their own expense) and thoroughly acquaint themselves with the proposed OCS-2 site, where the GIS Sub-Station is envisaged to be installed & commissioned, prior to submission of their bids. Failure to inspect and assess the site conditions, terrain, accessibility, and all other factors relevant to the execution of the work shall not relieve the successful bidder of any of its contractual obligations or responsibilities under the Contract.}

1.1. The scope includes **design, engineering, manufacture, testing, packing, transportation, supply, installation, testing, pre-commissioning and commissioning** of a complete **containerized substation** to upgrade existing OCS2 33KV Switch Yard comprising the following major equipment and systems:

1.2. Line-Item No.10 consists of following:

a) **SITC of 33kV GIS Switchboard (5-Panel)** housed within an independent/common E-House (Container). Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.B & C ,L,M,N,U,V) .

b) **SITC of 11kV AIS Switchboard (8-Panel)** housed within an independent/common E-House (Container). Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.B & D, L,M,N,U,V).

c) Supply of **415V VERTICAL DISTRIBUTION BOARD.** Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.K)

d) **Supply of 500 KVA, 11/0.415kV Dry Type Station Transformer - 01 number** Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.G)

e) **Supply, laying, jointing and termination** of minimum 500 meters of 3C X 300 sq mm XLPE **33 kV, 500 meters of 3C X 240 sqmm 11 kV XLPE grade power cables , and Required length of 1.1 KV Grade LT power & control cables in pucca cable trench/ Elevated cable trays/ through casing pipes for road crossing by HDD**, termination and connection with overhead lines/POLES (2 nos 33KV, 3 nos 11KV), termination and connection in 02 nos 5MVA 33KV/11KV, 2NOS 800KVA 11KV/415V transformers HV and LV Side, termination and connection in all incoming and outgoing feeders of 33 KV GIS, 11KV AIS, 415 V AIS panel incoming and outgoing sides and including:

- HDD crossing of PWD road (40 feet width) through two **16" dia, 0.315" thick steel casing pipes**,
- Construction of **pucca (RCC) cable trenches**, buried cable trench as applicable.
- Design, supply & construction of **cable tray structures**.

f) **Design, supply and implementation of earthing system of the entire substation** including e-houses, transformers, switch gears, auxiliary equipment etc. as per IS 3043 for 33KV Substation. **All neutrals shall have separate earthing pits and electrodes.**

- Design, construction and implementation of safe step & touch potential based on the fault current level for the entire substation area including the surface areas, handrails, staircases of e-houses as per IEEE-80 Standard.

g) **Design, supply and implementation of lightning protection system for entire substation** including e-houses, transformers etc. with separate earthing system.

h) **Supply of spares & accessories.**

1.3. Line Item No.20 consists of following:

SITC of 11kV Single Panel AIS Switchboard housed within an independent/common E-House (Container). Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.B & D).

This additional panel shall be supplied, installed, testing and commissioning inside e-house and integrate with 8-panel AIS Switchboard mentioned in line item no. 10 i.e. under point 1.2.b. to make it a **09-panel** integrated **11kV AIS Switchboard.**

1.4. Line Item No.30 consists of following:

Supply of 415V Switchboard with two 2500A as incomer, 1no 2500A as bus-coupler, 2nos 1600A ACBS as outgoing including 3nos 630A MCCB and and 3nos 400A MCCB housed within an independent/common E-House (Container). Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-J).

This additional panel shall be supplied, installed, testing and commissioning inside e-house.

1.5. Line Item No.40 consists **ITC of** Line Item No.30 within an independent/common E-House (Container).

1.6. Line Item No. 50 consists Associated civil works including construction of boundary walls, gates of the newly installed 33KV GIS/11KV AIS/ 415V SWITCHBOARD WITH E-HOUSE AND OUTDOOR TRANSFORMERS/ETC. Details mentioned in ANNEXURE-IV(H).

1.7. Line Item No.60 consists of Supply of **800 kVA, 11kV/0.415kV Station Transformers – 2 Nos**.-Outdoor type (As mentioned in point no. 12. DETAILED TECHNICAL SPECIFICATION: Sl No.E)

1.8. Line item No.70: ITC of Line Item No.60 including foundation, design and construction as per OEM design, earthing, lightning protection, cable termination etc.

1.9. Line Item No.80 consists of Supply of **5 MVA, 33/11 kV Power Transformers – 2 Nos**.-Outdoor type (As mentioned in point no. 12. DETAILED TECHNICAL SPECIFICATION: Sl No.F)

1.10. Line item No.90: ITC of Line Item No.80 including foundation, design and construction as per OEM design, earthing, lightning protection, cable termination etc.

1.11. Line Item No.100 consists of Supply of additional 33KV, **3CX300SQMM XLPE ALUMINIUM CABLE-2000M (Will be billed as per actual) (**Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-H)

1.12. Line Item No.110 consists of Supply of additional 11KV, **3CX240SQMM XLPE ALUMINIUM CABLE-2000M (Will be billed as per actual) (**Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-H).

1.13. Line Item No.120 consists of Supply of additional 1.1KV, **3.5CX240SQMM XLPE ALUMINIUM CABLE-2000M (Will be billed as per actual) (**Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-I).

1.14. Line Item No.130 consists of Laying and termination of additional 33KV, **3CX300SQMM XLPE ALUMINIUM CABLE (Will be billed as per actual) (**As per OIL Approved final cable layout and termination design).

1.15. Line Item No.140 consists of Laying and termination of additional 11KV, **3CX240SQMM XLPE ALUMINIUM CABLE (Will be billed as per actual) (**As per OIL Approved final cable layout and termination design).

1.16. Line Item No.150 consists of Laying and termination of additional 1.1KV, **3.5CX240SQMM XLPE ALUMINIUM CABLE (Will be billed as per actual) (**As per OIL Approved final cable layout and termination design).

1.17. Line Item No.160 consists Area development of the existing 33KV AIS SWITCHYARD as per details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-W and Associated civil works as per ANNEXURE-IV(H).

1.18. Line Item No.170 consists of supply of testing and measuring instruments. **(**Details mentioned in ANNEXURE-IV(G))

1.19. Line Item No.180 consists of supply of Safety items. **(**Details mentioned in ANNEXURE-IV(C)

1.20. Line Item No.190 consists of Sundry items. (As per final design if required)

1.21. Line Item No.200 consists of HDD Pipe laying for road crossing for laying various cables. **(**Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-R).

1.22. The E-House shall be a **prefabricated modular enclosure**, complete with:

a) Air-conditioning & ventilation systems,

b) CCTV & Access Control,
c) Fire Alarm & Suppression System,
d) Internal & external lighting,
e) ACDB, DCDB, 110V DC Charger with Battery Bank, UPS system
f) Cable tray support systems,
g) Walkways, stairs and platforms.

1.23. A **common battery charger and battery bank** shall be provided for the three E-Houses, placed inside the **LT E-House** for ease of maintenance.

Note: The OEM for the 33 kV GIS Panel and 11 kV AIS Panel shall be the same for the purpose of this tender.

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2. GENERAL SCOPE

2.1 Overall Scope

The contractor shall perform, but not limited to, the following:

2.1.1 Site survey, soil investigation and foundation design for E-Houses and equipment.

2.1.2 Supply, erection, testing and commissioning of all electrical equipment.

2.1.3 Complete cabling (HT & LT), terminations, trays, trenches and supports.

2.1.4 Earthing grid and lightning protection design and SITC of all earthing /lightning protection components.

2.1.5 Factory Inspection & Testing (FAT) of GIS, E-house, AIS, LT panels, all transformers and cables battery chargers, imported / brought out items.

2.1.6 Installation, integration and commissioning of all systems into a fully functional substation.

2.1.7 Handing over and documentation, including commissioning reports, operation & maintenance manuals.

Note: The Contractor shall ensure to exclusively deploy the OEM for the complete detailed engineering of the plant, including preparation of layout drawings, earthing system design and calculations, step & touch potential calculations, protection relay coordination studies, cable tray layouts, and all associated engineering activities.

2.1.8 The Contractor shall ensure that all civil foundation drawings shall be reviewed and duly vetted by the OEM prior to execution.

3.0 SITE DEVELOPMENT & CIVIL INTERFACES

3.1 E-House Positioning & Access

3.1.1 Three (03) independent E-Houses (sighting ease of transportation, erection and commissioning) shall be installed on a **common structural foundation** designed to support individual dead loads and dynamic loads. Each E-House shall have **two staircases**.

3.1.2 E-Houses shall be interconnected through end **doors and walkways**, allowing smooth movement of personnel and equipment.
The space between E-Houses shall be covered with a **detachable, bolted rain guard canopy** for uninterrupted movement during operation and maintenance. Adequate weather protection against rain, wind and storm must be ensured.

All the interconnecting cables shall be placed inside a covered tray and shall be sufficiently guarded for avoiding any mechanical injury.

Note: A single combined E-House design shall also be acceptable if the bidder provides a technical justification for transportation, erection and commissioning in congested area such as this project site.

4.0 EQUIPMENT SCOPE (BRIEF):

4.1 33 kV GIS Switchboard (5-Panel)

- Indoor, SF6 insulated, complete with incomers, busbar, outgoing feeders.
- 33 kV surge arresters at incomer and outdoor termination points.
- Special type termination kits as per OEM requirement.
- Voltage presence indicator (RYB).
- Wireless temperature monitoring, alarm, shutdown system for all joints.

4.2 11 kV AIS Switchboard (9-Panel)

- Indoor, metal-clad AIS type.
- Required termination kits, surge arresters in incomer and outgoing feeders, VPIs.
- Wireless temperature monitoring, alarm, shutdown system for all joints.

Note: Note: Single additional panel mentioned in line item shall be part of the line item 10 only & it should be manufactured and installed together.

4.3 415 V LT Switchgear (2 x 2500A I/C, 1 x 2500 BC, 2 x 1600A O/G feeder, 3x630 A MCCB, 3x400A MCCB)

- PCC with feeder sections as per SLD.
- Integrated with ACDB, lighting circuits, control wiring.
- Wireless temperature monitoring, alarm, shutdown system for all joints.

4.3.A. 415 V VERTICAL DISTRIBUTION BOARD

4.4 Station Transformers – 800 kVA, 11kV/415V (2 Nos)

- ONAN/ONAF type with all accessories.
- HV/LV cable terminations.

- Dedicated earthing pits and lightning protection.

4.4A **Station Transformers – 500 kVA, 11kV/415V (1 No.), Dry Type**

4.5 Power Transformers – 5 MVA, 33/11 kV (2 Nos)

- ONAN/ONAF type with all accessories.
- HV/LV cable terminations.
- Dedicated earthing pits and lightning protection.

4.6 Auxiliary Systems (All E-Houses)

i) BEEE 5 Star rated Air-conditioning/ventilation systems sized as per OEM heat load. The ACs shall be installed in such a way that all the Drain pipes from the ACs shall be connected to a common header drain pipe from where the drainage shall be done outside the E-House (s) area.

ii) Fire Alarm Detection & Fire Suppression system.

iii) CCTV system with IP cameras, NVR and **5G connectivity outside and inside e-houses to monitor entire substation and front, back and side views of all panels and other accessories.**

iv) Access Control system with 5G router.

v) Internal & external illumination with occupancy sensors.

vi) Wall-mounted LDB.

vii) 110V DC charger with battery bank.

viii) SF6 gas leakage detector.

ix) Insulating mats / epoxy insulating flooring.

x) Nameplates and feeder identification.

xi) Local HMI, RTUs, Gateways, converters, related software and hardwares etc. for remote display and monitoring of all panel electrical parameters viz voltage , current, power, energy, power factor, frequency, fault status from multifunction metres, numerical relays, breaker status, inbuilt panel temperature parameters etc. through sim-based communication from 33kV OCS-2 GIS Substation to central control station at Duliajan.

5.0 CABLING WORKS

5.1 HT & LT Cables Included

a) **33 kV ,300 sqmm AL. XLPE Cables** (2 runs) –

- Overhead line to 33kV GIS
- 33KV GIS Panel→ Power Transformers.

Shall be as in line item 100

b) **11 kV, 240 sq. mm AL XLPE Cables**:

- Transformer → 11 kV Panel (2 runs)
- Panel → 11/0.415kV Transformers (2 runs)
- Panel → GCS-8 feeder (1 run)
- Panel → GCS-2 feeders (2 runs)

Shall be as in line item 110

c) **1.1 kV LT cables** for LT panel, ACDB, lighting, controls.

Shall be as in line item 120.

5.2 Cable Laying Methodology

Cable laying includes:

i) **HDD Road Crossing**

- Approx. 300 m for 33 kV ,11 kV & 1.1 KV cables
- Through **16" dia, 0.315" thick MS casing pipe**

ii) **Pucca RCC Cable Trench outside E-Houses as per site requirement and final approved layout drawing (Approx. 200 m)**

- RCC grade M20
- Minimum internal size: **750 mm (W) × 900 mm (D)**
- 75 mm PCC bed (M10)
- 150 MM RCC/Brick side wall
- RCC cover slabs (M20), 75mm load-bearing as per IS 12592
- Brick/metal support for cable separation
- 75mmX6mm Earthing strip all along trench wall
- Drainage/weep holes every 3 metres
- Cable marker posts every 25 metres

iii) **Cable Trays beneath and outside E-Houses as per site requirement and final approved layout drawing (Approx. 100 m)**

Cable Tray Specifications:

- Hot Dip Galvanized (minimum 80 microns)
- Ladder type trays: **600 mm wide × 100/150 mm deep with min 3mm thickness GI for 33KV and 11 KV Grade cables.**
- **Bolted GI Cable cover of minimum thickness 3 mm above the cable trays**

- Perforated trays for LT cables (300–450 mm wide)
- Tray supporting structures made of 75×75×6 mm angles or 100×50 ISMC channels
- Supports spaced at 1.5 m max
- Earthing of tray as per IS 3043 / 75mm X 6mm running GI Earthing strip all along Cable tray. The earthing strip shall also be connected to separate earth electrodes (installed exclusively for Cable trench / cable tray running earth) at every 25 m interval with 75 mm X 6 mm GI Earth strips.

iv) **Direct Buried Cables / Brick Encased**

- As per site requirement and Engineer-in-Charge approval
- Minimum internal size: **750 mm (W) × 900 mm (D)**
- Sand cushioning 75 mm below and above with perpendicular brick protection, warning tape, RCC route markers at every 10 meters.

Note to Para 5.0 (CABLING WORKS) above: One run 1c x 120sqmm earthing cable shall be running along all cables i.e 33kV cable (3c x 300sqmm), 11kV cable (3c x 240sqmm) and 1.1kv Cable (3.5c x 240sqmm) which are laid in cable trays/pucca trenches/buried trenches/HDD crossings etc.

6.0 EARTHING SYSTEM/GROUNDING SYSTEM & LIGHTNING PROTECTION SYSTEM:

6.1 EARTHING SYSTEM/GROUNDING SYSTEM

The scope covers complete design, supply of materials and construction of earthing/ grounding system of the entire Ehouse/s, Transformers, lightning protection of E-house/s and transformers:

a) Required sized and numbers of Earth electrodes and associated earth conductors including grid connections based on the required combined and individual resistances to dissipate the maximum fault current of the substation as per IS 3043 and IEEE-80 standard.

b) Earthing grid using GI flats/strips/copper as per IS 3043 / IEEE -80 standard.

c) Earth pits with cover slab and watering provision for E-Houses, transformers, surge arresters, structures.

d) Touch & step potential study based on **actual soil resistivity and fault current and treatment of the substation surfaces including E-House floors, hand rails, staircases to achieve safe step and touch potential.**

d) Earthing for:

- All HT/LT panels,
- Transformer body & neutrals,
- Cable trays,

- Auxiliary systems,
- Lightning protection systems,
- Structural members.
- Boundary fencing and entry gates.

6.2 LIGHTNING PROTECTION SYSTEM:

Design, supply and implementation of lightning protection system for entire substation including E-house(s), transformers etc. with Franklin rod, ESE terminals for E-House etc. with necessary mounting structures, down conductors and suitable counters.

6.2.1: SURGE PROTECTION:

Adequate Surge Protection for all incoming and outgoing feeders of 33KV GIS,11KV AIS,415V AIS, Transformer HV/LV sides, on 33 KV /11 KV overhead Lines.

7.0 INSTALLATION, TESTING & COMMISSIONING

The following activities shall be carried out:

7.1 Installation

a) Positioning and alignment of E-Houses on foundation.
b) Erection of GIS, AIS, LT Panels inside E-Houses.
c) Transformer erection, oil filling/filtration, and accessories mounting.
d) Cable pulling, dressing, jointing, termination & glanding.
e) Installation of AC, Fire Alarm, CCTV, Access Control, Lighting, Battery Charger, DCDB, ACDB.
f) Cable tray structure installation.

7.2 Testing

a) Factory Acceptance Test (FAT) reports submission.
b) Site tests for GIS, E-House,AIS, LT Panel.
c) Transformer testing (IR, Ratio, Vector Group, BDV, Oil Tests).
d) Cable testing including VLF/Hi-Pot.
e) Earthing resistance testing.
f) AC/DC auxiliary system tests.

7.3 Commissioning

a) Energization of 33 kV → 11 kV → LT systems.
b) Protection coordination checks.
c) SCADA/automation integration (if applicable).
d) Performance Demonstration Run.

8.0 SPARES, DOCUMENTATION & TRAINING

8.1 O&M Manuals, As-Built Drawings, Test Certificates.
8.2 Training on operation of GIS, AIS, LT systems and auxiliary systems.
8.3 Mandatory supply of spares as per list (attached).
8.4 Recommended Spare parts list with part numbers and pricing.

9.0 WARRANTY

The Contractor shall guarantee the complete E-House systems and all installed equipment for **02 years** from the date of commissioning.

10.0 CIVIL SCOPE

All civil works shall be governed by the **Civil Scope of Work**, including foundations, cable trench construction, transformer bays, earthing pits, fencing etc.

11. Related Documents:

This technical specification shall be read in conjunction with the special conditions of the contract for special considerations with correction slips, as are relevant for commercial aspects, as well as schedules and drawing and requirements under these specifications. In the event of any discrepancy between these specifications and SCC documents, the technical requirements as per the SCC shall be followed and deemed to be having over-riding value.

12. DETAILED TECHNICAL SPECIFICATION:

A. SITE CONDITION

B. RATING OF 33 KV AND 11 KV SWITCHGEAR

C. TECHNICAL SPECIFICATION OF 33 KV GIS

D. TECHNICAL SPECIFICATION OF 11 KV AIS

E. STATION TRANSFORMER (11/0.415kV) – 800KVA

F. POWER TRANSFORMER (33/11kV) – 5MVA

G. STATION TRANSFORMER (11/0.415kV) – 500KVA

H. TECHNICAL SPECIFICATION OF 11 KV AND 33 KV CABLES

I. TECHNICAL SPECIFICATION OF 1.1 KV CABLE

J. 415 V SWITCHBOARD

K. 415 V VERTICAL DISTRIBUTION BOARD

L. Technical Specification of E-house (s)

M. Arc-Flash Protection System (11 kV AIS & 33 kV GIS Panels)

N. Technical Specification for IR wireless temperature monitoring system for 11 kV AIS & 33 kV GIS and 415 LT Panels.

O. Technical specification of Direct Buried Cables / Brick Encased

P. Technical specification of Cable Trays

Q. Technical specification of Pucca RCC Cable Trench

R. HDD Road Crossing

S. Mandatory Spare List

T. Operational maintenance spare list

U. LOCAL HMI AND REMOTE MONITORING SYSTEM

V. SURGE PROTECTION / LIGHTNING PROTECTION for all incoming and outgoing feeders of 33KV GIS,11KV AIS,415V AIS, Transformer HV/LV sides, on 33 KV /11 KV overhead Lines.

W. Area Development

Note: A tentative Single Line Diagram (SLD) is attached for reference only.

A) SITE CONDITION:

All equipment will be operating at the site with the following condition:

- Maximum ambient Temperature: 45° C
- Minimum ambient Temperature: 6 ° C
- Relative Humidity: More than 90 %
- Altitude: 120 m
- Rainfall: above 250 cm

B) RATING OF 33 kV AND 11 KV SWITCHGEAR:

33 kV Switchgear:

- Nominal System voltage 33 kV
- Highest System voltage 36 kV
- Rated Frequency 50 Hz
- Number of phases/ poles Three
- System neutral earthing: 33 kV system: Solidly grounded
- 11 kV System: Solidly grounded
- Power frequency withstand voltage 70 kV
- Impulse withstand voltage 170 kVp
- Short time rating 31.5 kA for 3s
- IAC A FLR Rating 31.5 kA for 1s
- Control supply voltage:
  - Aux control voltage 110 VDC
  - Spring charging motor 230V AC or 110V DC
- Design ambient temperature 40 deg. C
- Bus bar 1000 A
- Feeder 630 A
- Degree of Protection:

a) SF6 compartment IP65

b) Low voltage compartments IP3X

11 kV Switchgear:

• Nominal System voltage 11kV

• Highest System voltage 12kV

• Rated Frequency 50 Hz

• Number of phases/ poles Three

• System neutral earthing Solidly grounded

• Power frequency withstand voltage 28kV

• Impulse withstand voltage 75 kVp

• Short time rating 31.5 kA for 3s

• IAC A FLR Rating 31.5 kA for 1s

• Control supply voltage:

▪ Aux control voltage 110VDC

▪ Spring charging motor 230V AC or 110V DC

• Design ambient temperature 40 deg. C

• Bus bar 1500 A

• Feeder 630 A

• Degree of Protection:

a) AIS compartment IP4X

b) Low voltage compartments IP4X

C) TECHNICAL SPECIFICATIONS OF 33 KV GIS:

I. Configuration:

• Incomers :2

• Transformer Feeder: 2

• Bus coupler: 1

• Spare compartments- Nil

II. The specification covers the design, manufacture, installation, testing and supply of 36KV, 3 phase, 50Hz metal-enclosed gas-insulated switchgear for indoor application. All the equipment shall be suitable for satisfactory operation in tropical climate as mentioned under "Site condition". Temperature rise shall be guided by as per IEC 62271200. The plant / apparatus / equipment supplied shall comply in all respect with the requirement of Indian Electricity Rule, 2003 / ISS / IEC/CEA 2023 with latest amendments.

III. Standard Technical Parameters:

• Insulation Medium: SF6 gas

• Type of Breaker: VCB

• Frequency: 50 Hz

• Rated Voltage 33 Kv

• Maximum Design Voltage: 36 kV

• Power Frequency withstand voltage (1 Min) 70 kV rms

• LI withstand voltage 170 kVp

• Busbar - Copper, 1000 A

• Breaker current rating -630 A

• Disconnector 630 A

• Rated breaking current 31.5 kA

• Rated short time withstand current for 3 sec - Symmetrical 31.5 kA

• Rated short time withstand current for 3 sec- Asymmetrical As per relevant IEC/IS & Shall be type tested.

IV. Standards:

The Metal Clad Switchgears shall conform to latest revision with amendment available of relevant standards, rules and codes some of which are listed herein for ready reference.

• IEC-62271-102 Disconnector and Earthing Switch

• IEC-62271-100, 200;

• IEC-600298 / 600694;

• IS-3427 Metal enclosed switchgear and control gear

• IS-2705 / IEC 60185 Current Transformers

• IS-3156 / IEC 60186 Voltage Transformer

• IS-3231 & 3842 / IEC 60255 Protective Relays, all Numeric Relays shall be IEC 61850 compliant and should be latest models (with latest software).

• IS-1248 Ammeter & Voltmeter

• IEC 60129 Alternating current disconnectors (isolators)

• IEC 60529 Classification of degrees of protection

• IS-375 Arrangement of breakers Bus bars main connection and auxiliary wiring.

• IEC 60092-376 New Sulphur hexafluoride

• IEC 62271-4 Use and handling of sulphur hexafluoride (SF6)

• IEC 62271-209 Cable connections for gas-insulated switchgear

• IEC 60071 Insulation coordination

The design of the switchgear shall be based on safety to personnel and equipment during operation and maintenance, reliability of service, ease of maintenance, mechanical protection of equipment, interchangeability of equipment and ready addition of future loads.

V. General construction:

i. The 33 kV bus section shall be gas-insulated, free standing, factory assembled, totally enclosed, metal clad, dead front, 3-phase cubicle design. It shall be suitable for local and remote control.

ii. The switchgear shall be designed to ensure optimum continuity and reliability of power supply as well as safety for operation. Each of the 33kV Panels should have sperate gas compartments viz. bus bar compartment, VCB and 3-position disconnector switch) shall have a separate gas filling non-return valve, gas density monitoring by means of a temperature-compensated pressure sensor, and its own pressure relief system.

iii. The power cables shall be fed in from the bottom. Switchgear shall have touchproof plug in type cable termination. Provision shall be provided for cable testing and current and voltage injection. The termination kits should be of high quality and preferably of Makes: Tycho/Raychem/NKT/Sudkabel/Nexans Euromold or substantially equivalent only (single make to be submitted clearly by the bidder during bidding stage).

iv. In case of SF6 switchgear, a leakage rate of less than 0.1% per annum is required. The gas tanks should therefore preferably be state of the art manufactured of stainless steel and cut / welded by laser and built as a hermetically sealed pressure system.

v. The switchgear is to be designed in such a way that all high voltage parts are in the environment of sealed SF6.

vi. For operator safety the switchgear must have protection system against internal faults in each partitioned compartment. In the event of internal arc the hot gases are to be guided via pressure relief system from each compartment concerned. The pressure relief provision are guided to open air or fitted with absorbers to cool and de-energize the hot gases. Hazards to persons or risk of fire are to be reliably prevented. Evidence is to be provided of type testing to IEC 62271- 200, IAC class AFLR for 31.5 kA for 01 second (to be submitted by the bidders with proper supporting documents during bidding stage only).

vii. The high-voltage primary circuit comprising busbars, interrupters, disconnectors and earthing switches shall be housed in a hermetically sealed gas compartment and shall not require routine maintenance during the service life of the switchgear under normal operating conditions. The circuit breaker operating mechanism, auxiliary devices and control components shall be located outside the gas compartment and shall be fully accessible for inspection, maintenance, replacement and retrofitting without depressurizing, opening or disturbing the sealed gas system (to be confirmed by the bidder during bidding stage only).

viii. Pressure relief has to be provided for each high voltage compartment. Metering, circuit breaker chamber, cables and cable box chamber should have proper access for inspection, maintenance & retrofitting. Proper interlocks should be provided. The switchgear shall be complete with all necessary wiring fuses, auxiliary contacts, terminal boards etc. The design of the panels shall be such that no permanent or harmful distortion occurs either when being lifted by eyebolts or when moved into position by rollers or trans pallets.

ix. All chambers need have metallic partition.

x. Each cubicle shall be equipped with anti-condensation heater controlled by thermostat. Each gas compartment shall be available with repair openings, so that during any kind of maintenance or repair can be possible at site & no need to bring the panels at factory (to be confirmed by the bidder during bidding stage only).

xi. **The 33 kV switchgear shall be engineered to accommodate future expansion by providing space and structural provisions for a minimum of two (02) additional feeder panels on either side of the existing switchgear lineup. This requirement shall be duly factored into the overall E-House layout and sizing to ensure seamless integration of the future extension panels without necessitating major modifications & gas works (to be confirmed by the bidder during bidding stage only).**

xii. Design should be such that interchangeability of breaker is possible.

xiii. The switchgear design shall be such that in case of any SF6 gas leakage at site the switchgear should remain in service even at 1 bar absolute (Atmospheric Pressure) the basic di-electric insulation levels (70kV/170kVp) as specified in the data sheet can be maintained.

xiv. The GIS shall be designed, manufactured and tested in accordance with the best national/international engineering practices under strict quality control to meet the requirement stipulated in the technical specification. Adequate safety margin with respect to thermal, mechanical, dielectric stress and insulation coordination etc. shall be maintained during design, selection of raw material, manufacturing process etc. so that the GIS provides long life with least maintenance.

xv. The workmanship shall be of the highest quality and shall conform to the latest modern practices for the manufacture of high technology machinery and electrical switchgear.

xvi. All louvers (if provided), shall have very fine brass or GI mesh screen. Tight fitting gourmet / gaskets are to be provided at all openings in relay compartment

xvii. Panel should be provided with SLD MIMIC at the front and mechanically integrated MIMIC should display position of CB & ISOLATOR (Semaphore Indicators may be provided)

xviii. Manual operations of the different switches, such as the breaker, disconnector, and earthing switch, should be possible without opening the front door.

V. Bus bars, Gas modules and Air compartment arrangement:

i. The bus bar section shall be of minimum1000 A capacity to carry the rated current continuously without excessive heating and for adequately meeting the thermal and dynamic stresses in the case of short circuit in the system up to full fault MVA. Bus bar shall be of copper. Bus bar shall be extensible on either side to make it in switch board configuration of any make. Busbars can be accommodated inside a hermetically sealed tank filled with SF6 gas.

ii. The CB Tank contains the stationary mounted vacuum circuit breaker inside gas. The instrument current & voltage transformers and the cable bushing shall be installed outside gas tank. The power cables and terminations must be touch proof.

iii. The disconnectors with earthing arrangement may be placed at same gas chamber with bus bar or breaker. The switchgear panel has to be segregated by a plug-in system / suitable connection for the busbars.

iv. All operating mechanisms must be operated manually & electrically. All the basic mechanical operations shall be possible after door opening to avoid the unauthorized access. Manual emergency operation and mechanical position indicators shall also be provided.

VI. Low Voltage / Secondary Section:

i. Low Voltage Compartment contains the switch operating mechanisms and all secondary equipment including protection and controls.

ii. A separate protection cabinet is not required.

iii. It must be possible to adapt the software for protection and control to the function of the panel by means of a laptop/notebook and corresponding data media.

iv. A data interface is to be provided for this purpose.

v. Setting of protection parameters must be possible both by laptop/notebook and manually at the panel.

vi. The measurement system should be capable of calculating further values such as average/maximum current, active and reactive power, power factor and active and reactive energy consumption from the current and voltage measurements.

vii. Both digital and - where appropriate - analogue values should be displayed.

viii. All indications for measurements, switch positions and status or hazard signals are to be presented on a display.

ix. Normal operation, i.e. switching, reading of measurements and messages, must be possible without any special instruction or training of the operators.

x. The technology used must be capable of monitoring both itself and the trip circuits.

xi. The low voltage compartment must be a self-contained unit with its own front door incorporated in the switchgear panel.

VII. Circuit Breaker:

i. The Circuit Breaker shall be spring operated, Motor & manually charged, manually released spring closing mechanism with three pole simultaneous operation.

ii. The indicating device shall show the OPEN and CLOSE position of breaker visible from front of the cubicle.

iii. The "TRIP" and "CLOSE" coils shall be of reliable design and low consumption.

iv. It shall be possible to manually charge the circuit breaker operating spring in case of auxiliary supply failure.

v. The breakers shall be capable of Making & Breaking the short time current in accordance with the requirement of ISS 13118 / IEC 60056 conform to latest amendment thereof and shall have 3 phase rupturing capacity of minimum 31.5 KA.

vi. The circuit breakers shall be vacuum type and comply with IEC Publication 62271-100.

vii. The stationary mounted circuit breakers shall be type-tested. Test certificates, as

evidence of successful completion of type tests shall be submitted by the Contractor on request.

viii. The HV part of the circuit breakers must be maintenance-free for life time under normal operating conditions confirming to IEC 60694.

ix. The CB drive is accessible for maintenance.

x. Each circuit breaker shall be provided with following accessories:

▪ ON-OFF indicator for indicating circuit breaker position.

▪ Trip push button

▪ Shunt trip coil operating between 70% - 110% of rated control voltage.

▪ Close coil, operating between 85% - 110% of rated control voltage.

▪ Spring charge motor, operating between 90% - 110% of rated control voltage.

▪ Two trip coils and one closing coils shall be provided in all the breakers.

▪ Mechanical indicators for switch position and mechanism position

▪ Mechanical Counter

▪ Circuit breakers will be provided with at least one spare normally open and one spare normally closed contact, each wired out to terminals for the connection of external wiring.

▪ Circuit breakers shall have electrical and mechanical tripping.

▪ The operating mechanism shall be trip-free and shall include an anti-pumping device.

VIII. Current Transformer (CT):

i. The CT shall be mounted/racked in such a manner to make it very easy for fitting / replacement at site.

ii. It shall be designed with built in adjustable cable holding clamps, makes it very easy for removal/sturdy fitting of power cables and to prevent any swing due to forces encountered during short circuit.

iii. P1 of primary side of the in-built CT shall be at bus side of all the panels. The CT particulars shall be as follows -

CT Details:

▪ Incomer Core-1: 150/5, Class-1, 5 VA
Core-2: 150/5, 5P10, 5 VA

▪ Transformer Core-1: 40/5, Class-1, 5 VA
Core-2: 40/5, 5P10, 5 VA
Core-3: PS class (For Differential protection)

▪ Bus coupler Core-1: 150/5, class-1, 5 VA

Core-2: 150/5, 5P10, 5 VA

IX. Potential Transformer (PT):

i. Voltage Transformer's should be with a disconnector switch and shall be placed at both the 33KV Main bus.

ii. The core details shall be as follows -

PT Details:

▪ Incomers Core-1: 33KV/110 V, Class-1

Core-2: Open Delta (For directional Protection)

X. Isolators and Earthing Switches:

i. Isolators or isolators combined with earthing switches shall be motor operated.

ii. In cases of emergency, manual operation must be possible.

iii. Arrangement shall be provided for earthing of individual feeders and bus bars

without hampering the functionality of the Substation.

iv. Detection of the switch positions is to be performed by proper wear and tear free arrangement.

v. The actual position of contacts for all 3 phases must either be visible via a mechanical position indicator directly connected to the drive shaft or directly detectable at the main contacts.

vi. Disconnectors and Earthing Switches will be provided with at least one spare normally open and one spare normally closed contact, each wired out to terminals for the connection of external wiring.

XI. Auxiliary/Control Wiring:

i. All the secondary wiring in the panel shall have high quality PVC insulation 1100 volts grade and the same shall be of standard Copper Conductor of size not less than 1.5 sq. mm. for control circuit and 2.5 sq. mm. for CT circuits.

ii. Colours of the secondary / auxiliary wiring should confirm to IS 375/1963 conform to latest amendments thereof.

iii. All wiring shall be neatly run and group of wiring shall be securely fixed with clips so that wiring can be checked without necessity of removing the clamps.

iv. Ferrules with number shall be provided on both end of the wiring.

XII. Earthing:

i. An earth bus of size minimum 40 mm x 6 mm or equivalent copper shall be provided and shall be extended throughout the length of the switch board with a provision to extend further on both sides of the end switchboard for future extension of switchboards.

ii. It shall be possible to connect each bay and bus of the switchgear to earth, through earthing switches suitable for fault make current.

iii. Earthing switch shall be mechanically interlocked with the associated breaker and disconnectors as per interlock requirement.

iv. Earthing circuit shall be suitable for testing at 31.5 KA for 3.0 sec

XIII. Quality of SF6 Gas:

i. The SF6 gas insulated metal-clad switchgear shall be designed for use with SF6 gas complying with the recommendations of IEC 376,376A & 376B, at the time of the first charging with gas.

ii. All SF6 gas supplied as part of the contract shall comply with the requirements of IEC as above as a minimum & should be suitable in all respects for use in the switchgear under all operating conditions.

XIV. Type Tests, Routine Tests and Acceptance Tests:

i. All tests shall be carried out according to relevant IEC / IS standards.

ii. Type test certificates shall be submitted during bidding stage by the bidder for verification as evidence of successful completion of type tests (the same shall be submitted by the bidder during bidding stage).

The Following type test certificates for 33kV GIS shall be submitted/furnished during drawing approval process after award of the contract:

- Short Time Current Test for minimum 31.5 kA for 3 second.
- Short Circuit Test duties on Circuit Breaker.
- Impulse withstands Test.
- Power Frequency withstands Test.
- Temperature Rise Test.
- Internal Arc Test.
- Mechanical Endurance test on Circuit Breaker.
- Test to prove Degree of Protection of enclosure.
- Certificate for touch proof busbars and touch proof cable termination plugs.

iii. Notification for factory test along with list of proposed tests shall be submitted after singing of the contract.

iv. Factory routine test will include:

- General assembly, dimensions and layout verification
- Nameplate, ratings and drawing verification
- Inspection of CT, PT, VCB, isolators and earthing switches
- Gas pressure and density check
- Leak test of gas compartments
- Gas monitoring and alarm checks
- Contact resistance measurement
- Insulation resistance test
- High voltage withstand test
- Partial discharge test (if applicable)
- Mechanical operation of VCB, isolator and earthing switch
- Interlocking (electrical & mechanical) verification
- Sequence operation check
- Relay and protection scheme testing
- Primary injection test
- Secondary injection test
- SCADA/communication interface check

XV. Protections to be used:

i. Feeder Protection: Incomer Direction over current & Directional earth Fault.

ii. Transformer: Over current and earth Fault, Differential Protection.

iii. Bus -coupler: Sync-check relay.

Note: The incomer, the outgoing and the bus coupler should be able to operate parallelly at all instants (avoid momentary paralleling).

Note to Para C) TECHNICAL SPECIFICATIONS OF 33 KV GIS (above):

(a) All Numeric Relays should have ethernet port for SCADA connectivity

(b) All relays should be tested for cyber security at ERDA or CPRI or any other Govt. of India approved laboratories as per MOP guidelines.

D) TECHNICAL SPECIFICATIONS OF 11KV AIS SWITCHBOARD

i. Design, Supply, installation, Testing & commissioning of 11 kV VCB panel.

ii. Configuration of 11KV Switchboard:

▪ Incomers :2

▪ Transformer Feeder: 2

▪ Outgoing feeder: 4 (including 01 spare feeder)

▪ Bus coupler : 1

iii. 11 kV switchgear panel comprising of 9 nos. of indoor type VCB panel, suitable

for solidly grounded system, fully factory built and assembled for direct installation.

iv. The panels should be designed, manufactured and tested in accordance with relevant IS/IEC with latest amendment.

v. The panel should be supplied from manufacturer (OEM) factory only.

vi. Inspection of board will be done at manufacturer's (OEM) factory/facility. Construction:

▪ The VCB (cubicle and circuit breaker) panel should be made of steel clad, free standing, dust and vermin proof and horizontal isolation horizontal draw out, compartmentalized type, indoor switch board in standard execution with VCB.

▪ The draw out type circuit breaker cubicles should be fabricated using high quality CRCA/GI steel sheet/Aluminium material as per standard. The sheet metal should be given minimum nine tank anti corrosion treatment & then powder coated colour - SIEMENS GREY.

▪ The total metal enclosed panel shall be compartmentalized with internal positioning by insulated material of epoxy- reinforced fiberglass to constitute the following:

▪ Bus bar compartment

▪ Circuit breaker compartment

▪ CT & cable compartment

▪ Relay & metering compartment (LT compartment)

vii. Each incomer & outgoing panel shall have:

a) Circuit breaker and CT compartment:

The circuit breaker should be totally enclosed & fully interlocked, front open type,

horizontal draw out, horizontal isolation type breaker (as per IS:13118 as amended up to date), single break, trip free mechanism, electrically and manually spring charged and auto/manually closing breaker suitable for use on 11 kV, 3 phase, 50 Hz AC. with minimum short circuit fault level of 31.5 kA for 3 sec. complete with rack in and rack out mechanism. Panel shall be complete with plugs and sockets, mechanical inter-locks and safety shutter. The circuit breaker panel shall have minimum of 6 NO+6 NC auxiliary contacts directly operated by the breaker. The circuit breaker drive mechanism shall be provided with facility for pad locking at any position namely "SERVICE", "TEST" and "ISOLATED". The front door shall have view glass to facilitate observation of mechanical ON/OFF indication and operation counter.

The CT in the incoming and outgoing feeder cable compartment shall be in the rear. The LT control cable terminal arrangement shall be provided in the rear side in a separate box so, as to have isolation from high voltage terminals. All the cable entry plates shall have removable gland plates. The CT required for metering and protection shall be as per IS-2705(as amended up to date) & IS-4201 (as amended up to date) and shall be of adequate size and its insulation will be epoxy cast resin type.

b) Relays & metering compartment (LT compartment):

The LT chamber of suitable height shall be positioned on the top of the panel & at the front. Protective relays, measuring equipment and auxiliary controls along with the switches and indications are to be accommodated on the LT chamber. Three nos. of bright steel hinges shall be used on front door with door opening limited to 135 degree (approx.). All devices in the LT box are to be marked with permanent labels. Panel ratings shall be provided on the door.

Control wiring & CT wiring shall be done with single core, PVC insulated, FRLS, stranded copper cable of 1100 v grade and 2.5 sq.mm size. All cable and wires shall be numbered with suitable ferrules. Suitable lugs shall be used for control wiring & ring type lugs shall be used for CT wiring. All wires should terminate on suitable terminal boxes (TBs).

All TBs shall have minimum 10 % spare terminals. TBs shall be marked. Reinforced

flexible conduit shall be used for exposed wires & PVC spiral cable shall be provided on the door hinges in LT box (PVC spiral cable should not restrict the movement of the door). Colour coding of control cables shall be as per IS-694 (As amended up to date)

c) Panel metering & Indication equipment:

Microprocessor based flush type digital multifunction energy meter with accuracy class 1 to be provided for all VCB panels. The meter shall be of size 96 mm x 96 mm & shall display basic minimum electrical parameters of power distribution system. (V, I, phase angle, energy consumption etc.)

Following indications shall be available:

1. LED type indication lamp in each panel for:

▪ CB close

▪ CB open

▪ Trip on fault

▪ Trip circuit healthy

▪ Spring charged

▪ Breaker in service position

▪ Breaker in test position

All LEDs shall be LVGP (low voltage glow protection) & industrial type.

2. Closing & tripping:

Breakers should be able to operate in following ways:

▪ Manually: Spring charging, closing and tripping.

▪ Electrically: Spring charging, closing & tripping.

▪ Shunt trip coil: 110 V dc/24 VDC

▪ Closing coil: 110 V dc/24 VDC

3. *Panel space heaters:*

The panel shall be provided with 2 nos. of 80 W space heaters in each cubicle (CB cubicle & cable termination cubicle) and adjustable thermostats of suitable rating for heater temperature monitoring along with protective HRC fuses and ON/OFF switch.

4. *Operation indication/Operation counter:*

The front door of each breaker panel shall have window/windows to facilitate observation of the following:

▪ Spring charged/Discharged indication

▪ Mechanical ON/OFF indication

▪ Operation counter

5. Cubicle illumination: 02 (Two) nos. of lamp (LED) in each cubicle shall be provided along with switch.

6. Safety Interlock:

➢ The following minimum safety devices shall be provided to ensure the safety of operating personnel:

▪ Individual explosion vents for bus bars/breaker/cable and CT chambers on the top/side of the panel to let out the gases under pressure generated during unlikely event of a fault inside the panel.

▪ Cubicle with front door/panel pressure tested for arc faults.

▪ CB and metal enclosure earthed in accordance with relevant IS/IEC.

▪ Self-operated shutters, shielding live fixed contacts, shall be provided which closes automatically when truck is withdrawn to test position.

▪ Breakers shall not be moved in "ON" condition from SERVICE to TEST position & vice versa.

▪ The CB cannot be switched "ON" when the truck is in any position between TEST & SERVICE position.

▪ All nut & bolts used inside the panel should be of high tensile, bright zinc plated, hexagonal headed, metric size, manufactured to DIN-931 of steel, tensile strength as per standard, coarse threaded with two nos. bright zinc platted flat & spring washers.

▪ Lifting hooks shall be provided for the panels.

▪ Panel markings at front and rear side of the door.

▪ Rear door could not be opened when VCB is in SERVICE position and can be opened only when the VCB is in TEST position.

▪ Anti-pumping relay to be provided

➢ The switchgear panel shall have the following identification marking in a permanent manner:

▪ Panel name both in front & rear Side.

▪ Caution boards conforming to IS-2552 (as amended up to date) both in front and rear sides.

▪ CT specification name plate on CT & at panel covers at rear.

▪ Incoming & outgoing feeder.

➢ The markings and identifications of conductors, apparatus terminals shall be as per IS-5578 (as amended up to date) & IS 11353 (as amended up to date).

7. Cable terminal box:

HT cable chamber with termination links for termination of incoming and outgoing HT cables should be provided in the rear side of the unit. Each rear cable chamber should be of suitable size for safe entry of one no. of incoming cable. Link rating shall be 630 Amps(min). Cable chamber shall have proper connection terminal for 3x240 sq.mm XLPE, 11 kV cable (cable entry from bottom side) with heat shrinkable jointing kit.

8. Bus bar compartment:

3 nos. of bus bar to be used of capacity 1500 Amps. Bus bar shall be rectangular in cross section and made from electrolytic grade electro tinned copper having 99.99 % high conductivity. Heat shrinkable sleeve insulation of 11 kV voltage grade should be provided on the bus bar, its risers & connections and shall be marked in different colour codes for identification of three different phases (R, Y, B). Thickness of bus-bar sleeve shall be as per standard & shall be made of Raychem 11 kV grade or similar type. Cast epoxy insulator supports for bus-bar & cable termination links designed to withstand full short circuit current at specified fault level for 3 seconds shall be provided. Busbar arrangement should be such that in future similar cubicles can be connected with this cubicle.

9. Incoming feeder:

➢ 2 nos. of 630 A, 11 kV VCB floor rolling with minimum short circuit fault level of 31.5 kA for 3 sec.

➢ Following protections are to be used in the incomer feeder:

▪ Microprocessor based numerical relay cloying to IEC 61850 protocol against O/C, E/F protection. Relay should store minimum 50 fault records & should be able to communicate with laptop furnishing fault record data. Relays should have provision for Modbus serial communication with RS 485 as wiring type for SCADA. The relays should be REF615/RET615 (ABB MAKE) or P141/P143(MICOM) make only. Further the connecting laptop (compatible for the relay software with adequate RAM, storage, CPU clock speed etc.) and compatible cable shall be part of the package.

▪ Cast resin three core 3 CTs are to be used. Details are as follows:

Core 1 (Metering): 100-200/5 A, Class 1, 5 VA

Core 2 (Protection): 100-200/5 A, 5P10, 5 VA

Core-3 (Differential): 100-200/5, PS Class

10. Outgoing feeder:

➢ 4 nos. of 630 A, 11 kV VCB with minimum short circuit fault level of 31.5 kA for 3 sec. (for feeders)

2 nos. of 630 A, 11 kV VCB with minimum short circuit fault level of 31.5 kA for 3 sec. (for Transformer o/g – for 800KVA 11/0.415kV Transformers).

Following protections are to be provided:

▪ Microprocessor based numerical relay against O/C, E/F protection. Relay should store minimum 5 fault records & should be able to communicate with laptop furnishing fault record data. The relays should be REF615/RET615 (ABB MAKE) or P141/P143(MICOM) make only.

▪ Cast resin dual core 3 nos. CTs are to be used. Details are as follows:

Core 1 (Metering): 100-200/5 A, Class 1, 5 VA

Core 2 (Protection): 100-200/5 A, 5P10, 5 VA

11. Bus coupler:

➢ 1 no. of 630A, 11 kV VCB with minimum short circuit fault level of 31.5 kA for 3 sec.

Bus coupler shall have:

▪ Microprocessor based numerical relay against O/C, E/F protection. Relay should store minimum 5 fault records & should be able to communicate with laptop furnishing fault record data. Relays should have provision for Modbus serial communication with RS 485 as wiring type for SCADA. The relays should be REF615/RET615 (ABB MAKE) or P141/P143(MICOM) make only. Further the connecting laptop (compatible for the relay software with adequate RAM, storage, CPU clock speed etc.) and compatible connecting cable shall be part of the package.

▪ Provision for synchro-check protection (Required during paralleling of transformers)

▪ 3 nos. of LED showing R, Y, B voltage.

▪ Breaker On, OFF, Trip indicating light

▪ Breaker in SERVICE/TEST position Indication lamp

▪ 16 Amp "T-N-C" switch for ON/OFF of VCB required.

▪ Multifunction Meter

▪ Cast resin of dual core 3 CTS (for 3-phase)

Core-1(Metering): 100-200/5 A, Class -1, 5 VA

Core-2(protection): 100-200/5, 5P10, 5 VA

12. Potential Transformer:

• The potential or voltage transformers shall be cast resin type and shall conform to IS: 3156.

• The potential transformers shall be draw out type and shall be provided with fuses on primary side and MCB/Fuses with on secondary side.

• The draw out mechanism shall disconnect the PT from the main bus bars.

• The primary connection shall be disconnected before the PT or its primary fuses become accessible.

• Neutral point of the star connected PTs both on primary and secondary sides shall be earthed.

• The PTs shall have an over voltage factor of 1.9 for 30 seconds and an accuracy of class 1.0 from 10% to 120% of normal voltage.

• The secondary voltage of PTs shall be 110 V.

• Provision to be given to tap power from PT to energise Relays in case of emergency.

Special Note:

a) All draw out type VCB should come out on the floor directly when racked out from the panel. Separate VCB lifting truck is not acceptable.

b) Single line diagram (SLD) of existing system & layout of proposed area for new HT panel is attached with this tender for your ready reference.

c) No bus trunk is required in the HT panel.

The 11 kV switchgear shall be engineered to accommodate future expansion by providing space and structural provisions for a minimum of two (02) additional feeder panels on either side of the existing switchgear lineup. This requirement shall be duly factored into the overall E-House layout and sizing to ensure seamless integration of the future extension panels without necessitating major modifications (to be confirmed by the bidder during bidding stage only).

The Following type test certificates for 11kV AIS shall be submitted/furnished during drawing approval process after award of the contract:

- Short Time Current Test for minimum 31.5 kA for 3 second.
- Short Circuit Test duties on Circuit Breaker.
- Impulse withstands Test.
- Power Frequency withstands Test.
- Temperature Rise Test.
- Internal Arc Test.
- Mechanical Endurance test on Circuit Breaker.
- Test to prove Degree of Protection of enclosure.
- Certificate for touch proof busbars and touch proof cable termination plugs.

Notification for factory test along with list of proposed tests shall be submitted after singing of the contract.

- Factory routine test will include:
- Panel construction, busbar and clearance checking
- Paint, labeling and cable entry verification
- Inspection of CT, PT, VCB
- Circuit breaker operation (manual & electrical)
- Spring charging and tripping mechanism check
- Insulation resistance test
- High voltage withstand test
- Contact resistance measurement
- Wiring continuity and scheme verification
- Interlocking and protection logic check
- Metering and indications verification
- Primary current injection test
- Secondary injection test
- Partial discharge test
- SCADA/communication interface check

Note to Para D) TECHNICAL SPECIFICATIONS OF 11KV SWITCHBOARD (above):

(i) All Numeric Relays should have ethernet port for SCADA connectivity

(ii) All relays should be tested for cyber security at ERDA or CPRI or any other Govt. of India approved laboratories as per MOP guidelines.

E - STATION TRANSFORMER, 11/0.415KV-800 KVA (Please refer Annexure)

F - POWER TRANSFORMER, 33/11KV-5MVA (Please refer Annexure)

The following type test certificates are to be submitted/furnished during drawing approval process after award of the contract for the 33/11KV-5MVA & 11/0.415KV-800 KVA Transformers:

i) Temperature rise test
ii) Short circuit withstand test
iii) Dielectric Test
iv) Partial Discharge

Notification for factory test along with list of proposed tests shall be submitted after singing of the contract.

Factory routine test will include:

- Tank, radiators, bushings and accessories inspection
- Tap changer and marshalling box verification

- Winding resistance test
- Transformer turns ratio (TTR)
- Vector group and polarity check
- Insulation resistance and PI test
- No-load loss and excitation current test
- Load loss and impedance test
- Applied voltage test
- Induced voltage test
- Temperature rise test
- Partial discharge test
- Separate source voltage withstand test
- Tan-Delta Test
- No-load and load loss test
- Insulation resistance test
- High voltage withstand test
- BDV and oil quality test

G. STATION TRANSFORMER (11/0.415kV) – 500KVA:

TECHNICAL SPECIFICATION OF STATION TRANSFORMER:

This specification covers supply, Installation, Testing and commissioning of 500kVA Dry Type Transformer. The design, materials and manufacture of the equipment shall be of the highest order to ensure continuous and trouble-free service over the years.

2. STANDARDS

The latest revisions of the following Codes and Standards listed shall be applicable for the Equipment / materials covered in this specification.

IS 1180, 11171 & 2026: Dry type power transformer

IS 10028 (Part II & III): Installation and Maintenance of Transformer.

IS 2099: Bushing

IS 2705: Current Transformer.

IEC 60529: Classification of degree of protection provided by enclosures

3. GENERAL CONSTRUCTION

All the MS parts shall be either Hot dipped galvanized or cold galvanized to make them corrosion free. The core shall be made up of high-grade low loss cold rolled grain-oriented silicon steel. Both low & high voltage windings shall be made of copper conductor. The class of winding insulation shall correspond to class 'F'. The construction of the windings of the transformer shall be such that no creepage path is found even in dusty & corrosive ambient conditions. The core coil assembly shall be housed in a prefabricated enclosure.

The enclosure shall be fabricated with mild steel CRCA sheets with adequate provision for ventilation. The enclosures shall undergo the nine tank process. Finally the external and internal surfaces of the enclosure shall be powder coated with the required paint shade.

4. GENERAL REQUIREMENTS:

4.1 The transformer shall have thermal and dynamic ability to withstand external short-circuit as per clause 9 of IS 2026 (Part I) 1977 and clause 5 of IS 11171-1985.

4.2 Capacity and Rating: Continuous rating specified shall be irrespective of tapping position. Indoor transformers shall be suitable for IP-23 protection.

4.3 Temperature Rise: The reference ambient temperatures assumed for the purpose of this specification are as follows -

a) Maximum ambient Temperature: 45° C

b) Minimum ambient Temperature: 6 ° C

c) Relative Humidity: More than 90 %

d) Altitude: 120 m

4.4 Cooling: Unless otherwise specified the transformer cooling shall be air and naturally cooled (AN). Additionally sufficient cooling fans shall be provided which will start automatically when the temperature exceeds 75-90 degree. (The temp shall be adjustable with a thermostat.)

4.5 Tap Changing Device: Preferred tapping range is +5% to -7.5% in 2.5% steps by means of off load tap changing links or tap switch. The device shall be provided on HV for HV Voltage to keep LV Voltage constant.

4.6 Terminal Markings Connections: Relevant provisions of IS: 2026 (Part-IV)-1977 shall be applicable.

4.7 Voltage Ratio: Unless otherwise specified, the transformer shall be suitable for a voltage ratio of 11 KV/415 V-240V

4.8 Vector Group: Dyn11

4.9 Accessories: The transformer shall be with enclosure or without enclosure with HV and LV terminations as specified both on HV and LV side. The LV side shall be suitable to receive LV cable inter-connection suitable for full load current of the transformer.

4.10 Fittings: The transformer shall be complete with the following fittings: -

(a) Off load type tap changing link or tap switch.

(b) RTD temperature controller.

(c) Lifting lugs for all transformers.

(d) Bi-directional /Unidirectional Rollers to be specified.

(e) Rating diagram and terminal marking plate for all transformers with OIL's PO No.

(f) Additional Neutral separately brought out on a bushing for earthing for all transformers.

(g) Earth terminals (2 Nos.) for body earthing

(h) Operating spares-1 set

5. SPECIFICATIONS

Transformer 500kVA, 11kV/415-240 Volts, 3 Phases, 50 Hz, Double winding, copper conductor, Dry type, natural air cooled/force cooled distribution transformer for indoor installation & as per following specifications:

5.1. GENERAL:

1. Applicable Indian Standard: IS: 11171 and IS: 2026 with latest amendments.

2. Service duty: Continuous.

3. Installation: Indoor.

4. Auxiliary power supply: 230V AC ± 10 %

5. Control Voltage: 230V AC ± 10 %

5.2. SITE CONDITION:

a) Maximum ambient Temperature: 45° C

b) Minimum ambient Temperature: 6 ° C

c) Relative Humidity: More than 90 %

d) Altitude: 120 m

e) Seismic design co-efficient: As per IS: 1893.

f) Rainfall: 200 cm (annually.)

5.3. RATING AND GENERAL DATA:

a) Rating: 500kVA

b) No. of phases: 3.

c) Frequency: 50 ± 3 %

d) Type of Insulation: Class-F. Temp. Rise-Designed to withstand 120 degree ° C

e) Partial discharge: As per IS-11171, IS-6209.

f) Type of cooling: AN

g) Installation: Indoor

h) Vector group: Dyn 11

i) Percentage impedance: As per IS-2026.

j) Nominal system voltage: 11kV/ 415-240 Volts

k) Type of neutral earthing: Solidly grounded Neutral.

l) Symmetrical short circuit withstands capacity: As per IS-11171.

m) Rated short duration power frequency withstands voltage: As per IS 11171.

n) Rated lightning impulses withstand voltage: As per IS 11171 (List-2).

As Vacuum circuit breaker will be used as incomer to the transformer, BIL voltage shall be 95KV.

o) Transformer sound level should not exceed 60 db.

p) Water absorption (24hrs @25C): less than 0.05% (superior insulation, longer life)

q) Chemical Resistance: Painting must have excellent performance rating.

r) Dielectric Strength: Minimum of 3200 volts/mil dry (for superior stress, Over voltage tolerance)

s) Dissipation Factor: Max. 0.02 @25 degree C to reduce aging of insulation.

5.4. TAP CHANGER:

Type: Off-Circuit Tap Links

Total tapping range: ± 5.0 %

Tapping steps: In steps of 2.5 %.

Markings shall be clear enough to indicate the tap position.

5.5. TERMINAL ARRAGEMENT:

HV winding line end: Cable box

LV winding line end : Cable box

One neutral bushing outside the cable box shall be provided for grounding.

5.6. BUSHING:

Made from non-hygroscopic epoxy resin cast material suitable for site condition mention in Para- B & conforming to IS-2099

5.7. CABLE BOX:

i) HV cable box should be suitable for termination of 1 nos 3Cx240 sq. mm XLPE armoured, Aluminium conductor cable with heat shrink type cable termination. The bottom plate shall be detachable type and 1 nos. heavy duty single compression cable glands suitable for 3Cx240 sq.mm XLPE armoured cables shall be fitted. Cable Box standard should be as per IP-54.

ii) LV cable box should have brought out electro-tinned copper bus bars of suitable rating & size for termination of 4 nos. of 3½ x 240 sq. mm PVC/XLPE Aluminium cables. The cable box should have detachable cable gland plate fitted with suitable heavy duty single compression cable glands for the cables mentioned above. Support bar in LV cable box should be made up of fiber glass. Cable Box standard should be as per IP-54.

iii) HT and LT cable boxes shall be button entry type and Bottom detachable gland plates made from 3.0mm thick MSCR sheet shall be provided for all cable entries, suitable cable gland shall be provided for the above cables.

iii) Terminals should be marked as per IS: 2026 -1977.

5.8. TRANSFORMER CORE:

i) Material: High grade cold rolled grain-oriented silicon steel.

ii) Structure: Grounded and sharp corners avoided.

iii) Lamination: Treated and coated with suitable insulations. The core limbs & yokes are branded by means of resin glass tape to reduce vibration & noise.

5.9. TRANSFORMER WINDING:

The winding material should be high conductivity 99.99% electrolytic grade copper. The insulation should be Cast Resin type, Class-F. Conductor should have thermally upgraded paper (Nomex) insulation reinforced with fiber glass. The coil assembly is to be impregnated & cast under vacuum with epoxy resin for achieving non-hygroscopic, acid & alkali resistant insulation. The complete winding should have smooth cylindrical finish after impregnation to ensure high mechanical strength. The thickness of resin should be uniform. The insulation should be self- extinguishing type. Mounting of the winding to the transformer case shall be of vibration resistance pad placed uniformly in all direction.

(i) The windings/connection of transformer shall be braced to withstand shocks, which may occur during transport or due to short circuit, repeated peak loads and other transient conditions during service.

(ii) Windings shall be subjected to a shrinkage treatment before final assembly so that no further shrinkage occurs during service.

(iii) The conductors shall be transposed at sufficient intervals in order to minimise eddy currents and equalize the distribution of currents and temperature along the windings.

(iv) Windings shall not have sharp bends which might damage insulation and /or

produce high dielectric stresses.

(v) Coils shall be supported using dried and high pressure compressed wedge type

insulation spacers at frequent intervals.

(vi) All threaded/bolted connections shall be locked. Leads from the winding to the

terminal board and bushings shall be rigidly supported to prevent injury during short

circuits/vibration.

(vii) Permanent current carrying joints in the windings and leads shall be welded or

brazed.

(viii) Digital Winding temperature scanner connected with three nos. RTDs, one each for each LV winding, should be provided in a metallic enclosure (Marshalling box) that is mounted on the main enclosure. The scanner shall have potential free NO contacts to provide indication, alarm & trip contacts. Two sets of additional contacts to be provided to connect 2 nos cooling fans so that they start if the temp rises above a set value say above 75 degree. Winding temperature indicator should show maximum temperature attained. The RTDs should be properly wired up to the scanner terminals. Temperature setting of each contact shall be independently adjustable at site.

5.10. ENCLOSURE:

Enclosure for transformer shall be fabricated of minimum 14 SWG gauge properly

cleaned degreased and painted as per manufacturer's standard practice. The core & winding assembly should be housed inside a sheet steel enclosure with removable inspection & tap changer covers. The enclosure should offer IP-23 protection as per IS 2147 and should have suitably designed louvers for circulation of cooling air. All

the gaskets should be of neoprene rubber. All non-energized metallic parts of the transformer shall be grounded.

5.11. EARTHING:

Earthing shall be as per IS-3043.All metal parts of the transformer with the exception of individual core laminations core bolts and associated individual clamping plates shall be earthed internally. Suitable arrangement shall be made for earthing of neutral externally.

5.12. WIRING:

All internal wiring shall be done with 1.1kv grade fire retardant PVC insulated tinned copper multi stranded cable of standard size of 2.5sqmm with proper lugs . Ring lugs shall be used at all connections such as CTs connection etc. All terminal strips shall have minimum 2 nos. spare terminals to accommodate any modification required during commissioning /operation. All terminals shall be accessible for testing and troubleshooting/maintenance. All cable shall have ferules.

5.13. NAME PLATE

Transformer shall be furnished with a non-corrosive diagrammatic name plate permanently attached with non-corrosive hardware with following information:

(i)KVA rating

(ii)Primary and secondary voltage.

(iii)Primary and secondary current.

(iv)Frequency.

(v)Nos. of phases.

(vi)Percentage of impedance.

(vii)Types of cooling.

(viii)Connection & symbol.

(ix)Tape configuration.

(x)Insulation system and rated maximum temperature rise.

(xi)Sound level.

(xii) K- factor rating (if available)

(xiii)Year of manufacture.

(xiv)Design impedance.

(xv)Manufacturer's name.

(xvi) Net weight.

(xvii) IS standard.

(xviii) OIL's P.O. no. and date.

5.14. LIFTING HOOK.

Suitable Lifting hook shall be provided on the top of the transformer for transportation/installation of transformer.

5.15. LIST OF FITTNGS AND ACCESSORIES:

i. HV bushings inside HV cable box: 3 nos. rated for 11kV.

ii. LV bushings in side LV cable box: 4 nos.(3P+1N) rated 415 Volts

iii. Outside LV cable box: 1 no. for grounding.

iv. Digital Winding temperature scanner connected with 3 nos. of RTDs, one each for each LV winding.

v. Earthing terminals: 2 nos for body earthing.

vi. Jacking lugs.

vii. Inspection cover: 2 nos. placed in opposite site

viii. Base channels with bi-directional rollers: 2 nos.

ix. Any other accessories which supplier think essential may also be included as optional.

6. INSPECTION:

(i) All the NIT specified routine tests and special tests as per IS: 11171 are to be carried out in presence of OIL's Engineer at manufacturer's works. The Contractor will give intimation to OIL 15 days advance prior to commencement of tests so that OIL can depute representative for witnessing tests in time.

(ii) The dispatch will be cleared only if the test results comply with the specifications and testing results are within the tolerance limits.

(iii) Materials / equipment failed to conform to the specifications/during testing, OIL's representative shall have the right to reject the materials and, in that case, the Contractor will either replace the rejected materials or make alterations necessary to meet specifications requirements free of costs.

7. GENERAL TERMS AND CONDITIONS:

i. Party should furnish all relevant technical particulars as per IS:2026 (1977), Part-I along with the offer.

ii. Supplier shall mention in their offer the minimum ventilation requirement of transformer room.

iii. Supplier must indicate the storage procedure for the transformer in case the transformer is left un-energized.

iv. List of installation & commissioning checks required for the transformer must be enclosed with the offer.

v. Transformer winding shall be specially braced to withstand to thermal and mechanical stresses of harmonic current and voltage.

H. TECHNICAL SPECIFICATION OF 11 KV AND 33 KV CABLES:

Note: Please refer attached document "Tentative cable length" for information on cable requirement.

a) 11 kV Cables:

1) Cable: 11kV, XLPE Aluminium.

2) Size: 3Cx240 mm2

3) Voltage Grade: 11 KV, suitable for earthed neutral system.

4) Colour: Black

5) Shape: Complete round on outer side

6) Conductor Material: Stranded compact circular/shaped Aluminium (complying with Class 2 of IS : 8130-1984)

7) Conductor Screening: non-metallic semi-conducting tape or by extrusion of semiconducting compound or a combination of the two.

8) Insulation: Cross linked polyethylene (XLPE) applied by extrusion.

Insulation Screening (metallic and non-metallic): Non-metallic part: It shall be applied directly over the insulation of each core & shall consist of either a semi-conducting tape or extruded semi-conducting compound or a combination of the two or material with a semi-conducting coating. Metallic part: either tape, or braid, or concentric serving of wires or a sheath; shall be non-magnetic and shall be applied over the non-metallic part.

9) Core identification: Red, Yellow & Blue polyester tape in individual cores.

10) Filler & Inner Sheath: Vulcanized or unvulcanised rubber; or Thermoplastic materials.

11) Armour: Galvanized round steel wire or galvanized steel strip.

12) Outer Sheath: PVC (type ST2 compound).

13) Minimum quantity (Length):

i) 500 Mtr minimum length of cables to be supplied, terminated, through jointed and laid in cable trays/ cable trenches/ pucca cable trenches part of line item No. 10

ii) Additional cable required in this case if any will be paid as per actual and as per the rate mentioned in line-item no. 110 & 140 (this is including supplying laying, jointing, termination, laying in pucca cable trench, trays, HDD, etc.)

14) Applicable Standard: IS 7098 (Part-2)/1985 (with latest amendments if any)

15) Marking: a) Manufacture's name, voltage grade, length (in metres), size of cable and year of manufacture shall be printed, indented or embossed on the sheath of the cable throughout the length. The distance between any two consecutive printings, indentations or embossing's shall be not more than 1 m.

16) Cable drum shall be marked with manufacture's name, voltage grade, size of cable, cable code, year of manufacturing, length of cable, Number of lengths on the drum (if more than one); gross weight, ISI mark & OIL's purchase order number with suitable paint in permanent manner.

17) Make: Any brand with valid BIS manufacturing license & type test certificates.

B) 33 kV cables:

1. Cable: 33kV, XLPE Aluminium

2. Size: 3Cx300 Sq.mm & 3Cx 120 Sq.mm

3. Voltage Grade: 33000V, suitable for earthed neutral system.

4. Colour: Black

5. Shape: Complete round on outer side

6. Conductor Material: Stranded compact circular/shaped Aluminium

7. (complying with Class 2 of IS : 8130-1984)

8. Conductor Screening: non-metallic semi-conducting tape or by extrusion of semiconducting compound or a combination of the two.

9. Insulation: Cross linked polyethylene (XLPE) applied by extrusion.

10. Insulation Screening (metallic and non-metallic): Non-metallic part: It shall be applied directly over the insulation of each core & shall consist of either a semiconducting tape or extruded semi-conducting compound or a combination of the two or material with a semi- conducting coating. Metallic part: either tape, or braid, or concentric serving of wires or a sheath; shall be non-magnetic and shall be applied over the non-metallic part.

11. Core identification: Red, Yellow & Blue polyester tape in individual cores.

12. Filler & Inner Sheath: Vulcanized or unvulcanised rubber; or Thermoplastic materials.

13. Armour: Galvanized round steel wire or galvanized steel strip.

14. Outer Sheath: PVC (type ST2 compound).

15. **Minimum quantity (Length):**

I) 500Mtr minimum length of cables to be supplied ,terminated, through jointed and laid in cable trays/ cable trenches/ pucca cable trenches part of line item no 10 (this is including supplying laying, jointing, termination, laying in pucca cable trench, trays, HDD, etc.)

ii) Additional cable required in this case if any will be paid as per actual and as per the rate mentioned in line-item no. 100 & 130 (this is including supplying laying, jointing, termination, laying in pucca cable trench, trays, HDD, etc.)

16. Applicable Standard: IS 7098 (Part-2)/1985 (with latest amendments if any)

17. Marking:

a) Manufacture's name, voltage grade, length (in metres), size of cable, Applicable ISI mark, year of manufacture shall be printed, indented or embossed on the outer sheath of the cable throughout the length. The distance between any two consecutive printings, indentations or embossing shall be not more than 1 m.

b) Cable drum shall be marked with manufacture's name, voltage grade,

18. size of cable, cable code, year of manufacturing, length of cable,

19. Number of lengths on the drum (if more than one); gross weight, ISI mark

20. OIL's purchase order number with suitable paint in permanent manner.

21. Make: Any brand with valid BIS manufacturing license & type test

22. Certificates.

23. Good quality fire retardant and moisture proof cable sealant shall be provided for both 33 kV/ 11kV/1.1kV power and control cables entry in the E-House(s).

24. All cables beneath the E-house should have protection against mechanical damage.

25. All cables when passed through corresponding cable trays shall be clamped at an interval of 10m from each.

I. TECHNICAL SPECIFICATION OF 1.1 KV CABLE:

Please find annexure: LT CABLE

1.1 kV Cable Laying and Termination

i. The scope of work includes laying, termination, testing and commissioning of 1.1 kV, 3.5Cx240Sqmm, PVC insulated, PVC sheathed, Al armoured cables.
ii. The scope also includes excavation of soil/strata/concrete of size 0.75mx.0.45 m for laying cables of size 3.5C×240sqmm cable including sand cushioning, placing of bricks, backfilling and covering the surface to original finish all as per standards and as directed by OIL's Engineer-In-Charge.
iii. The scope also covers termination and crimping of cables with suitable sized socket, glands with accessories like GI pipe/ clamp (wherever required) as per standard practice with end termination and through joint kits supplied by the bidder and approved by OIL. The cost of the items shall be included in the offer.
iv. The cable shall be laid through 6-inch GI pipes at road crossings, across trenches, drainages and wherever necessary and the cost of the same shall be included in the bid.
v. Cable route markers and cable identification tags shall be provided along the route and length of the cable at a spacing of 10 mtrs .
vi. Any other items that are not included but are part of the execution shall be deemed to be included in the scope of and shall be included the cost of such items in their bid.
vii. Earth continuity wire of 1x 120sqmm PVC Cable shall be laid throughout the length of the 240 sqmm cables.

2.0 Installation, testing and commissioning of cable:

2.1 General:

i. Cables with unwanted twist or bend or any other apparent defects like defective armouring etc. shall not be accepted.
ii. Cables shall not be bent sharp to a small radius either while handing or in installation. The minimum safe bending radius for cables shall as per IS 1255 (1983) with latest amendments.

2.2 Methods of laying:
Laying direct in ground:

i. The trenches shall be excavated in reasonably straight lines, wherever there is a change in the direction, a suitable curvature shall be adopted complying with the requirements of above.

ii. Where gradients and changes in depth are unavoidable, these shall be gradual.

iii. The excavation should be done by suitable means, i.e., manual or mechanical. The excavated soil shall be stacked firmly by the side of the trench such that it may not fall back into the trench.

iv. Adequate precautions should be taken not to damage any existing cable(s), pipes or any other such things in the route during excavation. Wherever brick or any other protective covers or bare cables are encountered, further excavation shall not be carried out without the approval of the Engineer-in-Charge.

v. Existing property, if any, exposed during trenching shall be temporarily supported adequately as directed by the Engineer-in-Charge. The trenching in such cases shall be done in short lengths, necessary pipes laid for passing cables therein and the trench refilled.

vi. The normal size of the trench will be 450 mm wide and depth shall be 750 mm and suitable sized pit for maintaining at least 2 coils (10-12 m) of spare cable at through jointing area and termination area with same or more depth that of the trench. The bottom of the trench must be levelled and properly dressed. Any change in the above-mentioned size shall be instructed by the Engineer- in - Charge.

vii. 75mm thick sand bed shall be spread at the bottom of the trench pit. Then unrolling and laying of cable shall be done and again shall be covered with another 75mm of sand over the cable. Sand bed should cover entire width of trench and pits. Supply of sand is in the scope of the bidder.

viii. Bricks shall be placed crosswise (irrespective of one or more cables laid in the trench pit) over the cable /cables as well as the entire pit. The bricks should be placed close to each other without any gap. Broken bricks shall not be allowed to use. Supply of bricks is in the scope of the Contractor.

ix. The trenches shall be then backfilled with excavated earth, free from stones or other sharp ended debris and shall be rammed and watered, if necessary, in successive layers not exceeding 30cm depth.

x. Where Road beams or lawns have been cut out of necessity, or kerb stones displaced, the same shall be repaired and made good, except for turfing /asphalting, to the satisfaction of the Engineer-in-Charge and all the surplus earth or rock shall be removed to places as specified.

xi. There shall be nos. of road crossings in cable routes. During road crossing, 6 inch dia GI pipes shall be used for routing the cables. Spare pipes shall be provided for future extension. Spare pipes shall be sealed off at both ends. Pipes shall be up to the edge of the road to permit smooth entry of cable without bending.

xii. 6-inch dia. PVC pipes shall be provided for individual cable entries to the sub-station buildings at both the ends of cables, wherever necessary. The pipe for this purpose shall slope downwards from the building. The pipes at the building end shall be suitably sealed using white cement or similar item to avoid entry of water, after the cables are laid.

3.0 Testing of cable:

Before laying of the cables shall be tested for continuity and insulation resistance.

Testing before sand cushioning:

The cables shall be tested for continuity of cores and insulation resistance before backfilling of the trench. In case of through jointing of cables, cables shall be tested for continuity and IR.

4.0 Cable identification tags:

Whenever cable is laid, GI tags inscribed with cable identification details as directed by Engineer-in-charge shall be permanently attached to all the cables at 10 mtrs. In case of cables laid directly in grounds the tags shall be attached before trenches are backfilled.

5.0 Transportation, Storage and Handling of cable:

5.1 Transportation of cable:

The cable drums shall be supplied directly to the site. Proper care shall be taken during transportation so that cable drums do not get damaged during transportation. If cable or drum gets damaged during transportation, it is sole responsibility of the contractor to take care of such damages. In case, if it requires replacement of damaged cable, the contractor must replace the damaged cable with new cable at free of cost.

5.2 Storage of cable:

i. The drums shall always be stored on their flanges, and not on their flat sides.

ii. Protection from rain and sun is preferable for long term storage of cables. There should also be space between two or more cable drums.

iii. The space for storage of cable shall be provided by OIL. Watch and Ward of the cable will be in the scope of bidder.

NOTE:
Design and layout of the cable trench/cable trays/buried cable/HDD works shall be submitted for prior approval from Engineer In-charge of OIL at least 30 days in advance from start of the work.

The Following to be submitted for Power Cables (33 kV / 11 kV / 1100 V) shall be submitted/furnished during drawing approval process after award of the contract:

Notification for factory test along with list of proposed tests shall be submitted after singing of the contract.

Factory routine test for Power Cables (33 kV / 11 kV / 1100 V) s will include:

- Drum details, cable length and marking verification
- Inspection of insulation, sheath and armor
- Measurement of conductor and insulation thickness
- Conductor resistance test
- Continuity test
- Insulation resistance test
- High voltage withstand test
- Capacitance measurement
- Tan delta test (HT cables)

- Partial discharge test (33 kV cables)
- Tensile strength and elongation test
- Hot set test for XLPE cables
- Bending test
- Heat cycle test
- Flame retardant or fire survival test

J. 415 V SWITCHBOARD: Attached as Annexure- OCS2 LT PANEL SPECIFICATIONS

K. TECHNICAL SPECIFICATION OF 415 V VERTICAL DISTRIBUTION BOARD:

"MCB Distribution Board 6 Way (TPN) Double Door Conforms to IS:13032 & IS: 8632 part-3 Made of special grade CRCA sheet steel to provide strength and longer life to enclosures. Coated with latest powder coating technology for lasting of mounting finish & long life. Current caring parts are made of electrolytic grade of copper to attain high conductivity and low resistivity thereby keeping temperature rise and distribution losses very low. Adequate number of knockout holes of various sizes are provided both at top & bottom.

Designer double door: both side detachable gland plates with knockouts and masking sheet provided. Cement spill protector. Door is separately packed for preventing rusting in double door distribution boards Ample (sufficient) wiring space is provided to ensure proper distribution of neutral and earth wires. Suitable for MCB/MCCB/isolator/RCCB as incomer and MCBs as outgoing. Wide range of distribution boards used for different applications. Suitable for surface & flush mounting. "

Configuration:

a) Busbar: 1000 A

b) Incomer MCB: 630 A, 2 Nos.

c) Outgoing: 100 A, 2 Nos.

63 A, 2 Nos.

16 A, 2 nos.

d) Short circuit capacity: 50 kA

Special Note:

i) Panel must be procured from the quoted OEM only.

ii) Bidder shall provide Type test certificate (Not more than 5 years from the tender bid opening date) of similar type of HT panel (11 kV or Higher) from CPRI/NABL accredited/Govt. recognised Test House or Laboratory.

L. Technical Specification of E-house(s):

1.0 SCOPE

This specification describes the requirements for design, manufacture, testing at manufacturer's works, supply, installation and Commissioning at site of

prefabricated metal electrical room with GIS Switchgear System and associated auxiliary equipment.

2.0 GENERAL DESIGN CRITERIA:

The E-House shall be an elevated, air-conditioned structure with all self- sufficient required equipment such as:

• Switchgear with Protection Relays & Local Control arrangement.
• LV AC & DC Distribution system.
• Battery, Charger etc.
• Supply, laying, dressing, termination and connection of control cables.
• Light fixtures with occupancy sensor and Receptacles,
• DC/AC Emergency lighting system.
• Air ventilation system to suit temperature management within E-houses.
• Fire detection system with 5G enabled SIM (to be provided by the OEM) router capable of communicating to central remote-control centre in Duliajan.
• Remote Surveillance system with 5G enabled SIM (to be provided by the OEM) router capable of communicating to central remote-control centre in Duliajan.
• Earthing
• Platforms, Stairs, handrails etc. as appropriate, for ease of operation & maintenance. The Contractor shall install all equipment (except the power & distribution transformers within E-House. The above E-Houses need to be fully assembled and integrated at factory and acceptance test shall be carried out at Manufacturing/ Assembly location to ensure best in quality performance and ease of operation as a "plug and play" solution to be delivered at site.

Note:
1. The elevation of the platform shall be as per the existing set up at OCS-2 Switch Yard.
2. The ventilation system offered shall be suitable for unmanned operation.
3. The civil structural works/civil works along with any kind of periphery jobs like pilling etc. shall be included by the bidder in their bid itself and the same shall be vetted by Civil Department (OIL). All foundation calculations need to done for clarity during bidding stage only.

3.0 SERVICE CONDITIONS:

All materials supplied and installed shall be capable of operating without fault in a tropical climate, which exhibits a high level of ultra-violet radiation and severe thunderstorms. Relevant environmental conditions are listed as follows:

a) Maximum ambient Temperature: 50° C

b) Minimum ambient Temperature: 5 ° C

c) Relative Humidity: More than 90 %

d) Altitude: 120 m

e) Avg. No. of Thunderstorm Days / Year 100

f) Avg. annual rainfall 250 cm

g) Maximum wind pressure 100 km/hr

h) Pollution Level Average polluted area

i) Seismic Level Zone Level V

4.0 GENERAL REQUIREMENTS:

4.01 The E-house shall be designed to withstand the external environmental conditions, seismic condition (zone 5), Wind load, imposed load condition and dynamic loads associated with transport as per Relevant IS. Supporting calculation for above to be submitted during detail engineering. All material used shall be new, unused and of superior quality.

4.02 The E-house frame shall be constructed as a rigid, self-supporting steel structure.

Structural steel Design, fabrication and welding shall be in accordance with relevant IS / other acceptable standards. Construction materials -–

* Steel: load bearing members: IS 2062 or equivalent

* Structural steel: IS 2062.

* Side-end walls & roof panels: IS 2062.

* Square/rectangular hollow sections: IS 1161 or equivalent

* Paint: to suit hilly & industrial climate.

* Corner fittings: dimension as per ISO 1161 - 1984

4.03 The roof framing and the columns shall be designed to support any additional dead load suspended from the roof such as air conditioning duct, false ceiling, cable trays, light fixtures etc. Plus, the roof top of all the three (03) E-Houses shall be adequately designed for using the space for roof top solar power plant and the inverter for the same shall be common and shall be place in the 0.415kV LT panel E-House. Adequate mounting (for inclination as per Azimuth angle) for protecting the roof & solar modules from any weather shall be provided. The make of the solar modules, inverter, ACDB, DCDB, AC/DC cables, the remote monitoring software/system etc. shall be submitted for approval by OIL.

4.04 The floor framing shall be fabricated from ASTM A36 or equivalent steel members to form a rigid rectangular frame. The frame shall be braced with cross members as required to support the equipment installed in the E-house.

4.05 The floor shall be constructed at a height of preferably two meters from the finished ground level of Sub-station for ease of cable entry.

4.06 All exterior walls shall be air and watertight and shall be capable of maintaining this tightness during and after any transport or lifting operations.

4.07 The shell of the E- house (container) shall be all of weld construction.

4.08 The doors / windows shall be effectively sealed against water ingress in closed condition by using proper gasket profiles. Above doors, rain-hoods are to be provided to avoid water leaking into Joints.

▪ Particular attentions are to be paid to prevent any corrosion of metal parts.

▪ Structure walls and roofs shall be formed by means of 1.6 mm thick CRCA sheet with thermal insulating material inside. The exterior walls and frames around door and any other opening if any shall be structurally adequate to sustain all applicable loads.

▪ Roof slope shall be minimum of 6 degree. Roof edges/ slopes shall be provided with drain arrangement for water draining from top. Roof shall be welded with the main structure to form an integrated assembled section. The design of the roof shall ensure safe working in the high-rainfall area.

▪ Floor plating shall be covered with a non-skid surface. The exposed floor in front of electrical panels shall be insulated with high grade PVC insulation mat, rated for 36kV.

▪ Exterior walkway, stairs with handrail and landing shall be provided.

▪ External paint finish shall provide an expected life to meet minimal maintenance in marine condition.

▪ All the wall & roof materials used shall be non-combustible type.

▪ E-Houses will be insulated on sides, end walls, roof & doors with minimum 50 mm thick Rockwool insulation.

▪ Interiors of the E-Houses shall be aesthetically finished as to give a pleasing appearance with high quality workmanship. All joints shall be neatly finished.

▪ For side, roof and end walls panelling will be done with 1 mm thick CRCA sheet.

▪ Considering superstructure load, soil condition etc. foundation design to be done by the Contractor and design - drawings are to be submitted at OIL for approval.

▪ Construction of all the required foundation structures, columns, beams etc. are

in the scope of bidder.

Note: More details are there in CIVIL PART_SCOPE OF WORK.

5.01 LIGHTING

▪ The electrical panel can be wall mounted type and shall have feeders for lighting circuits, sockets, battery chargers, air conditioning units, F&A panels, spare etc. The incoming supply for this panel shall be from a 3 phase 4 wire 433V 50Hz supply and will have a main TPN MCB of sufficient rating depending upon the load inside E-house. The feeders shall be through 2 pole MCBs for single phase circuits and 4P MCBs for 3 phase circuits. The feeders shall be arranged such that the load shall be balanced among three phases. The enclosure shall be of minimum IP41 rating, powder coated paint.

▪ The wiring circuit of the E House for lightings will include a suitable 1-phase power input socket, distribution board with MCB for the light connections and other additional points as required.

▪ Sufficient quantity 240 V, 1 Ph, 5 A socket outlet shall be provided inside the E House.

▪ Sufficient quantity 240 V, 1 Ph, 15 A socket outlet shall be provided inside the E House.

▪ Electrical wiring has to be done as per respective IS standard with proper earthing system. All wires used for lighting system should be by FRLS 1100V grade.

▪ Lux level shall be 300 lumen inside the E-house and outside platforms/ stairs shall be 200 lumen. The luminaries used shall be LED type of sufficient wattage to cater the required Lux requirement. And this shall be enabled with timer for illumination during bad weather condition and night.

▪ Motion / Occupancy Sensors shall be installed within E-House which shall perform zone wise lighting system control.

▪ The enclosure shall be furnished complete with factory installed of emergency lighting and with EXIT light fixtures at each access doors. Twenty percent of total lighting fixtures shall be emergency lighting with Battery backup. The lighting system shall provide immediate emergency light (for at least 1 Hour) upon failure of the normal power source, and shall switch off automatically when power is restored.

5.02 GROUNDING

▪ Internal Earthing inside enclosure with suitable cross sectional GI flats.

▪ The E-House shall be furnished complete with ground pads which shall bond of electrical equipment enclosure frames and ground buses to the E-House frame at the exterior base in two locations and at opposite ends of the E-House so as to provide a continuous path to ground.

▪ The Grounding system shall connect to each end of the ground bus in each assembly of installed equipment.

5.03 FIRE DETECTION & CONTROL, SURVEILLANCE SYSTEM AND AIR CONDITIONING SYSTEM

The Fire Detection - alarm & control system, surveillance system and Air conditioning ventilation system shall be installed in line with manufacturer's (OEM) recommendation.

5.03.01 Fire Fighting System

▪ A fire detection and alarming system shall be installed consisting of the fire alarm control panel with display utilizing a detection system suitable for multi area detection and control.

▪ The fire detection and alarm system shall include multi sensor smoke detectors suitable for the intended service, break glass type manual call points, indoor & outdoor alarm hooters.

▪ Fire alarm panel shall shutdown AC system in respective rooms in case of fire.

▪ The wiring for fire alarm panel to smoke detectors shall be done through separate conduits or bare as per standard and shall not be mixed with any other circuits. Cabling shall be with steel wire unarmoured copper cable with flame retardant low smoke cables.

▪ Co2 fire extinguishers (5kg) 2 nos. per E-House shall be placed nearer to entrances.

▪ Supply and installation of CO2 and CO Monitoring systems in all the E-Houses.

▪ The system shall be with 5G enabled SIM (to be provided by the OEM) router capable of communicating to central remote-control centre in Duliajan.

5.03 BEEE 5 Star rated Air Conditioning/ventilation system

Supporting calculations shall be furnished by the bidder to determine size and quantity of split A/c units.

▪ AC systems/ventilation of wall mounted design controlled from a separate panel within the enclosure will be provided as required capable to maintain average ambient temperature of 27°C or any specified by OIL.

▪ The air conditioned/cooling design shall include moisture -proofing and thermal insulation to prevent occurrence of internal condensation. That means the de-humidifier needs essentially be supplied along with all the 03 E-Houses (01 each)

▪ AC system shall be interlocked with smoke detection system to shut down on alarm.

▪ Exhaust fans shall be provided for separate battery room.

5.03.01 Safety Equipment & Toolbox

▪ Safety charts, Danger Boards as per IE rules shall be provided in adequate quantity.

▪ Entrance, exit and emergency exit sign, first aid box and no smoking board to be provided in adequate quantity.

5.03.02 Anti-Theft Alarm:

▪ " E-House should be equipped with anti-theft alarm to prevent entry of unauthorised personnel.

▪ " Alarm system should activate hooter and send notification to concern officials in the hours of requirement.

▪ " Alarm system should be powered from 230 VAC Mains & battery of suitable size. The system shall be with 5G enabled SIM (to be provided by the OEM) router capable of communicating to central remote-control centre in Duliajan.

6.0 SPECIAL REQUIREMENTS

CCTV & LED Screen for monitoring outside and inside of E-House. Minimum ten nos. CCTV cameras (Image Sensor Type CMOS, Camera Image Sensing capacity (Picture Mode) 2MP, Resolution Full HD (1920 x 1080 Pixel) , Day /Night operation, Optical Zoom 32x, Digital Zoom 16x, Weather proof, audio detection, along with recording for 03months) shall be provided inside E-house container to cover all areas and one each at each entrance door.

▪ All the equipment / instruments used shall be as per OIL's Technical Specification and from the approved Makers List. If the specification / make for any particular equipment is not available then manufacturer(s) have to submit all relevant documents and data sheets for prior approval from OIL.

▪ OIL reserves the right to choose the location and working of the CCTV cameras.

▪ All recording equipment should be industrial type heavy duty with storage capacity of 2TB and should be enclosed in fire and impact resistant system.

The system shall be with 5G enabled SIM (to be provided by the OEM) router capable of communicating to central remote-control centre in Duliajan.

7.0 PAINTING.

Corrosion-prone steel components of the switchgear cubicles - unless they are made of stainless steel - must be protected by zinc phosphating. Large-sized front components visible from the outside, such as doors or covers, should be coated additionally by scratch-proof textured paint. The colour coating should be provided in the colour RAL 7032 (pebble grey). The paint should be able to withstand frequent rainfall in this area-Duliajan, Assam.

8.0 DOCUMENTATION REQUIREMENTS

All the information and documents related to the project shall comply with the latest edition of the IEC 62271-200 standard.

The bidder shall submit the following documents during the offer/bid:

1. General arrangement & floor plan drawings.

2. Single line diagrams and general schematic with ratings

3. Technical catalogue of all offered equipment.

4. List of equipment offered (Please refer Technical Evaluation sheet for the list of equipment required).

5. List of service centres in NE Region/ India.

6. All required type test report of equipment.

Note: Makes of equipment to be clearly specified.

The Contractor/bidder shall submit the following documents after award of contract, to be approved by OIL prior to manufacturing/erection:

1. Soil test reports, basic and detailed civil design (all to be done by the bidder at his/her own cost).

2. Stadd pro design/drawings for the above with all technical details to submitted by OIL in hard and soft copy formats.

3. General arrangement & floor plan drawings.

4. Single line diagrams and general schematic with ratings.

5. Technical details of all offered equipment.

6. Cable layout along with cable tray and cable trench for the project, for all 33kV, 11kV & 1.1 kV LT cables. Including the underground pucca cable trench works plan, overhead cable trench (750mm wide, 4mm thick, ladder type trays with all necessary bends). The underground cable works from project site to the 11KV Overhead Feeder of GCS-2 and OCS-8 shall also be carried out by the Contractor.

7. Timeline of completion of each milestone along with Gantt. chart for each activity (must be submitted clearly by the bidder during bidding stage).

8. Earthing system design & layout for the project.

9. Step & touch potential calculations for the project.

Note: Makes of equipment to be clearly specified.

The Contractor shall submit the following documents after completion of commissioning:

1.Completion and handover report with all technical details.

2.As built drawings. Paper and electronic copy.

3.Evidence of type test reports and complete routine test reports. Paper and electronic copy.

4.Software if any with license version.

5.Instruction manual (including softcopy & paper copy):

6.General characteristics of switchgears

7.Details of Civil works

8.Operating instructions

9.Maintenance instructions

10.Emergency service contact details in Northeast India.

11. Equipment datasheets for all the equipment.

12.A "USER'S MANUAL" USB including:

a. Catalogue of the switchgears and protective relays & auxiliaries.

b. Instruction manual

c. Animation based on 3D drawings and voice to explain how to perform all the operations with the switchgears.

d. Animations based on 3D drawings and voice to explain how to perform all the storage.

e. Complete details for all loops, interfaces, connection diagrams, terminal diagrams and wiring of all circuits. Paper and electronic copy.

M. Arc-Flash Protection System (11 kV AIS & 33 kV GIS Panels):

The Contractor shall design, supply, install, test and commission a complete *Arc-Flash Protection System for all 11 kV AIS and 33 kV GIS* panels covered under this tender. The system shall provide fast and reliable detection and isolation of internal arcing faults to minimise incident energy, ensure personnel safety and protect equipment.

The same shall be provided covering the cable chamber, bus bar chamber and the breaker chamber for all the panels of *11 kV AIS and 33 kV GIS switchboards. Accordingly required numbers of sensors and associated cablings shall be implemented.*

The arc-flash protection scheme shall include, but not be limited to:

(i*) Optical arc sensors* (and pressure/current-based sensors as applicable) installed in cable chamber, bus bar chamber and the breaker chamber for all the panels of *11 kV AIS and 33 kV GIS switchboards*.

(ii) *A high-speed arc-flash protection relay* with programmable logic, self-supervision, health monitoring and SCADA/IEC-61850 communication capability.

(iii) *Hardwired trip interfaces* to designated circuit breakers to achieve a maximum end-to-end operating time as recommended by the OEM.

(iv) All necessary cabling, accessories, mounting hardware, interlocking and integration with the offered protection system without compromising selectivity or reliability.

The Contractor shall submit:

- Sensor layout drawings, wiring diagrams and protection logic during the documentation stage.
- A revised *arc-flash hazard study* (IEEE 1584) demonstrating incident-energy reduction.
- Updated *arc-flash warning labels* per applicable standards.
- FAT & SAT procedures and test records.
- O&M manuals and operator training.

All equipment shall comply with applicable IEC standards (including IEC 62271 series and IEC 61641), NFPA 70E requirements and relevant statutory regulations. The system shall be fully integrated, tested and handed over as a complete, functional arc-flash mitigation package.

N. Technical Specification for IR wireless temperature sensor:
(For 33 kV GIS ,11 kV AIS & 0.415kV LT Panels)

The 33 kV GIS ,11 kV AIS & 0.415kV LT Panels should have wireless temperature sensor suitable for installation on 33 kV GIS, 11 kV AIS and 415V LT panels. This shall monitor and trigger alarm/ trip. The same shall be installed at the bus-bar joints, cable terminations in all the three phases for all the two panels (33kV GIS & 11kv AIS panels). And for the 0.415V LT panel for the incomers & two numbers of outgoing feeders for OCS-2 installation. Common monitoring module(s) having transmission of data to the main RTU for remote monitoring purpose. This shall be mounted in front of the panels. The scope includes all associated mounting hardware, covers, certification documents, and installation guidelines.

2.0 Installation Requirements
Contractor to supply all materials required for installation of wireless temperature sensor suitable for installation on 33 kV GIS, 11 kV AIS and 415V LT Panels.
-Shall not impact switchgear insulation, IP rating, or arc classification and type test certification.

3.0 Factory Tests (FAT)
During FAT the Contractor shall submit:
- Mechanical impact test reports
- Thermal endurance certificates

4.0 Documentation
The Contractor shall submit:
- Technical datasheet, type test certificates of the offered temperature sensors.

O. Technical Specification of **Direct Buried Cables / Brick Encased:**

- As per site requirement and Engineer-in-Charge approval
- Minimum internal size: **750 mm (W) × 900 mm (D)**
- Sand cushioning 75 mm below and above with perpendicular brick protection, warning tape, RCC route markers at every 10 meters.

P. Technical Specification of Cable Trays:

Cabale trays beneath and outside E-Houses as per site requirement and final approved layout drawing (Approx.100m)

Cable Tray Specifications:

- Hot Dip Galvanized (minimum 80 microns)
- Ladder type trays: **600 mm wide × 100/150 mm deep with min 3mm thickness GI for 33KV and 11 KV Grade cables.**
- **Bolted GI Cable cover of minimum thickness 3 mm above the cable trays**
- Perforated trays for LT cables (300–450 mm wide)
- Tray supporting structures made of 75×75×6 mm angles or 100×50 ISMC channels.
- Supports spaced at 1.5 m max
- Earthing of tray as per IS 3043 / 75mmX6mm running GI Earthing strip all along Cable tray. The earthing strip shall also be connected to separate earth electrodes (installed exclusively for Cable trench / cable tray running earth) at every 25 m interval with 75 mm X 6 mm GI Earth strips.

Q. Technical Specification of Pucca RCC Cable Trench

Pucca RCC Cable Trench outside E-Houses as per site requirement and final approved layout drawing (Approx. 200 m)

- RCC grade M20
- Minimum internal size: **750 mm (W) × 900 mm (D)**
- 75 mm PCC bed (M10)
- 150 MM RCC/Brick side wall
- RCC cover slabs (M20), 75mm load-bearing as per IS 12592
- Brick/metal support for cable separation
- 75mmX6mm Earthing strip all along trench wall
- Drainage/weep holes every 3 metres
- Cable marker posts every 25 metres

R. HDD Road Crossing (Shal be billed as per actual)

- Approx. 300 m for 33 kV ,11 kV & 1.1 KV cables
- Through **16" dia, 0.315" thick MS casing pipe**

S. Mandatory Spare List – attached as Annexure

T. Operational maintenance spare list - Operational maintenance spare list with part number and price list (in addition tom Mandatory Spares to be supplied compulsorily during supply of the said E-Houses)– to be submitted by the Contractor during execution stage

U. LOCAL HMI AND REMOTE MONITORING SYSTEM:

Field Level at 33kV GIS Sub-Station:

- One number HMI shall be provided at the 0.415kV LT Panel E-House, from where the 33kV GIS panel, 11kV AIS Panel, 0.415kV LT Panel breakers/disconnector switches (only relevant one's), relays, MFMs and associated switches shall be operable. Relevant mimic diagram shall be displayed in the HMI for ease of operation and trouble shooting. This shall also have status change display of the breaker, relay and three positing disconnector switches. All the parameters of the relays and the MFMs shall be displayed in the HMI.

- Compatible RTUs shall be installed at the said 33kV GIS substation at OCS-2 for data acquisition and control. It shall be provided by the Contractor.

- The Contractor shall also arrange for Interfacing with Electrical Equipment: Relays, Energy Meters, and Multi-Function Meters (MFMs).

- The Supported protocols shall be: IEC 61850 and Modbus Serial/RTU.

- Communication Layer

- GSM-based RTUs at 33kV GIS substation for real-time data transmission (in scope of Contractor) to the central SCADA system at Duliajan Control Room (not in scope of Contractor).

- Dual SIM GSM Modems: SIM cards from two different ISPs for redundancy shall be provided by the Contractor.

- GSM M2M with SIM/ MPLS with SIM connectivity with static IP addressing for secure and reliable communication shall also be in scope of the Contractor.

- POE (Power over Ethernet) Devices from respective ISPs for network integration of RTUs.

Cybersecurity & Network Design

- DMZ with Firewall before connecting to OIL's corporate firewall.
- Compliance with OIL Cyber Security Guidelines.
- Design emphasizes: Scalability for future expansion.
- Cybersecurity for data integrity and protection.
- Integration with existing infrastructure.

V. SURGE PROTECTION / LIGHTNING PROTECTION for all incoming and outgoing feeders of 33KV GIS,11KV AIS,415V AIS , Transformer HV/LV sides, on 33 KV /11 KV overhead Lines. The same shall be submitted during the drawing submission stage for approval from LIL's Engineer In-charge.

W. Area Development: Apart from area development and boundary works as specified in line item (associated civil works) which are mainly for newly installed E-House and 33kV GIS sub-station, the area of the existing 33kV outdoor OCS-2 SY shall also be developed and boundary wall to be constructed as following:

Area development surrounding existing OCS-2 switchyard:

Construction of boundary wall of the existing OCS-2 switchyard (shall be constructed at a suitable distance from the existing switchyard equipment) for prevention of trespassing to switchyard premises. The details scope of works includes:

I. The Boundary wall around the substation consists of brick wall (1.5-meter-high from MGL) and XPM Fencing (1.5 meter high). Foundation for wall shall be as per design requirement.

II. Erection & fixing of double leaf steel plated gate of suitable size with locking facility.

III. All the area between the fencing and substation building shall be made of Cement concrete work (75 mm thick & prop 1:3:6) over properly compacted/prepared sub grade. Earth filling if required is to be done at the proposed site by the contractor.

IV. Boundary wall has to be constructed around the substation building. 1.5 m high brick wall (230 mm, full brick wall) provided with 1.5 m high XPM (40 mm) properly welded all around to MS Tubes/Angles. RCC Posts have to be erected at the corners of the fenced area.

V. Walkway with one layer of brick soling, 100 Thick PCC (1:3:6) and neat cement plastered to be laid all around the building adjoining the walls with minimum width of walkway: 1000 mm.

VI. Painting of the wall shall be done by approved distemper shade & fencing shall be done with red oxide and aluminium paint.

Y. OTHER CONTRACTOR'S OBLIGATIONS:

I. Mandatory Training & Certifications (Minimum)

The Contractor shall, at its own cost, ensure that all personnel are trained and certified for their respective roles prior to mobilisation, and that such certifications remain valid for the entire contract duration, viz. (but not limited to):

a. General HSE Induction & Site-Specific Orientation (location rules, PTW, ERP, alarms, muster, hazard communication).

b. First Aid (valid certificate from DGMS-recognised centre for mines/oil-mine work).

c. Permit-to-Work (PTW) including isolation/LOTO and hot work; Fire safety & firefighting basics; Emergency Response drills.

d. Working at Height, Confined Space Entry, Lifting & Rigging/Scaffolding, Electrical Safety, PPE selection/use, Manual handling - as applicable to job role.

e. Medical Fitness as per statutory norms for mine/oil-field work; records to be available at site.

II. Records, Audit & Verification

a. The Contractor shall maintain individual training matrices, copies of valid certificates, attendance, and drill records; produce on demand.

b. Owner reserves the right to audit training records at any time; non-conformities shall be closed within defined timelines.

III. Mobilization Gate & Access Control

a. No mobilization without documentary proof of mandatory trainings/certifications as per the approved role matrix.

b. Site gate access may be denied or revoked for any personnel with lapsed/invalid training certificates.

IV. Subcontractor Flow-Down (If applicable)

Contractor shall impose these obligations on all subcontractors; Contractor remains fully responsible for compliance.

V. Enforcement & Commercial Levers

a. Right to stop work / remove personnel for non-compliance.

b. Withholding of payments for the period of non-compliance; repeated breaches may invite penalties and/or contract termination, without prejudice to other remedies.

c. Serious breaches affecting safety may trigger blacklisting as per OIL policy and applicable law.

VI. Costs

All costs of training, certification, refreshers, medical fitness and related logistics are to Contractor's account, deemed included in the contract price.

a. Owner Support (Non-Obligatory)

Wherever feasible, Owner may facilitate access to approved training centres (e.g., GVTC, DGMS-recognised First-Aid training centre, etc.) or share schedules for specialised courses. However, this does not dilute Contractor's obligations.

NOTE:

1. Design and layout of the cable trench/cable trays/buried cable/HDD works shall be submitted for prior approval from Engineer In-charge of OIL at least 30 days in advance from start of the work.

2. **REFERENCE STANDARDS:**

The metal-enclosed 33KV GIS Sw. gr. ,11KV AIS Sw. Gr. both, 0.415kv LT panel, Battery & Battery charger (110 V), DCDB & ACDB, Fire Fighting equipment, RTU (must one for the total setup), SCADA unit (must one for the total setup) and including all operating devices, accessories and auxiliary equipment forming integral part thereof, shall be designed, manufactured, assembled and tested in accordance with the relevant standards, specification and codes of practices, referred to herein and shall be the latest editions including all applicable official amendments and revisions as on the date of opening of bid.

4.01 For 33KV Gas-Insulated Switchgear switch gear:-

IEC 62271-200 AC metal-enclosed switchgear & control gear for rated voltage above 1 KV and up to and including 52 KV IEC 622271-1 High Voltage switchgear and controlgear-Part-1: Common specification

IEC 622271-100 High voltage Alternating current circuit breakers.

IEC 60694 Common clauses for high voltage switchgear and control gear standards

IEC 62271-103 High voltage switches for rated voltages above 1 KV and less than 52 KV.

IEC 60071 Insulation coordination

IEC 61128 Alternating current disconnectors bus transfer current switching by disconnectors

IEC 61129 Alternating current earthing switches-induced current switching

IEC 60265 High voltage switches

IEC 60137 Bushings for alternating voltages above 1000 V

IEC 60233 Tests for hollow insulators for use in electrical equipment

IEC 61259 Requirements for switching of bus charging current by GIS disconnectors

IEC 60059 IEC Standard current Rating

IEC 62271-102 A.C. disconnectors (isolators) and earthing switches for voltages above 1000 V

IEC 62271-207 Seismic qualification for gas -insulated switchgears assemblies for rated voltages above 52 KV

IEC 60376 New Sulphur Hexafluoride (SF6)

IEC 60480 Guidelines for checking and treatment of Sulphur Hexafluoride (SF6)

IEC 61633 High voltage Alternating Current Circuit Breakers-Guide for Short Circuit

and Switching Test-Procedure for Metal Enclosed and Dead tank Circuit Breaker.

IEC 61634 High voltage Switchgear and Control gear use and handling of SF6 in High voltage Switchgear and Control gear

IEC 61243-5 Voltage detection systems

IEC 60044-1 Current Transformers

IEC 60044-2 Potential transformers

IEC 62271-209 Cable connections for gas insulated switch gears

IS 5621:1980 Hollow Insulators for use in electrical equipment

IS:2544/1973 Porcelain Post Insulators

IS 8828/1996 MCB

IS 12063/1987 Degree of protection provided for enclosures for electrical equipment.

IS 5/2005 Colors for ready mixed paints and enamels.

IS 55781984 Marking of insulated conductor.

11353/1985 Guide for Uniform System of Marking and Identification of Conductors and Apparatus Terminals

IS 1248/2003 Indicating instruments.

IS 6875 amended up to date Control switches.

IS 3231/1986 & 87 amended up to date Electrical Relays for Power System Protection.

ANNEXURE-IV(a)

IEC 60255 amended up to date Numerical protection relays

IS 8686/1977 Static protective relays.

IS 4794/68 & 86 Push button.

IS:9385/1979 High Voltage Fuses

IS 9431/1979 Indoor post insulator of organic material

IEC 60529 / EN 60529 Protection against accidental contact, foreign Objects and water

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LT PANEL SPECIFICATIONS

OCS-2 LT PANEL

Scope: Design, engineering, manufacturing, testing, supply, installation and commissioning of 415 VAC, 50 Hz indoor type PCC LT panel complete with all materials, accessories and spares.

The panel shall be manufactured as per type tested design complying to relevant IS/IEC standards. Panel manufacturing shall commence only after the approval of all drawings by OIL's engineer.

SERVICE CONDITIONS:

Maximum Ambient air temperature: 50°C

Minimum Ambient air temperature: 0°C

Relative humidity: 95 %

Surrounding atmospheric condition: Humid

Site altitude : 121 m

APPLICABLE STANDARDS:

All components used in the manufacture of the Panels shall conform to the relevant IEC/BIS standard specification. A few of the standards are mentioned as follows:

IS/IEC 61439: Low-Voltage switchgear and control gear assemblies

IS/IEC 60947: Low-Voltage switchgear and control gear

IS/IEC 60529: Degrees of Protection Provided by Enclosures (IP Code)

IS/IEC 60127: Miniature Fuses

IS 2551: Danger Notice Plates

IS 15382/IEC 60664: Insulation co-ordination within low voltage system

IS 5: Color for ready mixed paints and enamel

GENERAL TECHNICAL REQUIREMENT

The LT switchboard panel shall comprise of following types of switchgears or combination thereof as specified:

Air Circuit breakers EDO type (IEC 61850 compliant)

Withdrawable MCCBs of suitable short circuit current ratings and MCCBs shall invariably be Current Limiting type with Double Break, Positive Isolation features & all protection features required.

The Panel shall be indoor type having incoming sectionalization and outgoing switchgears as specified. The design shall be cubicle type. Degree of enclosure protection shall be IP 54 or higher. The panel shall have inbuilt panel health monitoring (busbar temperature monitoring) with sensors and HMI Smoke & Early heating detection in the cable chamber. The LT panel shall broadly have the following compartments / sections:

Incomer section

Bus chamber

Outgoing section

Cable chamber / cable alley

Switchgear rating

Voltage : 415 V

Phase : 3Ph, 4 wire

Frequency : 50 Hz

Fault level : 50KA for 1 sec

Control Voltage Supply: AC 240/110 V, Single phase, 50 Hz

INCOMER SECTION

INCOMER AND BUS COUPLER

2 nos. 2500 Amps EDO Four Pole Air Circuit Breakers housed in a sheet steel enclosure and 1 no. bus coupler of 2500 Amps Air Circuit Breaker.

The incomer units shall be complete with brought out terminals of suitable rating and single compression cable gland suitable for 6 nos. x 3½ C x 240 mm², XLPE, Al cable provided on the bottom detachable gland plate. Suitably rated tinned copper lugs for all incoming cable connections shall be supplied with the brought-out terminals.

Note: For electrical safety, there shall be provision for LOTO (Lock Out Tag Out) in all the ACBs

INCOMING FEEDER INSTRUMENTS

Each incoming feeder/bus coupler shall comprise the following instruments in an instruments panel complete with all necessary interconnections, fine wiring and duly tested:

Three phase digital Multifunction meter with RS485 for modbus communication showing maximum, minimum and average value for voltage, current, frequency, power factor, KVA, KVAr, KWH, and KVArh and THD.

Voltage range: 0-500V,

Current range:0-2500 A,

Class of accuracy 0.5,

CT operated with 2500/5 CTs (15VA, 0.6kV, Class1)-Protection

CT operated with 2500/5 CTs (15VA, 0.6kV, Class1)-Measurement

Qty: 1 no. at each feeder

Suitably rated digital ammeter and voltmeter to be provided in the incomer feeders

Moulded HRC Fuse Holders with HRC Fuses/MCBs for control circuit protection.

LED Indication lights for 'Feeder ON', 'Feeder OFF' & 'TRIP

LED Indication lights for 'Phase Healthy' indication in R-Phase', 'Y-Phase' & 'B-Phase.

Auxiliary power supply of digital multifunction meter shall be 230V and shall be connected with separate HRC fuse/MCB system.

BUS CHAMBER

The bus chamber shall be sheet steel clad having front and rear bolted covers and shall consist of 1 set TP & N electrolytic grade, high conductivity Aluminium Bus Bars, conforming to relevant IS. Nominal current rating of bus bar sections shall be 2500 amps, suitable for 415 V AC, 50 Hz system. Neutral bar shall be of same size as phase bus. The bus-bar shall be insulated with heat shrinkable PVC sleeves of make Raychem RPG or equivalent and shall be supported at required intervals with non- hygroscopic, non-deteriorating, and non-inflammable SMC / FRP supports having adequate mechanical strength and a high tracking resistance, to withstand short circuit fault levels up to 50kA for 1 sec. All risers and connections from bus bar shall be done with same material as the main bus bars of current rating as per rating of individual cubicle switch. To suit the stringent site conditions, the bus bar system shall be designed with generous clearance between phases than specified in the standards. Adequate non-hygroscopic insulating sheet barriers between the bus chambers and feeders shall be provided.

The manufacturer of the panel must have type test certificate for similar type panel of fault level 50kA. A copy of the test certificate shall be enclosed with the offer. The test certificate shall not be more than 05 years older than the bid closing date.

OUTGOING FEEDER:

Three (3) nos. of, 1600 Amps EDO Four Pole Air Circuit Breakers, 03 numbers 630A withdrawable type MCCB, 3 numbers 400A withdrawable type MCCBS, housed in a sheet steel enclosure.

The outgoing units shall be complete with brought out terminals of suitable rating and single compression cable gland suitable numbers of 3½ C x 240 mm², XLPE, Al cable provided on the bottom detachable gland plate. Suitably rated tinned copper lugs for all incoming cable connections shall be supplied with the brought-out terminals.

Note: There shall be provision for LOTO (Lock Out Tag Out) in all the ACBs

OUTGOING FEEDER INSTRUMENT

Each incoming feeder/bus coupler shall comprise the following instruments in an

instruments panel complete with all necessary interconnections, fine wiring and duly

tested: Three phase digital Multifunction meter with RS485 for modbus communication showing maximum, minimum and average value for voltage, current, frequency, power factor, KVA, KVAr, KWH, and KVArh and THD.

Voltage range: 0-500V,

Current range:0-1600 A, 0-630 A, 0-400 A,

Class of accuracy 0.5,

CT operated with 1600/5, 630/5, 400/5 CTs (15VA, 0.6kV, Class1/SP class) both for protection and metering

Qty: 1 no. at each feeder

Suitably rated digital ammeter and voltmeter to be provided in the incomer feeders

Moulded HRC Fuse Holders with HRC Fuses/MCBs for control circuit protection.

LED Indication lights for 'Feeder ON', 'Feeder OFF' & 'TRIP

LED Indication lights for 'Phase Healthy' indication in R-Phase', 'Y-Phase' & 'B-Phase.

Auxiliary power supply of digital multifunction meter shall be 230V and shall be connected with separate HRC fuse/MCB system.

Three (3) nos. of feeder, 630 Amps MCCB of breaking capacity min 36kA with adjustable Overload protection, Short Circuit protection & EF protection through inbuilt electronic trip unit in MCCB.

Three (3) nos. of feeder, 400 Amps MCCB of breaking capacity min 36 kA with adjustable OL protection, Short Circuit protection & EF protection through inbuilt electronic trip unit in MCCB.

Note: There shall be provision for LOTO (Lock Out Tag Out) in all the ACBs and MCCBs.

INSTRUMENTS IN FEEDER PANELS

Each outgoing feeder shall comprise the following instruments in an instruments panel complete with all necessary interconnections, fine wiring and duly tested:

Three phase digital Multifunction meter with RS485 for Modbus communication showing maximum, minimum and average value for voltage, current, frequency, power factor, KVA, KVAr, KWH, and KVArh and THD, CT operated with CT ratio 1000/5, 600/5, 200/5, and 100/5 respectively (of burden 10VA).

Moulded HRC Fuse Holders with HRC Fuses/MCBs for control circuit protection.

LED type Indication Lamps for #Feeder ON' indication in Red and #Feeder OFF' indication in Green colour.

Auxiliary power supply of digital multifunction meter shall be 230V and shall be connected with separate HRC fuse and link system.

CABLE CHAMBER / CABLE ALLEY

Suitable cable chamber/cable alleys shall be provided in between sections of the panel with brought out terminals to drive the cables. Supports as required shall be provided along the cable alleys for supporting the cables / wires.

GENERAL SPECIFICATIONS OF AIR CIRCUIT BREAKERS

Technical Specifications:

The air circuit breakers shall comply with the following specifications:

Type: Indoor, horizontal isolation, horizontal draw out type.

Mounting: In cassette type enclosure

Insulation Medium: Air.

Rated operational voltage of circuit Breaker: 415 V

Rated insulation voltage: 1000 V.

System earthing: Effectively earthed.

No of poles: Four.

Rated frequency: 50 Hz

Rated current: 2500 A for Bus Coupler; 2500 A for incomers; 1600A for outgoing feeders

Rated making current: 125 kA

Rated short time with stand capacity: 50 kA for 1 sec at 415V.

Ultimate rated breaking capacity: 50 kA at 415 V

Spring Charging: Motorized as well as manual (for ACB)

Method of closing: Through closing coil as well as Manual.

Closing coil voltage: 230 V AC

Method of tripping: Shunt trip coil voltage: 230 V AC

Auxiliary Switch: 4NO+4NC.

Mechanical indication:

Breaker ON / OFF

Position SERVICE / TEST / ISOLATED

Spring CHARGED/DISCHARGED

The air circuit breaker shall be equipped with Microprocessor based protection release with minimum following features:

Overload protection

Short circuit protection

Earth fault.

GENERAL REQUIREMENTS

The circuit breaker shall conform to the latest edition of IS/IEC 60947.

The circuit breakers shall be with air as insulating medium and shall comprise of four independent poles. Each pole of a breaker shall constitute a separate breaking chamber. These four breaking chambers shall be mounted to a common chassis and connected for operating by a common operating mechanism.

Main contact material shall be of copper alloy with silver facing and shall have ample contact area and contact pressure for carrying rated normal / short time currents and shall be adequate to keep temperature rise within limits.

Working parts of operating mechanism shall be of corrosion resisting materials.

Bearings, which require grease, shall be equipped with pressure type grease fittings.

Bearings, pins, bolts, nuts etc. shall be adequately pinned or locked to prevent loosening or changing adjustments with repeated operation of the breaker.

The ACBs shall be supplied completely with enclosures as may be necessary.

The enclosure shall not be liable to distortion and misalignment.

The formed and welded steel construction shall be given corrosion resistant treatment following fabrication work. The enclosure / cubicle and doors shall be finished with stove enamel paint.

The breakers shall have three distinct positions - SERVICE / TEST / ISOLATED, within the cubicle and this shall be achieved by suitable racking cam and slide rails system operated from the front of the equipment. Visual indicators shall be provided to show these three positions.

A suitable stopping arrangement shall be provided on the guide rails to prevent accidental falling of the breaker while withdrawing the moving portion. Safety shutter assembly shall be provided for shrouding of the main contacts when the breaker is withdrawn. This must operate automatically during insertion and withdrawal of the circuit breakers.

OPERATING MECHANISM

There shall be provision for manual as well as motorized spring charging. Closing shall be through 230 V AC closing coil. Provision for manually closing the breaker shall also be there. It shall be ensured for each breaker that it closes at the correct speed.

A direct mechanical coupling shall give indication of ACB ON or OFF.

A shunt release shall be provided for electrical tripping of the breaker. SC Power required for the purpose power packs/ battery bank already earmarked for the project.

Contactor shall ensure correct wiring to facilitate tripping of the breaker.

CONTROL CIRCUIT

Control wiring shall be done with single core, PVC insulated and PVC sheathed FRLS

Cables with copper conductor wires of 1100V grade and suitable size (minimum 1.5 sq.

mm). CT wiring shall be done with single core, 2.5 Sq.mm, PVC insulated, and PVC sheathed

FRLS Cables with copper conductor wires of 1100V grade.

Suitable lugs shall be used for termination and all wires shall be numbered with ferrules, as per drawings.

INTERLOCKS

The following minimum safety interlocks shall be provided.

- The breaker cannot be closed in any intermediate position other than three distinct positions: SERVICE / TEST / ISOLATED.
- The front door / cover cannot be opened when the circuit breaker is in closed condition.
- The moving portion of the breaker shall be earthed before the main circuit breaker controls are plugged in the stationary contacts i.e. before the control circuit is completed.
- Earthing of the circuit breaker shall be maintained in the connected position.
- Anti pumping feature shall be provided for each breaker.
- The goods/equipment shall be of the best quality and workmanship.

GENERAL CONSTRUCTION

The PCC shall be floor mounted, freestanding, totally enclosed and extensible type. The PCC should be dust & vermin proof and shall be suitable for the climate conditions as specified. The design shall include all provisions for the safety of operation and maintenance personnel. The general construction shall conform to IS/IEC 61439 for factory assembled switchboard. Cubicle type panels shall be fabricated out of sheet steel not less than 2.0 mm thick.

Wherever necessary, such sheet steel members shall be stiffened by angle iron

framework. General construction shall employ the principle of compartmentalization and segregation for each circuit.

Unless otherwise approved, incomer and bus section panels or sections shall be separate and independent and shall not be mixed with sections required for each feeder.

Each section of the rear accessible type of panel shall have hinged access doors at the rear.

Overall height of the panel shall not exceed 1.9 meters.

Operating levers, handle etc. of highest unit shall not be higher than 1.5 meters. Multi-tier mounting of feeder is permissible.

The general arrangement for multi-tier construction shall be such that the horizontal tiers formed present a pleasing and aesthetic look. The general arrangement shall be approved before fabrication.

Cable entries for various feeders shall be bottom through cable alleys located in between two circuit sections, either in the rear or in the front of the panel. All cable terminations shall be through detachable gland plates.

There shall be separate detachable gland plate for each cable entry so that there will not be dislocation of already wired circuits when new feeders are added. Cable entry plates shall therefore be sectionalized. The construction shall include necessary cable supports for clamping the cable in the cable alley or rear cable chamber.

Cubicle panels with more than 1000 Amps bus shall be made of tested structural modular sections.

Panel shall be indoor, cubicle type with provision of extension of panels in future and

Panel shall be built on Self- supporting, floor mounting, rigid framework.

The maximum size of the panel board shall not be more than 4000mm (L) x 2000mm (B) x 2200mm (H).

Bottom detachable gland plates made from 3.0mm thick MS sheet shall be provided for all cable entries. Height of bottom detachable gland plate shall be 450 mm from floor level.

The entire metal work shall be treated with minimum nine tank anti-rust treatment and then powder coated in the colour RAL 7032/7035/9002/9003.

Non-deteriorating Neoprene rubber gaskets shall be provided between all joints and

Panel shall be designed for Ambient of 50°C (Max)/ 0°C (Min) and Humidity-95%.

All feeders shall be suitable for operation from front side and shall have provision of

inspection from backside and all panel doors shall be provided with single turn latches for opening / closing.

Internal barriers shall be provided between cubicles to provide Form-2 separation as per IEC 61439 to prevent transmission of flashover from one panel to other panels. Danger plates shall be fitted on front and back of the panel and Legend plates of the feeders shall be provided in the front as well as at back of each feeder.

Adequate nos. of lifting lugs shall be provided on top and Ventilation louvers shall be

guarded with wire mesh.

Internal earthing shall be provided for all equipment having earthing terminal and panel doors with suitably rated, PVC insulated, flexible copper earth wires or copper braids of suitable rating as per IS.

Earthing bus shall be provided at bottom of the panel. Earthing Bus shall be made of 50x5 mm GI straps with 80-micron galvanization thickness. Brought out studs shall be provided on two sides complete with suitably sized double nuts and spring washers.

Earth bus shall have holes drilled for connection with main earth electrodes and earth cable/ strap of outgoing feeders. All feeders shall be adequately connected to the earth bus.

Legend "LT POWER CONTROL CENTRE (415V)" shall be provided at the top centre.

OTHERS & ALSO AT BACK SIDE OF THE PANEL.

All main riser connections shall be done by suitably sized and rated Aluminium links or Aluminium cables as recommended by the switch manufacturer. In case of cables, terminations at both ends shall be done through suitably rated tinned Aluminium lugs.

Brought out terminals of suitable rating (as per rating of the feeder) shall be provided for all cable terminations of incoming / outgoing feeder units.

Suitably rated tinned Aluminium crimping lugs for each conductor of all outgoing cable connections shall be supplied with the brought-out terminals including terminals for remote push buttons.

All cable entries shall be from bottom. Suitable cable entry arrangement with detachable gland plates shall be provided. Adequate nos. of single compression heavy-duty nickel-plated brass cable glands suitable for XLPE, 4C, Al cable shall be provided on the bottom detachable gland plate. Adequate nos. of glands shall also be provided for circuits to be fed from DBs.

Sufficient space shall be provided for cable termination, dressing and connecting cable leads to the brought-out terminals.

All feeders shall have Moulded fuse holders, suitably fused, for control & instrument circuits. Legend plates for the indication lamps, meters, control switches / buttons and labels for the terminals shall be provided.

NAME PLATE

Please refer the general document to NIT in this regard.

Panel shall be furnished with a non-corrosive diagrammatic name plate permanently

attached with non-corrosive hardware with following information:

Manufacturer's Name

OIL's Purchase Order No. & date

Manufacturer's Serial Number

Year of Manufacture

Rated Voltage Rating

No. of circuits (incoming & outgoing)

Rated Current of incoming circuit.

Rated Current of outgoing circuit.

Degree of protection

All feeders shall have engraved designated nameplates.

The LT panel shall be provided with a durable, tamper-proof QR code affixed on the front face in a visible location. This QR code shall link to a secure cloud folder containing key documents, including the GA drawing, SLD, wiring diagrams, test reports, nameplate details etc. The QR code must be scannable using standard mobile devices and remain accessible throughout the panel's life.

SPARES

Please refer the SPARE list page (attached).

COMPLETENESS OF EQUIPMENT

All fittings and accessories, which may not be specifically mentioned in the specification, but which are necessary for the satisfactory operation of the panel, shall be deemed to be included in the specification and shall be furnished by the supplier without extra charges. The equipment shall be complete in all details whether such details are mentioned in the specification or not, without any financial liability to the buyer under any circumstances.

INSPECTION AND TESTING

100% panels shall be offered for pre-dispatch inspection (PDI) by OIL engineer (witness of all routine tests, functioning of auxiliary equipment, dimension check and any other tests as per OEM's QAP).

Supplier/OEM will intimate OIL for inspection prior to 15 days of schedule date. Panels and all testing facilities should be kept ready before intimation for inspection.

Panels will be cleared for dispatch from OEM's workshop only after clearance from OIL's engineer.

All instruments used during PDI shall have valid calibration certificates from NABL/ILAC accredited labs or central govt. approved labs. Expired or uncertified instruments shall not be permitted, and any tests conducted with such equipment shall be repeated at the supplier's cost.

A copy of calibration certificates shall be submitted prior to PDI.

DELIVERY

The full quantity of the equipment shall be delivered as per the delivery schedule mentioned In the NIT.

Installation, Testing and Commissioning of PCC Panel:

COMMISSIONING

Bidder shall have to assemble, test and successfully commission the entire PCC Panel at Oil India's designated E-House and the E-House also is under the scope of supply and I&C of the bidder.

Assembly, testing and commissioning of the PCC Panels includes the following:

- Assembly, installation and fixing of the panels at the E-House.

- Carrying out pre-commissioning checks, as detailed in part "B" below

- Fixing of required number earth electrodes

- Checking individual and combined earth resistance

- Making necessary earth connection from Panel to earth electrodes

- Termination of incoming cable at Panel with proper size of gland and lugs

- Handing over all drawings, documents and reports as specified in "Drawing / document submission" for PCC panel.

PRE-COMMISSIONING CHECKS

After completion of installation of the PCC Panel at the specified site, prior to energizing, the following minimum checks and tests shall be carried out:

- Assembly, check as per manufacturer's drawings and instructions.

- Physical inspection for damages, external defects and remedial actions, if any.

- Check for proper fixing on foundation, levelling and tightness of foundation bolts.

- Check for proper tightness of Panel & its control devices, accessories, cables and earth connections.

- Check for proper movement of trolleys (for all equipment fitted with trolleys)

- Check meters, if any.

EARTHING

As part of commissioning, bidder shall supply the following earthing equipment/material/accessories:

- GI earth straps of 50mm width for interconnection to the existing earthing grid - Qty as per layout / requirement.

Bidder shall arrange for connecting the grid as per design.

Value of earth resistance shall be equal to or less than 1.0 Ohms (IS 3043) when all the earth electrodes are connected together.

COMMISSIONING

The Contractor shall confirm that the jobs shall be carried out under the direct supervision of an Engineer/an electrical supervisor holding a valid Electrical Supervisor's Certificate of Competency. The copy of certificate of competency should be submitted prior to the commencement of the commissioning jobs.

The Contractor has to ensure that unloading, unboxing, assembly, installation and commissioning of the panel at site shall be done only under the supervision of OEM's representative/expert and they shall be present all throughout until successful commissioning.

~~*The Contractor shall ensure that unloading, unboxing, assembly, installation, testing, and commissioning of the panels at site are carried out only under the direct supervision of OEM payroll engineers (experts). Such OEM engineers shall remain present at site throughout the execution of these activities until successful commissioning and acceptance of the system."*~~

~~These additions are recommended to ensure OEM accountability, quality assurance during execution, and successful commissioning and handover of the E-House package.~~

The Contractor shall obtain permit to work from OIL's Engineer-in-charge before taking up commissioning works.

All safety procedures like SOP, JSA, toolbox talk to be carried out while executing the job. The testing & commissioning work should be performed using equipment/tools designed and approved for the purpose. The Contractor shall arrange all the related equipment, tools, tackles & instruments for testing & commissioning of the equipment. All testing and measuring instruments must be duly calibrated and valid calibration certificates shall be submitted to OIL for verification.

Testing & Commissioning of PCC Panel shall be carried out by specialist /engineer from OEM/manufacturer. All pre-commissioning testing of PCC Panel are required to be carried out by bidder at site before energizing the Panel.

The commissioning of the PCC Panel shall be considered as complete only after the successful charging of the Panels, and submission of the test and commissioning records, operating & maintenance manuals, spares list of the PCC Panel etc. to Oil India Limited.

The Contractor shall arrange, at their own cost, a one-day on-site technical walkthrough and Demonstration/training session on the operation and maintenance

of the panel and its associated accessories. The demonstration shall be conducted by an OEM expert.

Please note that whenever any reference to Indian Standard/International Standard is made in the above requirements / specifications, it shall be taken to mean the latest version, iteration or revision of the standard.

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ANNEXURE-IV(C)

TECHNICAL SPECIFICATION OF THE SAFETY ITEMS

The following safety items are to be supplied by the contractor:

Sl No.	Safety Items	Unit	Quantity
1	33 kV Danger Boards	each	10
2	11 kV Danger Board	each	10
3	LT Danger Board	each	10
4	Chequered Sheet of 8 mm thickness for covering cable trenches in substation	Kg	100
5	2.5 mm Insulating mat	Sqm	30
6	2 mm Insulating mat	Sqm	20
7	DCP fire extinguisher	each	4
8	Sand bucket with sand and stand	each	1
9	First Aid box	each	2
10	Shock treatment Chart	each	2
11	Safety Instruction Chart	each	2
12	SLD and Earthing layout	each	2

1. 33 kV Danger Boards:

Caution Board, 33000 volts, with white skull and cross bones and per IS 2551:1982 with its latest amendments.

2. 11 kV Danger Board:

Caution Board, 11000 volts, with white skull and cross bones and per IS 2551:1982 with its latest amendments.

3. LT Danger Board

Caution Board, 415 volts, with white skull and cross bones and per IS 2551:1982 with its latest amendments.

4. Chequered Sheet of 8 mm thickness for covering cable trenches in substation

MS chequered sheet of 8 mm thickness with the following specifications:

(A) The chequered sheet shall adhere to IS 2062: 2011 with latest amendments,

(B) Serrated flooring should be made of mild steel.

(C) Steel Serrated Flooring Slip Proof of 100 mm pitch of twisted cross bars of size 8 mm and 40 mm pitch of load bearing bars of size 25 mm x 5mm.

(D) Grating manufactured with ARC Welding process with no slag & should have homogenous appearance on weld joints.

(E) All Grating to be painted with a coat of red oxide and additional coat of black synthetic enamel paint.

(F) Iron strap shall be cut with perfect die.

5. 2.5 mm Insulating mat

The detailed technical specification of the item shall be as per following:

(A) APPLICATION:

The Insulating mat shall be suitable for use in Electrical substations, switch rooms, transformer rooms, electrical control rooms, LT &HT labs etc. up to 33 KV voltage level.

(B) FEATURES OF THE INSULATING MAT:

The Insulating mat shall have the following features:

I. It shall be manufactured as per IS: 15652-2006 with latest amendments, by manufacturers having valid BIS license for this item and shall be ISI marked.

II. It shall be Moisture proof, fire retardant, resistant to mineral oil, salty water, transformer oil, alkalis, acids, diesel, petrol, kerosene, crude oil.

III. It shall be long lasting, permanently fixable/pastable type for easy installation.

(C) COMPOSITION & CONSTRUCTION OF THE INSULATING MAT:

The Insulating mat shall be made from highly electrical resistant elastomeric material free from any insertions. Upper surface of the insulating mats shall have anti-skid small aberrations to avoid slipperiness while the lower surface shall be plain and finished slip resistant without affecting the dielectric properties of the mat.

(D) SIZE & COLOUR OF THE INSULATING MAT:

The Insulating mat shall be supplied in roll and each roll of the Insulating mat shall be 2.5 mm thick (±10% tolerance) and 1000 mm width. The available colour of the mats shall be specified by the contractor. No metallic derivative colour shall be acceptable.

(E) MARKING: Each roll shall be marked with the following:

a. Class of mat

b. 'ISI' mark

c. Manufacturer's identification mark/Trademark

(F) TESTS AND TEST CERTIFICATE:

I. The contractor shall submit test certificate prior to supply for approval from OIL.

6. 2 mm Insulating mat

The detailed technical specification of the item shall be as per following:

(A) APPLICATION:

The Insulating mat shall be suitable for use in Electrical substations, switch rooms, transformer rooms, electrical control rooms, LT &HT labs etc. up to 3.3 KV voltage level.

(B) FEATURES OF THE INSULATING MAT:

The Insulating mat shall have the following features:

I. It shall be manufactured as per IS: 15652-2006 with latest amendments, by manufacturers having valid BIS license for this item and shall be ISI marked.

II. It shall be moisture proof, fire retardant, resistant to mineral oil, salty water, transformer oil, alkalis, acids, diesel, petrol, kerosene, crude oil.

III. It shall be long lasting, permanently fixable/pastable for easy installation.

(C) COMPOSITION & CONSTRUCTION OF THE INSULATING MAT:

The Insulating mat shall be made from highly electrical resistant elastomeric material free from any insertions. Upper surface of the insulating mats shall have anti-skid small aberrations to avoid slipperiness while the lower surface shall be plain and finished slip resistant without affecting the dielectric properties of the mat.

(D) SIZE & COLOUR OF THE INSULATING MAT:

The Insulating mat shall be supplied in rolls. Each roll of the Insulating mat shall be 2.0 mm thick (±10% tolerance) and 1000 mm width. The available colour of the mats shall be specified by the contractor. No metallic derivative colour shall be acceptable.

(E) MARKING: Each roll shall be marked with the following:

a. Class of mat

b. 'ISI' mark

c. Manufacturer's identification mark/Trademark

(F) TESTS AND TEST CERTIFICATE:

I. The contractor shall submit test certificate prior to supply for approval from OIL.

7. DCP fire extinguisher

Specification for 9Kg DCP Fire Extinguisher (Stored Pressure)

(A) Technical Specification:

a. General:

I. Standard code conforming to IS-15683 (with latest amendments)

II. Type: Wall Mounted

III. Capacity: 9Kg (Portable Stored Pressure Type)

IV. Fire Rating: 233B

V. Temperature Range: -10# to +60# (Degree Celsius)

VI. Operating Pressure: 14-15 Bar

VII. Classification: Suitable for Class-A, Class-B, Class-C and Electrical Fires

VIII. Burst Pressure: Minimum 55 bar (As per Clause No. 6.2 of IS-15683)

IX. The extinguisher shall be fitted with safety valve which shall release at a pressure of 17 Kg/cm2.

X. The extinguisher shall be fitted with pressure gauge with NRV.

b. Extinguishing Media:

I. Dry Chemical Powder "Mono Ammonium Phosphate" (min 90 % of total composition of the chemicals) based ISI marked Dry Chemical Powder confirming to IS: 4308 (latest revision).

II. DCP shall be compatible with all types of fire-fighting foam compounds.

c. Painting:

Extinguisher shall be painted with "Fire Red" colour conforming to shade No. 536 of IS-5 (latest).

d. Test Requirements: (As per IS-15683: 2018 or latest):

All relevant test certificates as per applicable IS to be submitted along with fire extinguishers.

8. Sand bucket with sand and sand

Providing of set of 4 Nos. 9.5 Litre capacity GI bucket painted in post office red colour with prior coat of red oxide paint and written with white paint 'FIRE' and mounted on MS angle iron frame with bracket of appropriate size & capacity I/c filling sand etc.

9. First Aid Box

Items/Medicines to be included in the First Aid Box:

Sl No.	**Item Name**	**Min Qty**	**Usage**
1	BETADINE/WOKADINE SOLUTION/EQUIVALENT	200ML	EXTERNAL APPLICATION ON WOUNDS AND CUTS
2	EMFOGEN/MILFLOX/CIPLOX EYE DROP/EQUIVALENT	10ML	FOR EYES
3	FUSIWAL OINTMENT/EQUIVALENT	1 TUBE	EXTERNAL APPLICATION ON WOUNDS AND CUTS
4	TAB CALPOL/PYRIGESIC/P 500/EQUIVALENT	STRIP OF 30	FOR FEVER/HEADACHE/PAIN
5	SILVEREX/SOFRAMYCIN OINTMENT/EQUIVALENT	1 TUBE	EXTERNAL APPLICATION ON WOUNDS AND BURNS
6	GAUZE	Q.S(2)	FOR DRESSING PURPOSE
7	COTTON	Q.S(6)	DO
8	ROLLER BANDAGE	1 ROLL	DO
9	BLADE	10 NOS	DO
10	SAFETY PIN	1 BUNCH	DO
11	ADHESIVE PLASTER	BIG SIZE 1 ROLL	DO
12	TRIANGULAR BANDAGE	1 PACKET	DO
13	TORNIQUET TUBE	2 NOS	DO
14	SCISSOR (SMALL SIZE)	1 NO.	DO
15	CREP BANDAGE	1 NO.	PHYSICAL INJURY

16	BANDAID	12 NOS	EXTERNAL APPLICATION ON WOUNDS AND BURNS

10. Shock treatment Chart

Supply & fixing shock treatment chart both in Hindi and English and with local language for treating person suffering due to electric shock. Mounted on wall. It should be in a wooden/poly frame with 5mm thick glass, complete as reqd. (approximate front area 1.20sq. metre)

11. Safety Instruction Chart

Supply of safety instruction chart in word duly framed with 5mm thick glass complete as reqd. (approx. Front area 1.20 sq. mt.)

12. SLD and Earthing layout

Supply & fixing SLD and Earthing layout in two separate frames. Mounted on wall. It should be in a wooden frame with 5mm thick glass, complete as reqd. (approximate front area 1.20sq. metre each)

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TECHNICAL SPECIFICATIONS OF 5 MVA 33KV/11KV TRANSFORMER.

1. Scope:

This Specification provides for design, engineering, manufacture, assembly, inspection and testing before dispatch, packing and delivery at destination with oil filled condition, Installation and commissioning at site with off load tap switch, complete with all fittings, accessories, associated equipment spares, supply of 20% extra Transformer Oil required for its satisfactory operation in OIL's switchyard.

OEM's representative shall supervise the installation, and commissioning of the transformer at site. Transformer manufacturing shall commence only after approval of drawing by OIL's Engineer In-Charge. Provision should be kept in the transformer tank for implementation of Nitrogen Injected fire protection and suppression system.

Further, the transformer shall be procured from a source with OEM having valid NABL/CPRI certification. **The certificate with the make as specified during the bidding stage shall be submitted by the bidder along with the bid, failing which the bid may be rejected**. And the associated equipment shall have to be submitted during the execution phase.

2. System Conditions:

The equipment shall be suitable for installation & successful operation in the following system condition.

2.1 Parameter Data

Frequency: 50 Hz (+/-) 5%

Nominal System Voltages, Primary Side: 33 kV Nominal System Voltages, Secondary Side: 11 kV Maximum System Voltage, Primary Side: 36 kV Maximum System Voltage, Secondary Side: 12 kV

Nominal Short circuit Level, Primary Side (33 kV): 31.5 kA Nominal Short circuit Level, Secondary Side (11 kV): 25 kA

2.2 Site Conditions:

Altitude: 121m

Maximum Temperature: 500 C Minimum Temperature: 100 C

Relative Humidity: 40-95%

3. Codes & Standards:

The design, material, fabrication, manufacture, inspection, testing before dispatch and performance of power transformers at site shall comply with all currently applicable statutory regulations and safety codes in the locality where the equipment will be installed. The equipment shall also conform to the latest applicable standards and codes of practice.

Nothing in this specification shall be construed to relieve the contractor of this responsibility.

The equipment and materials covered by this specification shall conform to the latest

applicable provision of the following standards.

IS:5 Colour for ready mixed paints

IS:335 Three Phase Induction Motors

IS:1271 Classification of insulating materials for electrical machinery and apparatus in relation to their stability in services

IS:2026(Part I to IV) Power transformer

IS:2071 Method of high voltage testing

IS:2099 High voltage porcelain bushings

IS:2147 Degree of protection

IS:2705 Current Transformers

IS:3202 Code of practice for climate proofing of electrical equipment

IS:3347 Dimensions for porcelain Transformer Bushings

IS:3637 Gas operated relays

IS:3639 Fittings and accessories for power Transformers

IS:5561 Electric Power Connectors

IS:6600 Guide for loading of oil immersed Transformers

IS:10028 Code of practice for selection, installation and maintenance of transformers, Part I. II and III

C.B.I.P. Publication Manual on Transformers

If the standard is not quoted for any item, it shall be presumed that the latest version of Indian Standard shall be applicable to that item.

The equipment complying other internationally accepted standards, may also be considered if they ensure performance superior to the Indian Standards.

4. General Construction Feature:

a. All material used shall be of best quality and of the class most suitable for working under the conditions specified and shall withstand the variations of temperature and atmospheric conditions without distortion or deterioration or the setting up of undue stresses which may impair suitability of the various parts for the work which they have to perform.

b. Similar parts particularly removable ones shall be interchangeable.

c. Pipes and pipe fittings, screws, studs, nuts and bolts used for external connections shall be as per the relevant standards. Steel bolts and nuts exposed to atmosphere shall be galvanized.

d. Nuts, bolts and pins used inside the transformers and tap changer compartments shall be provided with lock washer or locknuts.

e. Exposed parts shall not have pockets where water ingress is possible.

f. Internal design of transformer shall ensure that air is not trapped in any location.

g. Material in contact with oil shall be such that the same shall as not to contribute to the formation of acid in oil. Surface in contact with oil shall not be galvanized or cadmium plated.

h. Labels, indelibly marked, shall be provided for all identifiable accessories like Relays, switches current transformers etc. All label plates shall be of in corrodible material.

i. All internal connections and fastenings shall be capable of operating under overloads, over- excitation & faults allowed as per specified stands without injury.

j. Transformer and accessories shall be designed to facilitate proper operation, inspection, maintenance and repairs.

k. No patching, plugging, shimming or other such means of overcoming defects, discrepancies or errors will be accepted.

4.1 Tank:

a) The Transformer tank and cover shall be fabricated from high grade low carbon

plate steel of tested quality. The tank and the cover shall be of welded construction.

b) Tank shall be designed to permit lifting by crane or jacks of the complete transformer assembly filed with oil. Suitable lugs and bossed shall be provided for this purpose.

c) All breams, flanges, lifting lugs, braces and permanent parts attached to the tank

shall be welded and where practicable, they shall be double welded.

d) The main tank body of the transformer, excluding tap changing compartments and radiators, shall be capable of withstanding maximum pressure developed during any fault inside the transformer.

e) Inspection hole(s) with welded flange(s) and bolted cover(s) shall be provided on the tank cover. The inspection hole(s) shall be of sufficient size to afford easy access to the lower ends of the bushings, terminals etc.

f) Gaskets of nitrile rubber or equivalent shall be used to ensure perfect oil tightness.

All gaskets shall be closed design (without open ends) and shall be of one piece only.

Rubber gaskets used for flange type connections of the various oil compartments shall be laid in grooves or in groove-equivalent sections on bolt sides of the gasket,

throughout their total length. Care shall be taken to secure uniformly distributed

mechanical strength over the gaskets and retains throughout the total length. Gaskets of neoprene and / or any kind of impregnated / bonded core or cork only which can easily be damaged by over-pressing are not acceptable. Use of hemp as gasket material is also not acceptable.

g) Suitable guides shall be provided for positioning the various parts during assemble

or dismantling. Adequate space shall be provided between the cores and windings and the bottom of the tank for collection of any sediment.

4.2 Tank Cover:

The transformer top shall be provided with a detachable tank cover with bolted flanged gasket joint. Lifting lugs shall be provided for removing the cover. The surface of the cover shall be suitable sloped so that it does not retain rainwater.

4.3 Core:

a) The core shall be constructed from high grade, non-aging Cold Rolled Grain Oriented (CRGO) silicon steel laminations conforming to M-4 grade with lamination.

b) Laminations of different grade(s) and different thickness(s) are not allowed to be used in any manner or under any circumstances. The core shall have magnate coating as insulation. The assembled core shall be securely clamped on the limbs and yoke with uniform pressure to minimize noise emission. The insulation structure for the core to bolts and core to clamp plates shall be such as to withstand a voltage of 200V at 50Hz for 1min. Each lamination shall be insulated such that it will not deteriorate due to mechanical pressure and the action of hot transformer oil.

c) The laminations shall be free of all burrs and sharp projections. Each sheet shall have an insulting coating resistant to the action of hot oil.

d) All steel sections used for supporting the core shall be thoroughly shot or sand blasted, after cutting, drilling and welding.

e) The finally assembled core with all the clamping structures shall be free from deformation and shall not vibrate during operation.

f) The core clamping structure shall be designed to minimize eddy current loss.

g) The framework and clamping arrangements shall be securely earthed.

h) The core shall be carefully assembled and rigidly clamped to ensure adequate mechanical strength.

i) The design of magnetic circuit shall be such as to avoid static discharges, development of short circuit paths within itself or to the earth clamping structure or any undesired phenomenon which may cause local heating. The supporting framework of the cores shall be so designed as to avoid the presence of pockets, which would prevent complete emptying of the tank through the drain valve or cause trapping of air during filling.

j) The core shall be provided with lugs suitable for lifting the complete core and coil assembly. The core and coil assemble shall be so fixed in the tank that shifting will not occur during transport or short circuits.

k) The temperature gradient between core & surrounding oil shall be maintained less than 20 deg. Centigrade. The manufacturer shall demonstrate this either through test (procedure to be mutually agreed) or by calculation.

4.4 Winding:

a) Winding shall be subjected to a shrinking and seasoning process, so that no further shrinkage occurs during service. Adjustable devices shall be provided for taking up possible shrinkage in service.

b) All low voltage windings for use in the circular coil concentric winding shall be wound on a performed insulating cylinder for mechanical protection of the winding in handling

and placing around the core.

c) Winding shall not contain sharp bends which might damage the insulation or produce high dielectric stresses. No strip conductor wound on edge shall have width exceeding six times the thickness.

d) Materials used in the insulation and assembly of the windings shall be insoluble, non- catalytic and chemically inactive in the hot transformer oil and shall not soften or the otherwise affected under the operating conditions. Class-A type insulation shall be used.

e) Varnish application on coil windings may be given only for mechanical protection and not for improvement in dielectric properties. In no case varnish or other adhesive, be used which will seal the coil and prevent evacuation of air and moisture and impregnation by oil.

f) Winding and connections shall be braced to withstand shocks during transport or short circuit.

g) Permanent current carrying joints in the windings and leads shall be welded or brazed. Clamping bolts for current carrying parts inside oil shall be made of oil resistant material which shall not be affected by acidity in the oil steel bolts, if used, shall be suitably treated.

h) Terminals of all windings shall be brought out of the tank through bushings for external connections.

i) The completed core and coil assembly shall be dried in vacuum and shall be immediately impregnated with oil after the drying process to ensure the elimination of air and moisture within the insulation. Vacuum may be applied in either vacuum over or in the transformer tank.

j) The winding shall be so designed that all coil assembles of identical voltage ratings

shall be interchangeable and field repairs to the winding can be done readily without

special equipment. The coils shall have high dielectric strength.

k) Coils shall be made of continuous smooth high-grade electrolytic copper conductor, shaped and braced to provide for expansion and contraction due to temperature changes.

l) Adequate barriers shall be provided between coils and core and between high and low voltage coil. End turn shall have additional protection against abnormal line disturbances.

m) The insulation of winding shall be designed to withstand voltage stress arising from surge in transmission lines due to atmospheric or transient conditions caused by switching etc.

n) Tapping shall not be brought out from inside the coil or from intermediate turns and shall be so arranged as to preserve as far as possible magnetic balance of transformer at all voltage ratios.

o) Magnitude of impulse surges transferred from HV to LV windings by electromagnetic induction and capacitance coupling shall be limited to BIL.

4.5 Insulating Oil:

a) The insulating oil for the transformer shall generally conforming to IS:335. No inhibitors shall be used in the oil.

b) The quantity of oil required for the first filling of the transformer and its full specification shall be submitted along with the drawing for approval. Supply of transformer shall be completed with all fittings, accessories and new transformer oil required for first filling plus 20% extra oil. The extra quantity of oil shall be supplied in non-returnable drums along with the oil required for the radiator banks.

c) The design and materials used in the construction of the transformer shall be such as to reduce the risk of the development of acidity in the oil.

4.6 Valves:

a) Valves shall be of forged carbon steel up to 50mm size and of gun mental or of cast iron bodies with gun metal fittings for sizes above 50mm. They shall be of full way type with screwed ends and shall be opened by turning counter clockwise when facing the hand wheel. There shall be no oil leakage when the valves are in closed position.

b) Each valve shall be provided with an indicator to show the open and closed positions.

c) All valves except screwed valves shall be provided with flanges having machined faced drilled to suit the applicable requirements, Oil tight blanking plates shall be provided for each connection for use when any radiator is detached and for all valves opening to atmosphere. If any special radiator valve tools are required, the contractor shall supply the same.

d) Each transformer shall be provided with following valves on the tank:

1) Drain valve so located as to completely drain the tank

2) Two filter valves on diagonally opposite corners of 50mm size

3) Oil sampling valves not less than 8mm at top and bottom of main tank.

4) One air release plug.

5) Valves between radiators and tank. Drain and filter valves shall be suitable for

applying vacuum as specified in the specifications.

4.7 Tap changer: off-load tap-changers

a) 5MVA transformers shall be provided with OFF- load Tap changer on HV side.

b) The Transformer with off-load tap changer shall have taps ranging from +5 % to -5% in

equal steps of 2.5% on HV winding for voltage variation.

4.8 Painting:

a) All paints shall be applied in accordance with the paint manufacturer's recommendations.

b) Application of paints and the recommended limit on time intervals between coats

shall be followed.

c) All paints, when applied in normal full coat, shall be free from runs, sags,

wrinkles, patchiness, brush marks or other defects.

d) All primers shall be well marked into the surface, particularly in areas where painting is evident, and the first priming coat shall be applied as soon as possible after cleaning. The paint shall be applied by airless spray according to the manufacturer's recommendations. However, wherever airless spray is not possible, conventional spray be used with prior approval of Employer.

e) The supplier shall, prior to painting, protect nameplates, lettering gauges, sight glasses, light fittings and similar such items.

f) Cleaning and Surface Preparation:

i. After all machining, forming and welding has been completed, all steel work surfaces shall be thoroughly cleaned of rust, scale, welding slag or spatter and other contamination prior to any painting.

ii. Steel surfaces shall be prepared by Sand/Shot blast cleaning or Chemical cleaning by Seven tank process including phosphating to the appropriate quality.

iii. Chipping, scraping and steel wire brushing using manual or power-driven tools cannot remove firmly adherent mill-scale and shall only be used where blast cleaning is impractical.

g) Paint Material: Followings are the type of paints that may be suitably used for the items to be painted at shop and supply of matching paint to site:

i. Heat resistant paint (Hot oil proof) for inside surface.

ii. For external surfaces one coat of Thermo Setting Paint or 2 coats of Zinc chromate followed by 2 coats of POLYURETHANE. The colour of the finishing coats shall be dark admiral grey conforming to No.632 of IS 5:1961.

4.8.1 Painting Procedure:

a) All painting shall be carried out in conformity with both specifications and with the paint manufacture's recommendations. All paints used or to be used in shop or site, shall originate from one paint manufacturer.

b) Particular attention shall be paid to the manufacturer's instructions on storage, mixing, thinning and pot life. The paint shall only be applied in the manner detailed by the manufacturer e.g. brush, roller, conventional or airless spray and shall be applied under the manufacturer's recommended conditions. Minimum and maximum time intervals between coats shall be closely followed.

c) Where the quality of film is impaired by excess film thickness, (wrinkling, mud cracking or general softness) the supplier shall remove the unsatisfactory paint coatings and apply another. In all instances, where two or more coats of the same paints are specified, such coatings may or may not be of contrasting colors.

d) Paint applied to items that are not to be painted, shall be removed at supplier's

expense, leaving the surface clean, un-stained and undamaged.

4.8.2 Damages to Paints Work:

a) Any damage occurring to any part of the painting scheme shall be made good to the same standard of corrosion protection and appearance as that originally employed.

b) The repainted surface shall present a smooth surface. This shall be obtained by

carefully chamfering the paint edges before & after priming.

4.8.3 Dry Film Thickness:

a) To the maximum extent practicable, the coats shall be applied as a continuous film of uniform thickness and free of pores. Over-spray, skips, runs, sags and drips should be avoided. The different coats may or may not be same color.

b) Each coat of paint shall allow to hardened before the next is applied as per manufacturer's recommendations.

c) Particular attention must be paid to full film thickness at edges.

5. Losses:

The losses shall not exceed the value given below:

MVA Rating: 5 MVA

No Load loss (Fixed Loss) (KW): 6.5KW (Tolerance as per IS-2026)

Load Losses at 75 degrees Celsius (kW): 36KW (Tolerance as per IS-2026)

The above-mentioned losses are maximum permissible and there shall not be any plus tolerance above this limit.

The bidder shall submit No load and Load losses along with complete technical details and factors assumed along with the GTP in tender documents. In case during testing, the actual losses are found within guaranteed figure, the transformers shall be accepted without any advantage to the bidder for lower losses. Measurement of losses shall form part of type test/routine test during inspection. The purchaser reserves the right to reject the transformers if on testing, the losses exceed the declared losses or the temperature rise in oil and/or winding exceeds the value guaranteed in technical particular or impedance value differ from the guaranteed

value and if any test results do not match with the values given in the guaranteed technical particulars and as per technical specification.

6. Performance:

a) Transformer shall be capable of overloading without any damage as per IS-2026

b) Transformers shall be capable of withstanding voltage variation as per IS-2026

7. Tolerance:

The tolerance of guaranteed performance figures shall be as specified in the latest issue of IS 2026 or relevant International Standard except wherever specified otherwise in this specification.

8. Fittings and Accessories:

The following fittings and accessories shall be provided on the transformers:

a) Conservator with isolating valves, oil filling hole with cap and drain valve. The conservator vessel shall be filled with constant oil pressure diaphragm oil sealing system.

b) Magnetic type oil level gauge (150 mm dia) with low & High oil level alarm contacts.

c) Prismatic/ toughened glass oil level gauge.

d) Silica gel breather with oil seal and connecting pipe complete with first fill of activated silica gel mounted at a workable height. Silica gel breather position should be such that it is at the farthest point from live naked parts of the transformer.

e) A double float type Buchholz relay with isolating valve. The relay shall be provided with shut off valve on the conservator side as well as on the tank side. These contacts shall be wired up to transformer marshalling box.

f) Pressure relief devices (including pressure relief valve) and necessary air equalizer connection shall be provided along with necessary alarm and trip contacts.

g) Air release plugs in the top cover.

h) Inspection cover, access holes with bolted covers for access to inner ends of bushing etc.

i) Winding temperature (hot spot) indicating device for local mounting complete in all respects. Winding temperature indicator shall have two set of contacts to operate at different settings:

i. To provide winding temperature high alarm

ii. To provide temperature too high trip.

j) Dial thermometer with pocket for oil temperature indicator with one set of alarm and one set of trip contacts and maximum reading pointer.

k) Lifting eyes or lugs for the top cover, core and coils and for the complete transformer.

l) Jacking pads.

m) Haulage lugs.

n) Protected type mercury / alcohol in glass thermometer and a pocket to house the same.

o) Top and bottom filter valves on diagonally opposite ends with pad locking

arrangement on both valves.

p) Top and bottom sampling valves.

q) Drain valve

r) Rating and connection diagram plate.

s) Two numbers tank earthing terminals with associated nuts and bolts for connections

to Employer's grounding strip. Bi-directional flagged rollers with locking and bolting device.

t) Shut off valve on both sides of flexible pipe connections between radiator bank

and transformer tank.

u) Cooling Accessories:

i. Requisite number of radiators provided with: -

a) One shut off valve on top

b) One shut off valve at bottom

c) Air release device on top

d) Drain and sampling device at bottom.

e) Lifting lugs.

ii. Air release device and oil drain plug on oil pipe connectors.

iii. Terminal marking plates for Current Transformer and Main Transformer.

iv. Oil Preservation Equipment

v. Oil Temperature indicator

v) Transformer shall be supplied with all control cable, SCADA compatible WTI & OTI, sensing cable, glands, lugs etc (complete control).

w) The extended neutral flat should be insulated with 11KV grade tap.

Note:

a. The fittings listed above are indicative and any other fittings which are generally required for satisfactory operation of the transformer are deemed to be included along with the supply of the transformers.

b. The contacts of various devices required for alarm and trip shall be potential free

and shall be adequately rated for continuous, making and breaking current duties as specified.

9. Bushing:

a) All porcelain used in bushings shall be homogeneous, non-porous, uniformly glazed to brown colour and free from blisters, burns and other defects.

b) Stress due to expansion and contraction in any part of the bushing shall not lead to deterioration.

c) Bushing shall be designed and tested to comply with the applicable standards Bushing shall have non-ferrous flanges and hardware.

d) Fittings made of steel or malleable iron shall be galvanized.

e) Bushing shall be so located on the transformers that full flashover strength will be utilized. Minimum clearances as required for the BIL shall be realized between live parts and live parts to earthed structures. Arc horns shall be provided across the 33 kV bushings for protection against overvoltage in the system.

f) All applicable routine and type tests certificates of the bushings shall be furnished for approval.

g) Bushing shall be supplied with bi-metallic terminal connector/ clamp/ washers suitable for fixing to bushing terminal and the Employers specified conductors. The connector/clamp shall be rated to carry the bushing rated current without exceeding a temperature rise of 550C over an ambient of 500C. The connector/clamp shall be designed to be corona free at the maximum rated line to ground voltage.

h) Bushing of identical voltage rating shall be interchangeable.

i) The insulation class of high voltage neutral bushing shall be properly coordinated with the insulation class of the neutral of the high voltage winding.

j) Each bushing shall be so coordinated with the transformer insulation that all flashovers will occur outside the tank.

k) Bushing on 33 kV Side: 33 kV Bushings will be outdoor type which can be connected to hollow aluminium pipe of ID of 5 cm & OD of 6 cm.

l) Bushing on 11 kV Side:

1) 11 kV bushings will be inside a cable termination box.

2) Sufficient clearance between bushing to bushing and bushing to earth should be maintained as per standard.

3) Bushings position should be at height to have sufficient space for cable termination.

m) Neutral Bushing: Neutral bushing shall be made available at 11 kV side. Bushing will be outdoor type. Neutral bushing shall be designed to withstand the over-voltage during any earth fault in the system.

10. Protection& Measuring Devices:

10.1 Oil Conservator Tank

a) The Conservator tank shall have adequate capacity between highest and lowest visible levels to meet the requirement of expansion of the total cold oil volume in the transformer and cooling equipment.

b) The conservator tank shall be bolted into position so that it can be removed for cleaning purposes.

c) The conservator shall be fitted with magnetic oil level gauge with low level electrically insulated alarm contact.

10.2 Pressure Relief Device

The pressure relief device provided shall be of sufficient size for rapid release of any pressure that may be generated in the tank and which may result in damage of the equipment. The device shall operate at a static pressure of less than the hydraulic test pressure of transformer tank. It shall be mounted direct on the tank. A pair of electrically insulated contract shall be provided for alarm and tripping.

10.3 Buchholz Relay

A double float type Buchholz relay shall be provided, any gas evolved in the transformer shall collect in this relay. The relay shall be provided with a test cock suitable for a flexible pipe connection for checking its operation. The device shall be provided with two electrically independent potential free contracts, one for alarm on gas accumulation and the other for tripping on sudden rise of pressure.

10.4 Temperature Indicator

a) OTI and WTI shall be a compact system.

b) Both the OTI and WTI should have the facility for remote reading capability compatible to be connected to SCADA system. It should have no change in overall dimension of OTI and WTI and no additional Thermometer pockets are required.

c) OTI/ WTI shall have embedded PT-100 sensors in the sensing bulb. The output from which can be connected to remote indicator for SCADA to provide a standard single or dual 4-20mA DC current output corresponding to measured temperature.

d) Remote indicator for both OTI and WTI shall be digital type with minimum 4 digits LED display. Remote indicators should have with RS 485.

e) Oil temperature indicator and winding temperature indicator with two electrical contacts for alarm and trip purposes and repeater for remote indication shall be provided with anti-vibration mounting. All switch contacts are potential free micro switches. The oil temperature indicator shall be housed in the existing marshalling box.

f) The scale on the dial of the thermometer should be 0-150°C. The angular displacement of thermometer should be 270°.

g) The indicators shall have three pointers to indicate the following:

1. Tripping temperature

2. Trip/alarm setting

3. Actual temperature of oil/Winding

11. Marshalling Box:

a) Sheet steel, weather, vermin and dust proof marshalling box fitted with required glands, locks, glass door, terminal Board, heater with switch, illumination lamp with switch, water- tight hinged and padlocked door of a suitable construction shall be provided with transformer to accommodate temperature indicators, terminal blocks etc. The box shall have slopping roof and the interior and exterior painting shall be in accordance with the specification. Padlock along with duplicate keys shall be supplied for marshalling box. The degree of protection shall be IP-55 or better.

b) The schematic diagram of the circuitry inside the marshalling box be prepared and fixed inside the door.

c) The marshalling box shall accommodate the following equipment:

i. Temperature indicators.

ii. Terminal blocks and gland plates for incoming and outgoing cables.

d) All the above equipment shall be mounted on panels and back of panel wiring shall be used for inter-connection. Marshalling box shall be provided with glazed window of adequate size.

e) To prevent internal condensation, a metal clad heater with thermostat shall be provided. The heater shall be controlled by an MCB of suitable rating mounted in the box. The ventilation louvers suitably padded shall also be provided. The louvers shall be provided with suitable pads to prevent ingress of dust.

f) All incoming cables shall enter the kiosk from the bottom. The gland plate and associated compartment shall be sealed in suitable manner to prevent the ingress of moisture from the cable trench.

12. Name Plate:

Transformer rating plate shall contain the information as given in clause 15 of IS-2026 (part-I). The details on rating plate shall be finalized during the detailed engineering. Further, each transformer shall have inscription of Customer's name. The name plate shall also include:

a) Indian Standard followed

b) The short circuit rating,

c) Measured no load current and no-load losses at rated voltage and rated frequency,

d) Measured load losses at 75° C (normal tap only)

e) D.C resistance of each winding at 75° C.

f) OIL's PO no

g) Core Weight

h) Oil Quantity

i) Total weight

j) Customer Name (Oil India Limited)

13. Instruction Manual:

Three sets of the instruction manuals (two hard copy and 2 soft copies) shall be supplied before the actual dispatch of equipment. The manuals shall be in bound volumes and shall contain all the drawings and information required for erection, operation and maintenance of the transformer. The manuals shall include amongst other, the following particular:

a) Marked erection prints identifying the components, parts of the transformer as dispatched with assembly drawings.

b) Detailed dimensions, assembly and description of all auxiliaries.

c) Detailed views of the core and winding assembly, winding connections and tapings tap changer construction etc. These drawings are required for carrying out overhauling operation at site.

d) Salient technical particulars of the transformer.

e) Copies of all final approved drawings.

f) Detailed O&M instructions with periodical check lists and Performa etc.

14. Completeness of equipment:

All fittings and accessories, which may not be specifically mentioned in the specification but which are necessary for the satisfactory operation of the transformer, shall be deemed to be included in the specification and shall be furnished by the supplier without extra charges. The equipment shall be complete in all details whether such details are mentioned in the specification or not, without any financial liability to the Employer under any circumstances.

15. Inspection and Testing:

15.1 Inspection:

a. Supplier/OEM will intimate OIL for inspection prior to 30 days of schedule date. Transformer and all testing facilities should be kept ready before intimation for inspection.

b. Transformers will be cleared for dispatch from OEM's workshop only after clearance from OIL's Engineer-In-Charge.

16. Factory test:

All standard routine tests in accordance IS: 2026 with dielectric tests corresponding to latest amendments of IS: 2026 shall be carried out in NABL accredited lab of OEM. All auxiliary equipment shall be tested as per the relevant IS. Test certificates shall be submitted for bought out items. High voltage withstand test shall be performed on auxiliary equipment and wiring after complete assembly.

Following additional routine tests shall also be carried out on transformer:

i. Magnetic Circuit Test on each core shall be tested for 1 minute at 2000 Volt DC.

ii. Oil leakage test on transformer.

16.1 Type Test & Special Test

The measurements and tests should be carried out in accordance with the standard specified as indicated in the following for the offered design without any cost implication to customer.

Tests/IS Standard

Temperature Rise test /IS 76/IS 2026/IS 6600

Impulse voltage withstand test, including full wave and chopped waves/IEC 76/IS 2026 Tan delta/ IS 2026 at NABL accredited Lab of OEM. The offered transformer must be manufactured as per type tested design. A copy of type test certificate of similar or higher rating must be submitted by manufacturer to OIL during drawing approval. Transformers offered without type tested design shall not be accepted.

For type testing of transformers, the above-mentioned testing shall be conducted on manufacturer's cost in a NABL/CPRI accredited lab only for a single unit of the transformer and shall be witnessed by OIL representative(s). No claim shall be acceptable towards type testing. The transformers shall be accepted only on acceptance of type testing results by OIL.

The supplier shall furnish calculations in accordance with IS: 2026 to demonstrate the Thermal ability of the transformers to withstand Short Circuit forces.

16.2 ROUTINE TESTS

Transformer routine tests shall include tests stated in latest issue of IS: 2026 (Part–1). These tests shall also include but shall not be limited to the following:

a) Measurement of winding DC resistance.

b) Voltage ratio on each tapping and check of voltage vector relationship.

c) Impedance voltage at all tappings.

d) Magnetic Balance Test.

e) Measurement of Load losses.

f) No load losses and no load current at rated voltage and rated frequency.

g) Absorption index i.e. Insulation resistance for 15 seconds and 60 seconds (R 60/ R 15) and polarization index i.e Insulation Resistance for 10 minutes and 1 minute (R10 mt / R 1 mt). h) Induced over voltage withstand test.

i) Separate source voltage withstand test.

j) Tan delta measurement and capacitance of each winding to earth (with all other windings earthed) & between all windings connected together to earth.

k) Measurement of zero sequence impedance.

l) Tests on off- load tap changer (fully assembled on transformer) as per IEC: 214/

1976 and BS: 4571/ 1970.

m) Auxiliary circuit tests.

n) Oil BDV tests.

o) Measurement of neutral unbalance current which shall not exceed 2% of the full rated current of the transformer.

p) Leakage test.

Soft copy and hardcopy of certified test reports and oscillographs shall be submitted for evaluation prior to dispatch of the equipment.

17. Pre-shipment check at manufacturers works

a) Supplier shall check for proper packing and preservation of accessories like radiators, bushings, explosions vent, dehydrating breather, rollers, buchholz relay, control cubicle connecting pipes and conservator etc.

b) Check for proper provision of bracing to arrest the movement of core and winding assembly inside the tank.

c) Gas tightness test to conform tightness.

18. Receipt and Storage Checks:

a) Check and record conditions of each package visible parts of the transformers etc for any damage.

b) Check and record the gas pressure in the transformer tank as well as in the gas cylinder.

c) Visual check of core and coils before filling up with oil and also check condition of core and winding in general.

19. During Drawing Approval:

Any approval given to the detailed drawings by the OIL shall not relieve the vendor/supplier of the responsibility for correctness of the drawing and in the manufacture of the equipment. The approval given by OIL shall be general with overall responsibility with vendor/supplier.

1) Detailed overall general arrangement drawing showing front and side elevations and plan of the transformer and all accessories including radiators and external features with details of dimensions, spacing of wheels in either direction of motion, net weights and shipping weights, crane lift for un-tanking, size of lugs and eyes, bushing lifting dimensions, clearances between HV and L.V terminals and ground, quantity of insulating oil etc. Assembly drawings of core and winging and weights of main components / parts.

2) Foundation plan showing loading land jacking points with respect to centre line of transformer.

3) GA drawings details of bushing and terminal connectors.

4) Name plate drawing with terminal marking and connection diagrams.

5) Wheel locking arrangement drawing.

6) Transformer dimensions drawings.

7) Details of C.T particulars of Neutral &WTI CT and Magnetization characteristic curves of PS class neutral and phase side current transformers.

8) Interconnection diagrams.

9) Over fluxing withstand time characteristic of transformer.

10) GA drawing of marshalling box.

11) Control scheme/wiring diagram of marshalling box.

12) Technical leaflets of major components and fittings.

13) As built drawings of schematics, wiring diagram etc.

14) Setting of oil temperature indicator, winding temperature indicator.

15) Completed technical data sheets.

16) Details including write-up of tap changing gear.

17) HV conductor bushing.

18) Bushing Assembly.

19) Bi-metallic connector

20) GA of LV cable Box.

21) Radiator type assembly.

22) All drawings, documents, technical data sheets and test certificates, results calculations shall be furnished.

19.1 Along with material Supply:

1) Guarantee/Warranty Certificate

2) Pre-installation check sheet

3) Installation manual if any

4) Pre-commissioning check sheet

20. Delivery: The full quantity of the equipment shall be delivered as per the delivery schedule appended to this specification.

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ANNEXURE-IV (E)

TECHNICAL SPECIFICATIONS OF 800KVA 11KV/0.415KV TRANSFORMER.

Supply, installation testing and commissioning of distribution transformer, capacity 800 KVA step down, indoor floor mounting double copper wound core type 3 phase 50 Hz AC, oil immersed with "ONAN" type cooling with external cooling radiators having no load voltage ratio 11/0.415 KV, 3 phase 4 wire (corresponding to principal tapping) delta connected on primary side (HV incoming) and star connected on secondary side (secondary outgoing) in accordance with vector group symbol (DYN-11) conforming to IS 1180 (Part-1) 2014 Level 1 and having off load tap changer in the steps of 2.5% on HT side to take care of voltage from (+) 5% to (-) 5% to give out put on 415 V secondary side and including indoor control panel and control cable complete of capacity 800 KVA complete all as specified and as directed.

10000142357

Further, the transformer shall be procured from a source with OEM having valid NABL/CPRI certification. The certificate with the make as specified during the bidding stage shall be submitted by the bidder along with the bid, failing which the bid may be rejected. And the associated equipment shall have to be submitted during the execution phase.

The transformer shall be quoted as per IS 1180 (Part 1): 2014 or latest amendment during bidding stage for Level 2 specifications only.

Accessories -

(i) Oil conservator with oil fitting hole cap and drain plug.

(ii) 01 No of prismatic oil level gauge mounted on conservator wall with first fill of charge upto maximum level.

(iii) Silica gel dehydration breather with oil seal and with first of charge.

(iv) Pressure release valve with automatic resetting arrangement after release pressure- 01 set

(v) Adequate no of thermometer pocket including one thermometer

(vi) Top oil filter valve

(vii) Bottom oil filter cum drain valve

(viii) Rating diagram and terminal marking plate

(ix) Earthing terminal – 02 Nos (body earthing and neutral earthing shall be separate.)

(x) Lifting lugs- 01 Set

(xi) Jacking pads- 01 Set

(xii) Under carriage with 04 Nos of plain rollers.

(xiii) Air release plug on main transformer tank

(xiv) Adequate Nos of cooling radiators

(xv) 150 mm dial type winding temperature indicator with maximum read pointer and resetting device.

(xvi) 150mm dial type oil temperature indicator with maximum read pointer and resetting device.

(xvii) Double Buchholz with alarm and trip contracts and with 01 No of shut off device

(xix) Cable boxes on HV and LV side

(xx) Necessary wiring from trip terminals of Buchholz relay to control panel of HT switch gear.

(xxi) Terminal box for alarm and trip contacts.

(xxii) All transformer shall be separate neutral bushing shall be brought out for earthing.

The extended neutral flat should be insulated with 11KV grade tap.

DISTRIBUTION TRANSFORMER

1.0 SCOPE

This specification covers the requirements of design, engineering, manufacture and testing of oil filled distribution transformers.

2.0 CODES ANS STANDARDS

The transformer shall comply with the requirements of latest edition of following standards unless specified otherwise:

IS: 335 Insulating Oil

IS 1271: Thermal Evaluation and Classification of Electrical Insulation

IS: 2026: Power Transformers

IS/IEC:60137: Insulated Bushings for Alternative voltages above 1000 V

IS: 2705: Current Transformers

IS: 3347: Dimension for Porcelain Transformer Bushings

IS: 3637: Gas Operated Relays

IS: 3639: Fitting & Accessories for Power Transformer

IS: 4201 Application Guide for CTs.

IS: 2026-7: Guide for Loading of Oil Immersed Transformers

OISD-RP-147 Inspection & Safe Practice During Electrical Installation

OISD-RP-149 Design Aspect for Safety in Electrical System

OISD-GDN-180 Lighting Protection

The transformer shall also conform to the provisions of Indian Electricity Rules and other statutory regulations currently in force in the country as regards safety, earthing and other essential provisions.

In case, Indian Standards are not available for any components, standards issued by IEC / BS / IEEE/ NFPA / NEMA or any other equivalent agency shall be acceptable.

3.0 SITE CONDITIONS:

Altitude: 121m

Minimum Temperature: 10-degree C

Maximum Temperature: 50Degree C

Relative Humidity: 40-95%

4.0 GENERAL REQUIREMENTS

The transformer shall be new with state-of-the-art technology and shall have proven field track record. No prototype equipment shall be acceptable. The transformer and its accessories required for completeness of the transformer, whether specifically mentioned or not, but considered essential for satisfactory performance shall be deemed to be included as a part of the offered transformer.

5.0 DESIGN

The transformers shall be designed for a lifetime of at least 25 years, while delivering rated output under the stated site conditions. It will be designed for indoor applications. Manufacturer shall note that it is not the intent to specify all the details of the design and construction of the transformer herein. However, the transformer shall conform in all respect to high standards of engineering, design and workmanship and shall be capable of performing in continuous required functions, in a manner acceptable to OIL. The transformer and accessories shall be designed to facilitate effective & trouble-free operation, inspection, maintenance and repairs. The design shall incorporate every precaution and provision for the safety of the transformer as well as staff engaged in operation and maintenance of equipment.

OIL's representative will interpret the meaning of drawings and specifications and shall have power to reject any work or materials which, in their judgement is not in accordance applicable standards. All outdoor apparatus with their mountings, shall be designed so as to avoid any accumulation of water.

6.0 FABRICATION REQUIREMENTS

The transformer tank shall be of welded sheet steel construction and provided with gasketed steel cover plates. Base shall be suitably reinforced to prevent any distortion during lifting. Base channels shall be provided with skids and pulling eyes to facilitate handling. Transformer tank shall be tested.

7.0 WINDING

a) The transformer shall have conventional type uniformly insulated windings. The coils used for transformer winding shall be made of paper insulated, continuous and smooth, electrolytic copper conductors of high conductivity and of 99.9% purity. Similar coils shall be connected by accessible joints brazed or welded and finished smooth. No corona discharge shall result on the winding during induced voltage test as specified in applicable standard.

b) The insulating materials shall be of class-A type. Insulating material shall be of proven nature and shall be suitable for the limits indicated in applicable standards as well as the maximum possible winding temperature and shall not deteriorate when the transformer is operated continuously at its specified rating at the specified ambient temperature.

c) The inter-turn and inter-coil insulation shall be so designed that the dielectric stress is uniformly distributed throughout the winding under all operating conditions.

d) Windings shall be designed to withstand the applicable thermal and dynamic short circuit stresses and basic impulse insulation level shall not be lower than those specified in IS 2026 (Part-3)/ IS 11171.

e) Full power tapping's shall be provided in the high voltage windings. The winding arrangement shall be Dyn11, unless otherwise stated.

8.0 TERMINAL AND MARSHALLING BOX

a) The Winding leads shall be brought out and terminated on cable boxes on both HV and LV sides.

b) Cable boxes shall be supplied with cable lugs and glands.

c) For XLPE power cable and control cables double compression cable glands and crimped type tinned copper or aluminium lugs shall be supplied. Gland plate shall be removable type. For single core cables, gland plate shall be of non-magnetic material. HV and LV cable box shall be suitable for termination of specified size of XLPE insulated cables. The head-room available between cable gland plate and terminals shall not be less than 600mm for cable up to 11 kV, and 900 mm for 33 kV cables.

d) Cable box shall be weatherproof to IP-55 or higher. For the cable boxes, inspection cover shall be provided with lifting handle.

e) Primary cable box shall be able to withstand specified primary system fault level for 0.20 secs.

f) Marshalling box shall be from CRCA sheet steel of min 2.0mm thickness with toughened glass window in front of gauges. It shall be provided with hinged door and pad locking arrangement. Marshalling box shall be weatherproof to IP-55. All protective devices and neutral CTs shall be wired by means of PVC insulated copper conductor armoured FRLS outer sheath cables up to the marshalling box. Terminals shall be clamp type. Removable gland plate with double compression type glands shall be provided. A lamp along thermostatically controlled space heater with switch & socket shall be provided in the marshalling box. Preferably, marshalling box shall be located on the front side of transformer.

g) A separate neutral bushing shall be provided for neutral earthing of transformers. The neutral CT shall be mounted before bifurcation of the neutral.

h) Supporting arrangement for GI strip/cable as applicable shall be provided for connection of neutral bushing to earth/NGR.

9.0 CORE AND FRAME EARTHING

a) All metal parts of the core, frame and tank shall be earthed.

b) The transformer shall be provided with two earth terminals on the outside of the transformer mainframe or tank wall to an external grid. Each earth connection shall consist of a stainless-steel M-10 bolt with nuts and washers. Connections shall be located on opposite sides of the transformer preferably near the main cable boxes.

c) All metallic components such as cable boxes and their internal earthing bars or studs shall be bonded to the transformer mainframe or tank.

10.0 COOLING

All cover and seals shall be oil and airtight and shall not be affected by mineral or synthetic oil action.

Detachable radiators (tank mounted) equipped with air vent, drain plug and lifting lugs shall be provided with Type of cooling shall be oil natural air natural (ONAN).

11.0 OIL

Transformer shall be supplied with first filling of oil and 20% extra oil in non-returnable drums. Oil shall conform to IS-335. The oil shall be filled under vacuum. It will be filtered and tested for break down voltage (BDV) and moisture content before filling. The design and all materials and processes used in the manufacture of the transformer, shall be such as to reduce to a minimum the risk of the development of acidity in the oil.

12.0 ACCESSORIES

The following accessories shall be provided as a minimum:

a) Rating plate

b) Terminal Marking plate

c) Two earthing terminals

d) De-hydrating breather

e) Conservator

f) Air release Device (for transformers with conservator)

g) Oil filling hole with cover

h) Oil Level indicator with minimum marking

i) Thermometer pocket

j) Dial type thermo meter with contacts for OTI & WTI

k) Oil temperature indicator

l) Winding temperature indicator

m) Pressure relief valve

n) Sampling valve

o) Conservator drain valve, if applicable

p) Top oil filter valve

q) Drain cum bottom filter valve

r) Buchholz relay

s) Separate neutral bushing outside terminal box with connector assembly

t) Inspection cover

u) Terminal box(both HV and LV Side)

v) Marshalling box (IP-55)

w) Lifting lugs

x) Jacking lugs

y) Cross channels with towing lugs

Conservator shall be complete with oil filling plug and cap, oil drain valve, oil level gauge in addition to magnetic oil level gauge. A flexible oil resistance air bag shall be provided for conservator. Air bag shall be designed to withstand repeated expansion and contraction due to changes in oil level. Pressure relief valve (PRV) shall be provided with alarm contact.

Thermometer pocket for thermometer shall be provided. Oil temperature indicator shall be 150 mm diameter dial type with two normally open contacts for tripping and alarm. It shall be provided with maximum reading pointer. Winding temperature indicator shall have normally open contacts one each for tripping and alarm. It shall be provided with maximum reading pointer. Contact rating of all auxiliary devices shall be 0.5A, 110V/220V DC. Size of valves for drain and filter valve shall be 25 mm and the size of sampling valve shall be 15 mm.

13.0 Tapping

These shall be provided on high voltage side and connected to off circuit tap changing gear. Under conditions of external short circuit, the tap changing equipment shall be capable of carrying the same current as the windings. Off circuit tap changing gear shall have an external operating handle mounted on the transformer and shall meet the following requirements:

a) Positive snap-action contact changing in the range of +/-5% in steps of 2.5%

b) The mechanism shall be such that it is impossible for the contacts to be set in a position whereby the windings remain open-circuited or partly short-circuited.

c) Mechanical stops at the ends shall be provided to prevent overrun.

d) The driving rod through cover or tank wall shall be properly sealed against oil leakage under all service conditions.

e) The handle shall be metallic and the adequately sized in order to allow operation without the need of tools and be located in a conveniently accessible position.

f) The handle shall be provided with padlock facilities to lock the tap changer in the desired position.

g) Tap positions shall be clearly marked in line with the data given on the rating plate.

14.0 NOISE

Audible Noise level shall not exceed the limits indicated in CBIP manual.

15.0 INSPECTION, TESTING AND ACCEPTANCE

OIL's representative shall visit to manufacturer's works for pre-dispatch inspection to witness the routine test as per IS: 2026 and approved QAP other tests as agreed upon. These tests shall be performed on the complete assembly at manufacturer's works. Test certificates duly signed by owner's representative shall be issued as part of final document. Dispatch clearance shall be provided upon satisfactory inspection of the transformers by Oil engineer-In-Charge or authorized representatives.

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ANNEXURE-IV(F)

Technical Specifications of Testing and Measuring Instrument and others the following testing and measuring instruments are to be supplied by the contractor:

Sl. No.	Description	Unit	Quantity
1	5 kV Insulation Tester	each	1
2	Digital Multi-meter	each	3
3	Clamp-on meter	each	3
4	Stand Fan	each	3

The specifications are as follows:

1. Supply of 5 kV Insulation Tester 3 Supply of portable, rugged, lightweight and easy to carry 5kV electrical insulation tester suitable for use in field jobs. The specification of the instrument shall be as per the followings:

(A) FEATURES OF THE INSULATION TESTER:

I. Operating Source: Both AC mains and internal rechargeable battery.

II. Test Parameters: The instruments shall have the testing facility for testing Insulation Resistance, Polarization Index, Dielectric Absorption Ratio, Step Voltage, and Dielectric Discharge Test.

III. The test instrument shall have the capacitance measurement facility.

IV. The instrument shall have standard selectable test voltage in the combination of 500V, 1kV, 2.5kV & 5kV.

V. Display: Digital backlit LCD display. The display shall also have graphical display of test voltage rise decay during PI, DAR, DD testing. The minimum display information shall be resistance, voltage, leakage current, capacitance, battery status, time constant and elapsed time of the test.

VI. The instrument shall have terminal voltage display with high voltage alarm and testing inhibition in presence of external voltage.

VII. The instrument shall have guard terminal for accuracy enhancement.

VIII. Automatic energy discharge at the end of the test.

IX. Memory for the data storage of the voltage, test time, leakage current, resistance, PI, DAR, DD, capacitance and time constant.

X. Communication interface: RS 232 and USB.

(B) TECHNICAL SPECIFICATIONS:

I. Power Supply: Both mains and battery powered. At least 6 hours testing with a fully charged battery. The Battery voltage shall be constantly monitored and displayed.

II. Test Voltage: Testing voltages with broad range from 500V to 5kV. The instrument shall have standard Test voltage preset at 500V, 1kV, 2.5kV or 5kV.

III. Insulation measuring range: 0 to 10 Tera Ohm. Insulation resistance auto range in all ranges of display. Accuracy shall be +5% up to 1 T-ohm and +10% up to 10 T-ohm.

IV. Display range: 3 digits Digital display up to 10 T-ohm.

V. IP protection: IP 65 VI. Applicable standards: The instrument shall comply with CATIV 600, IEC 61001-1, and IEC 61326-1.

VII. Weight must be less than 10 kgs.

VIII. Accessories:

The test instrument shall be supplied with the following minimum accessories:

i. 02 nos. test leads of 3 meters length (min) each with suitable crocodile clips.

ii. RS 232 cable.

iii. USB cable.

iv. Line cord.

v. Carrying Bag.

vi. User's manual both in CD version and Hard Copy.

vii. Calibration Certificate.

viii. Rechargeable batteries and charger.

ix. Guard test lead.

2. Supply of Digital Multi-meter

Supply of Digital Multimeter

(A) Features required:

I. Display: Minimum 4000 counts LCD display with function indication

II. Autoranging/manual range selection

III. DATA HOLD function, for holding measured values

IV. Continuity test with acoustic signalling (beeper)

V. AUTO-OFF function

VI. Diode Test

VII. Over range Indication

VIII. Ergonomic case with integrated protective holster (

B) Technical Specification: The DMM should be able to measure the following:

I. DC Voltage Range: 0-1000V, Minimum Resolution: 0.1 mV

II. AC Voltage Range: 0-1000V, Minimum Resolution: 0.1 mV

III. DC Current Range: 0-10A, Minimum Resolution: 0.1 mA

IV. AC Current Range: 0-10A, Minimum Resolution: 0.1 mA

V. Resistance measurement Range: 0-40 Mohm, Minimum Resolution: 0.1 ohm

VI. Capacitance measurement Range: 0-1000μF, Minimum Resolution: 0.01nF (C) Special terms and Condition

(C) Special terms and Condition

a. Safety and Quality Requirement:

I. Type of insulation: Double, in accordance to EN 61010-1 and IEC 61557

II. Measurement category: CAT IV 600V conforming to EN 61010-1:2004

III. Protection class acc. to EN 60529: IP43 minimum

IV. Fuses: fast acting

b. Accessories to be included:

I. Test leads

II. Battery

III. Temperature probe K type thermocouple for use in air, non-caustic gas and surface application

IV. Operating manual

V. Zippered carrying case with padding and inside pocket

VI. Snap-on meter holster which absorbs shocks and protects meter from rough handling

VII. Test and calibration certificates

3. Supply of digital Clamp-on meter Digital True-RMS Clamp Meter with Features & Technical Specification mentioned as under:

(A) Functions: AC/ DC Current measurement, AC/DC Voltage Measurement, Resistance Measurement, Continuity checking, frequency measurement.

(B) AC & DC Current Measurement (True RMS)

I. Range: upto 1000A with jaw and upto 2500A with flexible probe.

II. Resolution 0.1A

III. Accuracy: 3% +/- 5 digits

IV: Flexible current probe shall be provided for increased display flexibility, ability to measure around awkward sized conductors & improved wire access.

V. The meter shall be capable of measurement of inrush current at the time of startup phase of electrical device.

(C) AC & DC voltage measurement (True RMS)

I. Range: upto 1000V

II. Resolution: 0.1V for voltage upto 500V. For voltages above 500V, resolution may decrease upto 1V.

III. Accuracy: 1.5% +/- 5 digits

(D) Resistance measurement and continuity test

I. Range: upto 10 kilo ohms

II. Resolution: 0.1 ohms for resistance value below 500 ohms and for resistance value above 500 ohms the resolution may decrease upto 1 ohms.

III. Accuracy: 1 % +/- digits

IV. continuity test with acoustic signalling (beeper) for resistance below 30 ohm

(E) Frequency Measurement

I. Range: 10Hz to 100Hz

II. Resolution: 0.1 Hz

III. Accuracy: 0.5% +/- 5 digits

(F) Display: Digital backlit LCD/LED display

(G) HOLD function for holding measured values

(H) DC ZERO mode of measurement for DC current

(I) MAX / MIN functions

(J) Over range indication

(K) AUTO-OFF function

(L) Low battery indication

(M) Measurement category: CAT IV 600V conforming to EN 61010-1:2004

(N) Accessories:

I. Test leads with probes and crocodile clips

II. Carrying case

III. Batteries

IV. Flexible current probe

V. Operating Manual

VI. Magnetic Hanging straps

(0) Items shall be properly packed to avoid transit damage.

4. Supply of Industrial Pedestal Fan

(A) INDUSTRIAL PEDESTAL FAN, 450mm (Air Circulator).

(B) Pedestal Fan (Air circulator) sweep 450mm, suitable for 230/240 V, 50HZ AC with following specification:

I. Aerodynamically designed and dynamically balanced metallic blades to ensure Powerful blast of air. Minimum Air delivery should be 110 cmm.

II. Height should be adjustable.

III. The fan should be fitted with speed regulator.

5. General Points

(A) Contractor has to submit TDS of all the aforementioned items and to get it approved by Engineer-in-Charge prior to supply.

(B) O&M manual of all the items to be submitted along with supply.

(C) Demonstration of Testing and measuring instruments to be imparted by OEM or OEM authorized person.

(D) Items shall be properly packed to avoid any transit damage.

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ANNEXURE-IV(G)

Technical Specifications of Testing and Measuring Instrument and others the following testing and measuring instruments are to be supplied by the contractor:

Sl. No.	Description	Unit	Quantity
1	5 kV Insulation Tester	each	1
2	Digital Multi-meter	each	3
3	Clamp-on meter	each	3
4	Stand Fan	each	3

The specifications are as follows:

1. Supply of 5 kV Insulation Tester 3 Supply of portable, rugged, lightweight and easy to carry 5kV electrical insulation tester suitable for use in field jobs. The specification of the instrument shall be as per the followings:

(A) FEATURES OF THE INSULATION TESTER:

I. Operating Source: Both AC mains and internal rechargeable battery.

II. Test Parameters: The instruments shall have the testing facility for testing Insulation Resistance, Polarization Index, Dielectric Absorption Ratio, Step Voltage, and Dielectric Discharge Test.

III. The test instrument shall have the capacitance measurement facility.

IV. The instrument shall have standard selectable test voltage in the combination of 500V, 1kV, 2.5kV & 5kV.

V. Display: Digital backlit LCD display. The display shall also have graphical display of test voltage rise decay during PI, DAR, DD testing. The minimum display information shall be resistance, voltage, leakage current, capacitance, battery status, time constant and elapsed time of the test.

VI. The instrument shall have terminal voltage display with high voltage alarm and testing inhibition in presence of external voltage.

VII. The instrument shall have guard terminal for accuracy enhancement.

VIII. Automatic energy discharge at the end of the test.

IX. Memory for the data storage of the voltage, test time, leakage current, resistance, PI, DAR, DD, capacitance and time constant.

X. Communication interface: RS 232 and USB.

(B) TECHNICAL SPECIFICATIONS:

I. Power Supply: Both mains and battery powered. At least 6 hours testing with a fully charged battery. The Battery voltage shall be constantly monitored and displayed.

II. Test Voltage: Testing voltages with broad range from 500V to 5kV. The instrument shall have standard Test voltage preset at 500V, 1kV, 2.5kV or 5kV.

III. Insulation measuring range: 0 to 10 Tera Ohm. Insulation resistance auto range in all ranges of display. Accuracy shall be +5% up to 1 T-ohm and +10% up to 10 T-ohm.

IV. Display range: 3 digits Digital display up to 10 T-ohm.

V. IP protection: IP 65 VI. Applicable standards: The instrument shall comply with CATIV 600, IEC 61001-1, and IEC 61326-1.

VII. Weight must be less than 10 kgs.

VIII. Accessories:

The test instrument shall be supplied with the following minimum accessories:

i. 02 nos. test leads of 3 meters length (min) each with suitable crocodile clips.

ii. RS 232 cable.

iii. USB cable.

iv. Line cord.

v. Carrying Bag.

vi. User's manual both in CD version and Hard Copy.

vii. Calibration Certificate.

viii. Rechargeable batteries and charger.

ix. Guard test lead.

2. Supply of Digital Multi-meter

Supply of Digital Multimeter

(A) Features required:

I. Display: Minimum 4000 counts LCD display with function indication

II. Autoranging/manual range selection

III. DATA HOLD function, for holding measured values

IV. Continuity test with acoustic signalling (beeper)

V. AUTO-OFF function

VI. Diode Test

VII. Over range Indication

VIII. Ergonomic case with integrated protective holster (

B) Technical Specification: The DMM should be able to measure the following:

I. DC Voltage Range: 0-1000V, Minimum Resolution: 0.1 mV

II. AC Voltage Range: 0-1000V, Minimum Resolution: 0.1 mV

III. DC Current Range: 0-10A, Minimum Resolution: 0.1 mA

IV. AC Current Range: 0-10A, Minimum Resolution: 0.1 mA

V. Resistance measurement Range: 0-40 Mohm, Minimum Resolution: 0.1 ohm

VI. Capacitance measurement Range: 0-1000µF, Minimum Resolution: 0.01nF (C) Special terms and Condition

(C) Special terms and Condition

a. Safety and Quality Requirement:

I. Type of insulation: Double, in accordance to EN 61010-1 and IEC 61557

II. Measurement category: CAT III 1000V or CAT IV 600V conforming to EN 61010-1:2004

III. Protection class acc. to EN 60529: IP43 minimum

IV. Fuses: fast acting

b. Accessories to be included:

I. Test leads

II. Battery

III. Temperature probe K type thermocouple for use in air, non-caustic gas and surface application

IV. Operating manual

V. Zippered carrying case with padding and inside pocket

VI. Snap-on meter holster which absorbs shocks and protects meter from rough handling

VII. Test and calibration certificates

3. Supply of digital Clamp-on meter Digital True-RMS Clamp Meter with Features & Technical Specification mentioned as under:

(A) Functions: AC/ DC Current measurement, AC/DC Voltage Measurement, Resistance Measurement, Continuity checking, frequency measurement.

(B) AC & DC Current Measurement (True RMS)

I. Range: upto 1000A with jaw and upto 2500A with flexible probe.

II. Resolution 0.1A

III. Accuracy: 3% +/- 5 digits

IV: Flexible current probe shall be provided for increased display flexibility, ability to measure around awkward sized conductors & improved wire access.

V. The meter shall be capable of measurement of inrush current at the time of startup phase of electrical device.

(C) AC & DC voltage measurement (True RMS)

I. Range: upto 1000V

II. Resolution: 0.1V for voltage upto 500V. For voltages above 500V, resolution may decrease upto 1V.

III. Accuracy: 1.5% +/- 5 digits

(D) Resistance measurement and continuity test

I. Range: upto 10 kilo ohms

II. Resolution: 0.1 ohms for resistance value below 500 ohms and for resistance value above 500 ohms the resolution may decrease upto 1 ohms.

III. Accuracy: 1 % +/- digits

IV. continuity test with acoustic signalling (beeper) for resistance below 30 ohm

(E) Frequency Measurement

I. Range: 10Hz to 100Hz

II. Resolution: 0.1 Hz

III. Accuracy: 0.5% +/- 5 digits

(F) Display: Digital backlit LCD/LED display

(G) HOLD function for holding measured values

(H) DC ZERO mode of measurement for DC current

(I) MAX / MIN functions

(J) Over range indication

(K) AUTO-OFF function

(L) Low battery indication

(M) Measurement category: CAT III 1000V or CAT IV 600V conforming to EN 61010-1:2004

(N) Accessories:

I. Test leads with probes and crocodile clips

II. Carrying case

III. Batteries

IV. Flexible current probe

V. Operating Manual

VI. Magnetic Hanging straps

(0) Items shall be properly packed to avoid transit damage.

4. Supply of Industrial Pedestal Fan

(A) INDUSTRIAL PEDESTAL FAN, 450mm (Air Circulator).

(B) Pedestal Fan (Air circulator) sweep 450mm, suitable for 230/240 V, 50HZ AC with following specification:

I. Aerodynamically designed and dynamically balanced metallic blades to ensure Powerful blast of air. Minimum Air delivery should be 110 cmm.

II. Height should be adjustable.

III. The fan should be fitted with speed regulator.

5. General Points

(A) Contractor has to submit TDS of all the aforementioned items and to get it approved by Engineer-in-Charge prior to supply.

(B) O&M manual of all the items to be submitted along with supply.

(C) Demonstration of Testing and measuring instruments to be imparted by OEM or OEM authorized person.

(D) Items shall be properly packed to avoid any transit damage.

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CIVIL PART_SCOPE OF WORK

(A) **SCOPE OF WORK:** The scope of work includes detail planning, structural analysis, designing, site preparation, earth filling & levelling with Concrete Paver Block, construction of compound wall, construction of RCC foundation for the porta cabin, supply & erecting the cabin, fabrication along with all associated works necessary for completion of the work pertaining to Gas Insulated Switch Gear (GIS) E-houses in all respect. Considering rise in water level during monsoon, the structure shall be designed as a stilt type. All necessary materials for completion of the project to be supplied by the contractor. The cabin shall be used as portable modules and shall be deployed at any place. The cabin should be provided with suitable lifting and handling facility for the container handling.

The scope of supply covers all the points stated under various heads below.

NOTE: The enclosed soil investigation report is only for reference purpose. However, the successful bidder/contractor will have to carry out detailed GEOTECHNICAL INVESTIGATION and DETAILED TOPOGRAPHICAL SURVEY (BEFORE COMMENCEMENT AND AFTER COMPLETION OF THE PROJECT INCLUDING PROVIDING OF HFL DATA IN THE DRAWING AND REPORT) at the proposed site (as per Annexure) at PONTOON before finalising out the Structural Design and subsequently submit the Structural Design for approval by OIL.

1. 33kV GIS/11kV AIS/0.415kV LT Panel E-Houses (portable):

i. Detail planning and modelling/preparation of the layout plan for stilt type portable cabin (E-houses) and preparation of preliminary drawings of the E-Houses. The cabin to be designed & erected (Floor Finish Level) at a minimum 2.0m height (raised platform) from the existing mean ground level. Two numbers of steel staircase with platform to be provided in both side of the cabin for entry/exit.

ii. Detail structural analysis and design of RCC/Steel supports/Connections/pillar/column conforming to relevant BIS codes (Latest revision) using STAAD PRO software. STAAD MODEL to be provided to OIL for checking and verification by OIL. The structure shall be designed as a stilt type. Preparation of working drawings showing detail of structural components in AutoCAD Software. 3 (Three) sets of hard copies are to be submitted, and copies of working drawings as required during execution of the work.

iii. The area below the E-Houses shall be made CC (150 mm thick & prop 1:3:6) over properly compacted Subgrade prepared with 150 mm thick GSB/150 mm thick Gravelling. Standard cement concrete drain to be provided all around the E-Houses. The remaining area within the compound/plot of 29 meter x 31 meter (approx.) shall be raised by carrying-out earth filling of compacted thickness of 600 mm from the Existing Ground Level.

iv. Construction/Erection of Peripheral wall for the area along with gate, the peripheral wall shall cover the area of 29 meter x 31 meter (approx.). There shall be entry Gate with provision for entry of Crane/trailer etc.

v. Construction, including supply of all materials, equipment, system and services to complete & commissioning of the work in all respect, as per the approved detail working drawings including preliminary site development works.

vi. Quality control and quality assurances. This includes furnishing all statutory certificates/documents related to quality/specification of the various components installed/commissioned in the project. Acquiring the statutory certificates/documents from the regulatory bodies/suppliers is the responsibility of the contractor. All laboratory tests, field tests shall be carried-out as per the Project Requirement and relevant IS Codes, SOPs, CPWD Specifications and as advised by the Civil Engineering Department of OIL during the Contract Period.

vii. Undertake full responsibility for the engineering design prepared by them with respect to adequacy and technical soundness for the structure. They shall be responsible for the structural and/or any defects due to faulty design.

2. General Design & Construction:

i. Size of porta cabin (E-houses):

a) Length: 6/6.5/5.5 meters (Maximum)
b) Width: 5 meters (maximum)
c) Ceiling Height: Within 3.0 m – 3.9 meters

ii. Main Shell: The main fabrication of the structural framework should be of integral and all welded type to comprise of the bottom frame, overall framework, internal and external cladding with insulation and other peripherals, sloping self-draining roof and desired door-window, A/C opening etc. The main corner vertical support posts should be formed into a press component from minimum 5mm thick MS tested quality plates as per IS specifications and all the corner posts should be suitably welded at the top with a heavy gauge MS plate which should be able to hold steel forged lifting hooks or corner casting arrangement with minimum 50 mm holes.

iii. Base Frame: The main bottom (Base) frame should be fabricated and welded out of tested quality MS pressed steel channel sections and all the interconnecting cross members should also be steel channels duly welded lengthwise & breadthwise and conveniently equally spaced and covered with MS sheet continuously welded to the bottom frame & a gooseneck tunnel, welded together as a subassembly.

The base frame should have sufficient strength to withstand the overall load comes from the cabin.

iv. Skid: Under the base frame of cabin is to be mounted on a skid consisting of Indian Standard Medium Beam – ISMB. For placement of cabin, base frame and skid should be made in such a way that, RCC/Steel foundation supporting the cabin can be well connected through nut & bolt system or welding.

v. Front-end wall: The front-end wall should be composed of steel sheet having minimum 1.2 mm thickness fully vertically corrugated into trapezium section.

vi. Rear end: Rear end should be composed of rear end frame, which consists of one door sill, two corner posts, one rear header with header plate and four corner fittings, which are welded together as a sub-assembly and door systems with locking devices.

vii. Sidewall: Each sidewall should be composed of a number of sheets for intermediate (inner) parts and outer panels at each end of sidewall, fully vertically corrugated into trapezium section. The thickness of outer and inner sheet should not be less than 1.2 mm. All gaps should be sealed to prevent ingress of insects, moisture etc.

viii. Roof: The roof should be of sloping type from the centre towards the walls for efficient drain of rainwater. The roof should be made of corrugated steel sheets and is provided with adequately pressed reinforced sections from inside for additional strength and this should be able to comfortably resist load. All structural steel used should be of standard quality as per IS specifications or equivalent and all steel component / section, machine pressed for rigidity to optimize strength to weight ratio.

ix. Weather Shed: All door & windows & air conditioner opening should be provided with weather shed suitable size.

x. Insulation: A minimum 50 mm thick thermo cool conforming to relevant IS code should be provided on all side walls, end walls, roof with special weatherproof adhesives. This insulation should be hot proof, fire retardant, non-hygroscopic and vermin proof and besides having excellent thermal efficiency and acoustic performance.

xi. Platform & staircase: Two numbers (one at the main entrance and other at emergency exit) of steel staircase & platform having minimum width of 1.5 m all around the Porta Cabin. The finish level of platform should be same with floor level of porta cabin. The Platform should be provided all around the Porta Cabin and shall act walkway for crew during maintenance activity. The walkway & platform shall be made of high-grade good quality steel (checker/industrial grating) only. The support shall be made of either RCC/steel resting over RCC pedestal type footing. Further metal/steel railing shall be provided all around the raised platform and staircase to prevent fall hazards during normal work/maintenance activities.\

xii. Lifting pad eyes: Lifting pad eyes to be provided at roof level for lifting of the porta cabins.

xiii. Equipment support: Equipment support frame should be welded to the floor plate for installing floor mounted equipment.

xiv. Rain gutter: Rain gutter with rain down pipe should be provided for proper drainage of rainwater from the roof.

xv. RCC foundation: To support the Porta cabin, RCC pedestal type cast in situ type foundations (pillar) should be designed considering 2.0 m above the top RCC Concrete Pedestals. The area below the GIS E-Houses shall be made CC (150 mm thick & prop 1:3:6) over properly compacted /prepared sub grade (prepared with 150 mm thick GSB/150 mm thick Gravelling). Cement concrete drain (0.3 m width & 0.45m depth) to be provided all around the GIS E-Houses. Construction of foundations to support the cabin, CC below the cabin & drain is within the scope of the contractor. All machinery & materials required for construction of foundations to be arranged by the contractor.

xvi. Door: Double leaf door (Fireproof) having minimum opening size 2.4 m x 1.4 m should be provided in the front-end wall. Steel plate canopy should be provided above all external doors. The shutter should be open from outside. The main door should be made from higher grade aluminium extruded section fully insulated of 40 mm thickness for eliminating heat transmission and shock. The doors should be provided with door closer, handle with lock & key arrangements. All rubber gaskets packing all around doorframe should be complete weatherproof.

xvii. Painting /coating: The surface preparation for all steel surfaces should be pretreated with anticorrosive chemicals including degreasing and de-rusting and phosphating, coated with red-oxide, zinc chromate, primer conforming to relevant IS standard. All the welding joints should be free from welding fluxes, spatters, burnt primer coatings caused by welding heat and other foreign materials. The exterior surface of the wall to be painted with epoxy zinc rich primer, epoxy primer & acrylic topcoat. The interior surface of the wall to be painted with epoxy zinc rich primer & epoxy topcoat. The under structure to be painted with epoxy zinc rich primer & waxy bitumen.

xviii. Construction/Erection of Peripheral wall for the area along with gate: Construction of security fence cum wall along the periphery of the E-houses for prevention of trespassing to substation premises. The details scope of works includes 1.2 m height 250 mm thick brick wall from the ground level and 2 meters high XPM (top and bottom with MS Angle of suitable sizes) above the brick wall. Foundation for wall shall be as per design requirement. Erection & fixing of 2.0 meters wide (each leaf) double leaf steel plated gate with locking facility. Atop the brick wall and XPM along the boundary. The entire steel work of the Periphery Wall and Gate shall be painted with Premium Quality Synthetic Emulsion paints (quality & shades as decided by OIL). 9-lines of reinforced barbed wires to be fixed horizontally in angle iron section at a gap of 75 mm (vertically) to prevent any unauthorized entry to the premises.

3. General Note:

i. The contractor shall fully familiarize himself with the site conditions and general arrangements and scheme etc. before preparing conceptual lay out plan of the E-Houses including the locations of equipment. The contractors are advised to visit the site and acquaint themselves with the topography, infrastructure and also the design philosophy.

ii. The contractor based on conceptual layout plan shall do the complete work of design and detailed engineering.

iii. All civil works shall be carried out as per relevant IS codes. All materials required for civil works are to be supplied by the contractor and shall be of best quality conforming to relevant Indian Standards and Codes.

iv. The Contractor shall furnish/provide all temporary works, transportation and all other incidental items not shown or specified but as may be required for complete performance of the Works in accordance with approved drawings, specifications.

v. The contractor shall provide all labours, supervisions, transport and such specified materials, required for executing the including tools and plants as necessary for the work and shall be responsible for all royalties and other levies and his rates shall include for these. The work executed and materials supplied shall be to the satisfaction of the Company's Engineer and Contractor's rates shall include for all incidental and contingent work which although not specifically mentioned in this contract are necessary for its completion in a sound and workman like manner.

vi. The Contractor shall clear away all rubbish and surplus material from the site on completion of work and shall leave the site clean and tidy.

4. Design: All structural shall be designed for most critical combinations of dead loads, imposed loads, equipment loads, wind loads, seismic loads etc.

5. The Company's Engineer shall have power to:

(i) Reduce payments if the quality of work although acceptable is not up to the required standard set forth in the Particular Specifications which have been perused and fully understood by the Contractor.

(ii) Instruct the Contractor to remove any inferior material from the site and to demolish or rectify any work of inferior workmanship, falling which the Company's Engineer may arrange for any such work to be demolished or rectified by any other means at the Contractor's expenses.

(iii) Instruct the Contractor to remove or replace any workman who he/she (The Engineer) considers incompetent or unsuitable; the Engineer's opinion as to the competence and suitability of any workman engaged by the Contractor shall be final and binding on the Contractor.

(iv) Instruct the Contractor from time to time during the progress of the work further drawings necessary for the purpose of proper and adequate execution and maintenance of the works and the Contractor shall carry out and be bound by the same.

(v)The contractor shall have no claim against the Company in respect of any work which may be withdrawn but only for work completed under this contract. The Contractor shall have no claim to any further payment whatsoever. The valuation would be carried out *ex parte* if Contractor fails to turn up despite responsible notice which will be binding on the Contractor.

6. The Contractor shall undertake to indemnify the Company against all claims which may arise under the under noted Acts:-

(I) The Contractor must abide by the following new Labour Codes and their corresponding Rules as notified by Govt. of India:

a) The Code on Wages, 2019.
b) The Industrial Relations Code, 2020.
c) The Code on Social Security, 2020.
d) The Occupational Safety, Health and Working Conditions Code, 2020.

(II) The Contractor shall also abide by any other laws/ acts as framed by the Govt. of India from time to time pertaining to the above.

(III) GST

(IV) Building and Other Construction Workers Welfare Cess Act 1996.

or any other Acts or Status not here in above specifically mentioned having bearing over engagement of workers directly or indirectly for execution of work. The Contractor shall not make the Company liable to reimburse the Contractor for the statutory increase in the wage rates of the Contract Labour appointed by the Contractor. Such statutory increase in the wage rates of Contract Labour shall be borne by the Contractor.

7. The Contractor will arrange at his own cost cleaning and grass removing of area allotted, construction of temporary office/stores, cement godown, fabrication yards

etc and also the watch & ward of all the above. However, contractor shall not be allowed to construct any structure (for storage /housing purpose) with thatch, bamboo or any other inflammable materials within any Company's fenced area.

8. The Contractor shall ensure that all men engaged by him/her are provided with appropriate protective clothing and safety wear in accordance with relevant OIL mines Regulations. The Company's representative shall not allow/accept those men who are not provided with the same.

9. All Statutory taxes levelled by the Central and State Government or any other competent authority from time to time will be borne by Contractor and the amount of the Contract specified in the Contract is inclusive of all tax liabilities.

10. The Contractor shall not engage minor labour below 18 (eighteen) years of age under any circumstances.

11. The Contractor and his/her workmen shall strictly observe the rules and regulations as per Mines Act (latest edition).

12. The Contractor will be required to allow OIL Officials to inspect the work site and documents in respect of the workers' payment.

13. All safety precautions to be maintained by the Contractor at his own cost as per safety rules and regulations.

14. The Contractor shall use pump if needed for dewatering of pit while excavation at no additional cost incurred to OIL.

15. The Contractor shall have to work during rainy seasons also.

16. Watch and ward, loss or damage to Company property, theft and other incidental charges shall be Contractor's responsibility.

17. Contractor shall ensure to deploy Efficient workmen for rendering of the services.

18. Materials if rejected should be removed from site within 48 (forty eight) hours of rejection, failing which the Company reserves the right to get the rejected materials removed at the risk and cost of the Contractor.

19. Water that may accumulate on the site during progress of the works or in trenches and excavations from other than accepted risks shall be removed from the site to entire satisfaction of the Engineer-in-Charge and at the Contractor's expense.

20. If needed water and electricity will have to be arranged by the Contractor at his own cost.

21. The Contractor and his/her workmen shall strictly observe the safety precautionary rules as per Mines Act (latest edition) while executing the work.

22. The Contractor shall have to provide temporary toilet facilities in the entire work site for use of their workmen during progress of work.

23. In case of any doubt or dispute as to the interpretation of any clause herein contained, the decision of the Company's Engineer shall be final and binding on the contractor.

24. Contractor shall have to furnish the necessary test certificates from Govt. approved test laboratory at his own cost for reinforcement bars, RCC, structural steel works and for any other materials as advised by Engineer-in-charge.

25. **MEASUREMENT & PAYMENT**: Payment for all works done shall be made on the basis of actual work done as per the schedule of payment.

****

OIL INDIA LIMITED
(A Government of India Enterprise)
Duliajan, Assam"□

BOQ/PRICE BIDDING FORMAT

[Bidders must fill the 'PRICE BIDDING FORMAT/FINANCIAL DOCUMENT' and compute all-inclusive (including GST) bid value. This all-inclusive (including GST) bid value is to be entered against the 'OFFER PRICE' field in the GeM portal. The duly filled 'PRICE BID / FINANCIAL DOCUMENT' in electronic form must be submitted by the bidders through GeM Portal only along with the Financial Bid. Any Financial Bid without the duly filled Price Bid may be liable for rejection.]

Note: The breakup of the quoted/offered price i.e. the duly filled Price Bid Format MUST NOT be uploaded with the technical bid; otherwise the bid shall be rejected straightway.

DESCRIPTION OF SERVICES: Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite to OCS-2 along with associated components and Civil Works.

Tender No. CDI2307P27

NAME OF BIDDER	
Bidder's GSTIN No.	
SAC Code	

Item No.	Description of Services	UOM	Estimated Quantity	Rate (₹) to be quoted Excluding GST	Amount (₹) Excluding GST
			A	B	C = A * B
10	a) Supply, installation, testing and commissioning (SITC) of 33kV GIS Switchboard (5-Panel) housed within an independent/common E-House (Container). Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.B & C ,L,M,N,U,V). b) Supply, installation, testing and commissioning (SITC) of 11kV AIS Switchboard (8-Panel) housed within an independent/common E-House (Container). Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.B & D, L,M,N,U,V). c) Supply of 415V VERTICAL DISTRIBUTION BOARD. Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.K) d) Supply of 500 KVA, 11/0.415kV Dry Type Station Transformer - 01 number Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No.G) e) Supply, laying, jointing and termination of minimum 500 meters of 3C X 300 sq mm XLPE 33 kV, 500 meters of 3C X 240 sqmm 11 kV XLPE grade power cables , and Required length of 1.1 KV Grade LT power & control cables in pucca cable trench/ Elevated cable trays/ through casing pipes for road crossing by HDD, termination and connection with overhead lines/POLES (2 nos 33KV, 3 nos 11KV), termination and connection in 02 nos 5MVA 33KV/11KV, 2NOS 800KVA 11KV/415V transformers HV and LV Side, termination and connection in all incoming and outgoing feeders of 33 KV GIS, 11KV AIS, 415 V AIS panel incoming and outgoing sides and including: • HDD crossing of PWD road (40 feet width) through two 16 dia, 0.315" thick steel casing pipes, • Construction of pucca (RCC) cable trenches, buried cabl trench as applicable. •Design, supply & construction of cable tray structures. f) Design, supply and implementation of earthing system of the entire substation including e-houses, transformers, switch gears, auxiliary equipment etc. as per IS 3043 for 33KV Substation. All neutrals shall have separate earthing pits and electrodes. • Design, construction and implementation of safe step & touch potential based on the fault current level for the entire substation area including the surface areas, handrails, staircases of e-houses as per IEEE-80 Standard. g) Design, supply and implementation of lightning protection system for entire substation including e-houses, transformers etc. with separate earthing system. h)Supply of spares & accessories.	AU	1		₹ -
20	Supply, installation, testing and commissioning of of 11kV Single Panel AIS Switchboard	SET	1		₹ -
30	Supply of 415V Switchboard with two 2500A as incomer, 1no 2500A as bus-coupler, 2nos 1600A ACBS as outgoing including 3nos 630A MCCB and and 3nos 400A MCCB	SET	1		₹ -
40	Installation, testing and commissioning of Line Item No.30 within an independent/common E-House (Container).	AU	1		₹ -
50	Associated civil works including construction of boundary walls, gates of the newly installed 33KV GIS/11KV AIS/ 415V SWITCHBOARD WITH E-HOUSE AND OUTDOOR TRANSFORMERS/ETC. Details mentioned in ANNEXURE-IV(H)	AU	1		₹ -
60	Supply of 800 kVA, 11kV/0.415kV Station Transformers – 2 Nos.-Outdoor type	NO	2		₹ -
70	Installation, testing and commissioning of Line Item No.60 including foundation, design and construction as per OEM design, earthing, lightning protection, cable termination etc.	AU	2		₹ -
80	Supply of 5 MVA, 33/11 kV Power Transformers – 2 Nos.-Outdoor type	NO	2		₹ -
90	Installation, testing and commissioning of Line Item No.80 including foundation, design and construction as per OEM design, earthing, lightning protection, cable termination etc.	AU	2		₹ -
100	Supply of additional 33KV, 3CX300SQMM XLPE ALUMINIUM CABLE-2000M	M	2,000		₹ -
110	Supply of additional 11KV, 3CX240SQMM XLPE ALUMINIUM CABLE-2000M	M	2,000		₹ -
120	Supply of additional 1.1KV, 3.5CX240SQMM XLPE ALUMINIUM CABLE-2000M	M	2,000		₹ -
130	Laying and termination of additional 33KV, 3CX300SQMM XLPE ALUMINIUM CABLE	AU	1		₹ -

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DESCRIPTION OF SERVICES: Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite to OCS-2 along with associated components and Civil Works.

Tender No. CDI2307P27

NAME OF BIDDER	
Bidder's GSTIN No.	
SAC Code	

Item No.	Description of Services	UOM	Estimated Quantity	Rate (₹) to be quoted Excluding GST	Amount (₹) Excluding GST
140	Laying and termination of additional 11KV, 3CX240SQMM XLPE ALUMINIUM CABLE	AU	1		₹ -
150	Laying and termination of additional 1.1KV, 3.5CX240SQMM XLPE ALUMINIUM CABLE	AU	1		₹ -
160	Area development of the existing 33KV AIS SWITCHYARD as per details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-W and Associated civil works as per ANNEXURE-IV(H).	LSM	1		₹ -
170	supply of testing and measuring instruments. (Details mentioned in ANNEXURE-IV(G))	SET	1		₹ -
180	supply of Safety items. (Details mentioned in ANNEXURE-IV©	SET	1		₹ -
190	Sundry items.	LSM	1		₹ -
200	HDD Pipe laying for road crossing for laying various cables. (Details mentioned in point no-12 (DETAILED TECHNICAL SPECIFICATION: Sl No-R).	M	300		₹ -
Total Bid Price (in ₹) for rendering the service for the Contract period (Exclusive of GST)					-
GST Rate in %		**GST#**		**Total Bid Price (₹) (inclusive of GST)**	-

This value is to be entered against the "**OFFER PRICE**" field in the GeM portal. Bidders to refer **Clause 7.0 of ITB** for details.

#Please select GST from the dropdown list i.e., **CGST + SGST /CGST+UTGST/IGST/NA.**

Note: While quoting, the bidder should take into consideration all the terms and conditions of the tender. In this regard, bidder is requested to please refer to **SCC (Special Conditions of Contract) & SOW (Scope of Work)** of the tender.

1. The price/rate(s) quoted by the Bidders will be inclusive of all taxes except GST (i.e. IGST or CGST and SGST/UTGST as applicable in case of interstate supply or intra state supply respectively and Cess on GST, if applicable) on the final services. However, GST rate (including cess) to be provided in the respective places in the Price Bid.

2. The inter-se-ranking of the techno-commercially qualified bidders will be determined on overall lowest cost basis (L-1 offer) i.e. considering the Total quoted price inclusive of all liabilities and quoted GST (CGST & SGST/UTGST or IGST).

3. OIL will prefer to deal with registered bidder under GST. Therefore, bidders are requested to get themselves registered under GST, if not registered yet. However, in case any unregistered bidder is submitting their bid, their prices will be loaded with applicable GST while evaluation of bid.

4. Price Bid uploaded without giving any of the details of the taxes (Including rates and amounts) will be considered as inclusive of all taxes including GST. When a bidder mentions taxes as extra without specifying the rates & amount, the offer will be loaded with maximum value towards taxes received against the tender for comparison purposes. If the bidder emerges as lowest bidder after such loading, in the event of order on that bidder, taxes mentioned by OIL on the Purchase Order/Contracts will be binding on the bidder.

5. Input Tax Credit on GST (Goods & Service Tax) for this service is **NOT** available to OIL & the bids will be evaluated based on total price including GST.

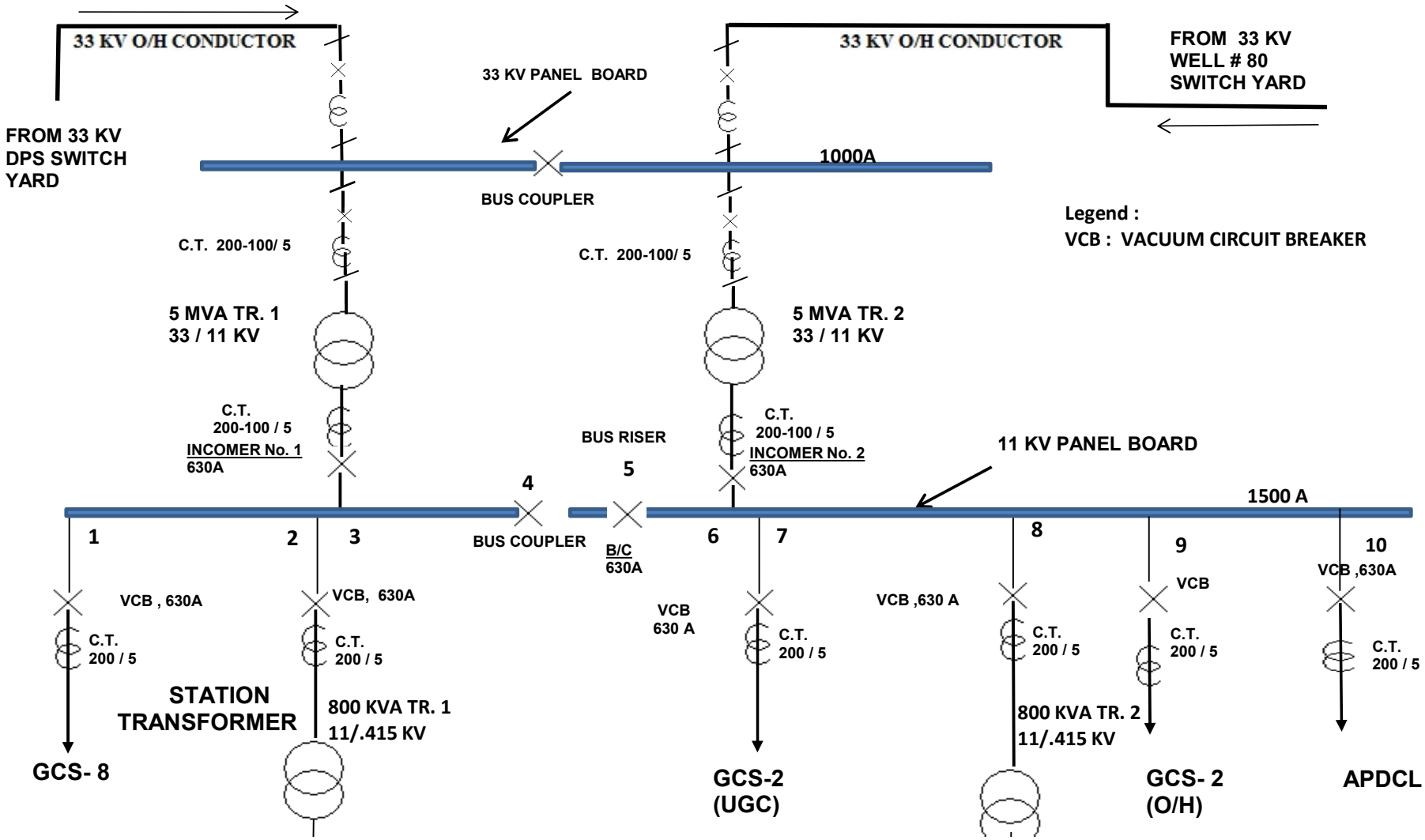
6. Refer to SCC and other chapters of the tender document for detailed description, terms and conditions of the service and quote unit rates accordingly against all the items as per Price Bid Format.

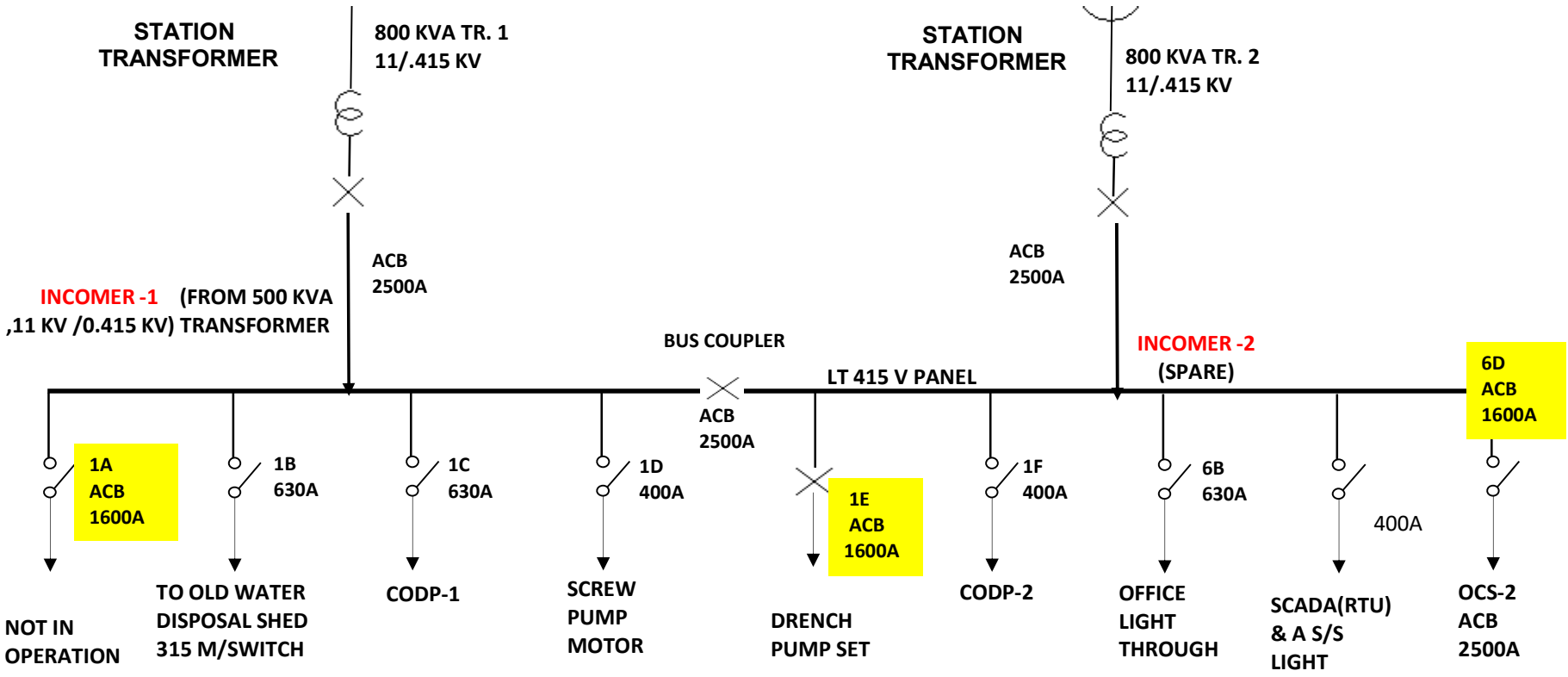
MANDATORY SPARES

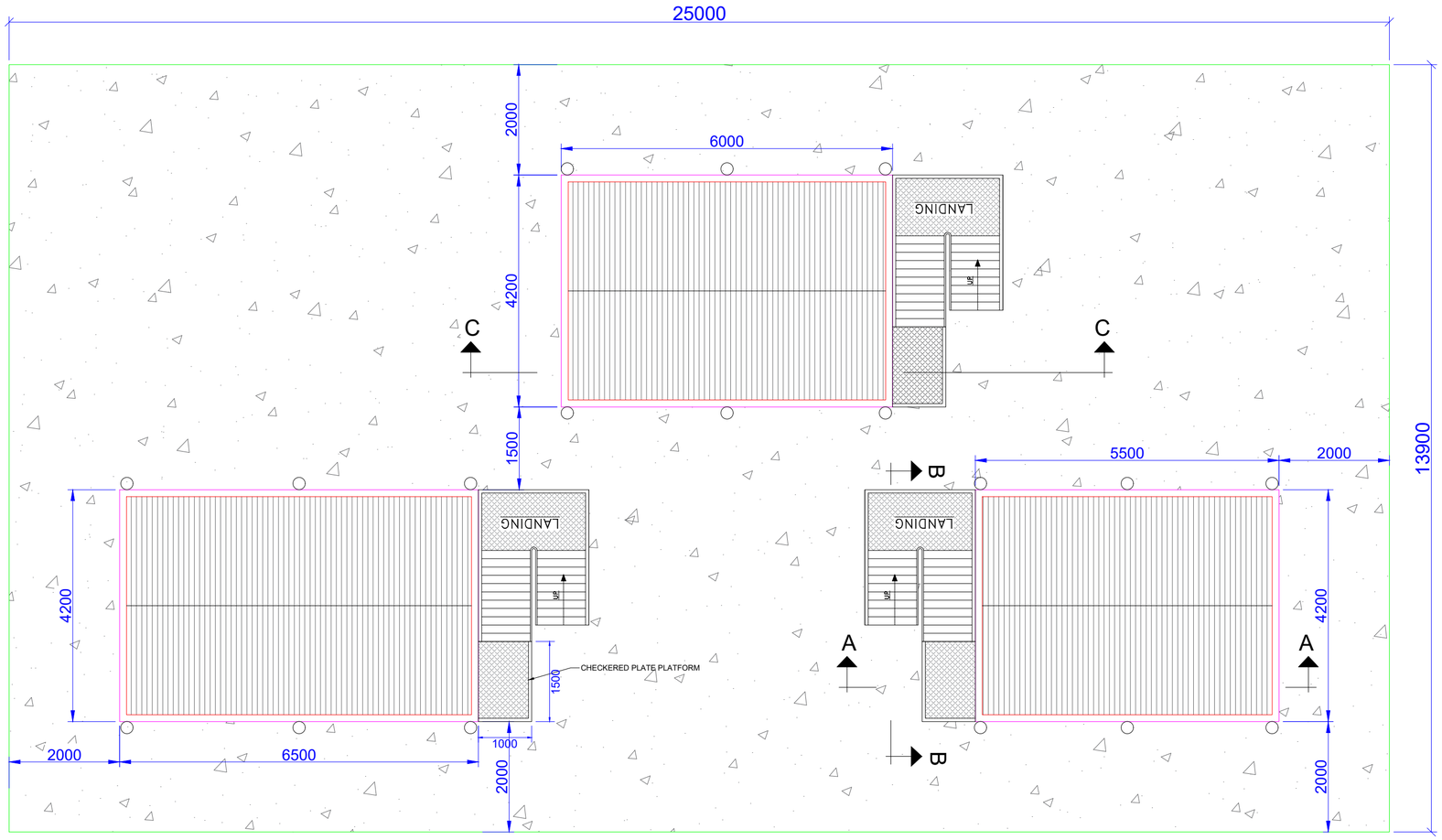
1. Spring Charging motor – 33kV GIS Panel -01 number
2. Spring Charging motor – 11kV AIS Panel -01 number
3. Indication lamps 10 % of each panel and each lamp type/colour.
4. PT (as per panel rating) – 01 per panel
5. CT (as per panel rating) – 01 per panel
6. Lugs – 10% of each variety per panel
7. Ferrule - 10% of total quantity.
8. TBs- 10% of total quantity.
9. Spring charging handle – 01 per panel
10. Breaker rack out handle – 01 per panel
11. Ammeters- 03 numbers per panel
12. MFM-03 numbers per panel
13. Numerical Protection relay- 1 nos. each as installed in 33 kV & 11 kV switchgear
14. MCCBs - 2 nos. of each type in ACDB 7 LT Panel of E-Houses
15. Trip Coil & Closing Coil - 4 nos per panel.
16. Spare breaker - 1 no. of 11 kV (630A)
17. ACB spring charging motor – 1 No.
18. ACB closing and tripping coils – 2 each
19. Selector switches (Volt/Amp selector, Auto/Manual, etc.) – 2 Nos. each type
20. Push buttons – 10% of each type
21. Control relays – 2 Nos. each type
22. Fuses – 10% of each rating/type used
23. MCBs – 10% of each rating/type used

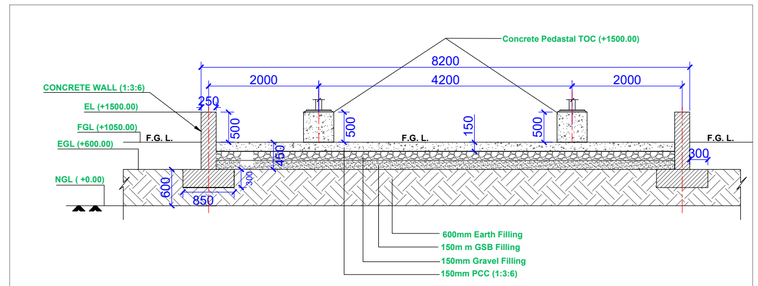
All spares shall be individually packed, clearly labelled and itemized in a separate packing list. The supplier shall ensure full compatibility and interchangeability with the components used in the main equipment.

SINGLE LINE DIAGRAM OF 33 KV PROPOSED OCS 2 SUB STATION

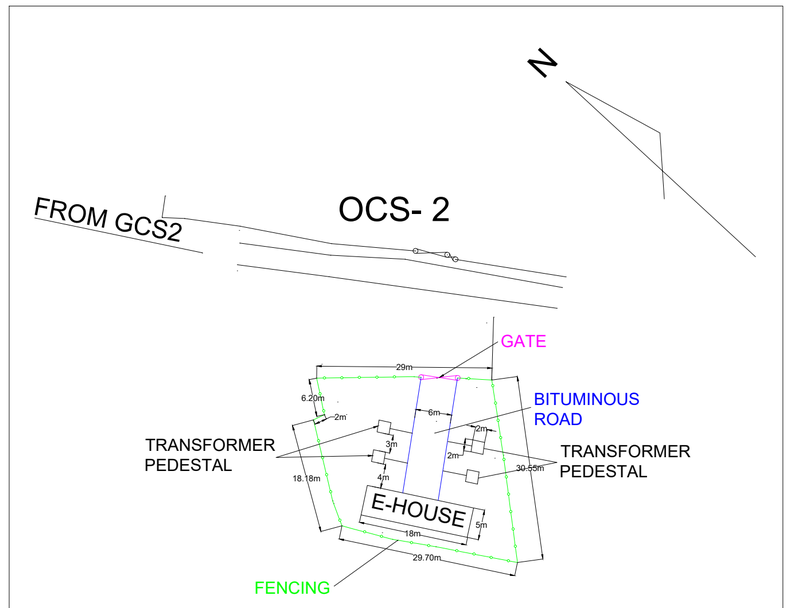



STATION TRANSFORMER
800 KVA TR. 1
11/.415 KV
ACB
2500A
INCOMER -1 (FROM 500 KVA ,11 KV /0.415 KV) TRANSFORMER
STATION TRANSFORMER
800 KVA TR. 2
11/.415 KV
ACB
2500A
INCOMER -2
(SPARE)
BUS COUPLER
ACB
2500A
LT 415 V PANEL
1A
ACB
1600A
NOT IN OPERATION
1B
630A
TO OLD WATER DISPOSAL SHED 315 M/SWITCH
1C
630A
CODP-1
1D
400A
SCREW PUMP MOTOR
1E
ACB
1600A
DRENCH PUMP SET
1F
400A
CODP-2
6B
630A
OFFICE LIGHT THROUGH
400A
SCADA(RTU) & A S/S LIGHT
6D
ACB
1600A
OCS-2
ACB
2500A

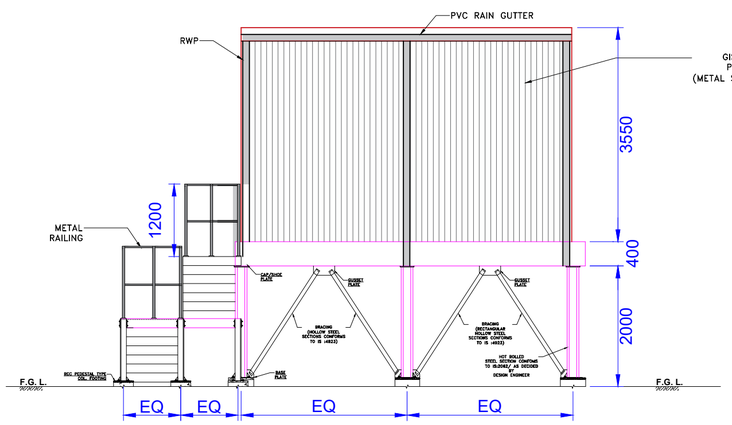




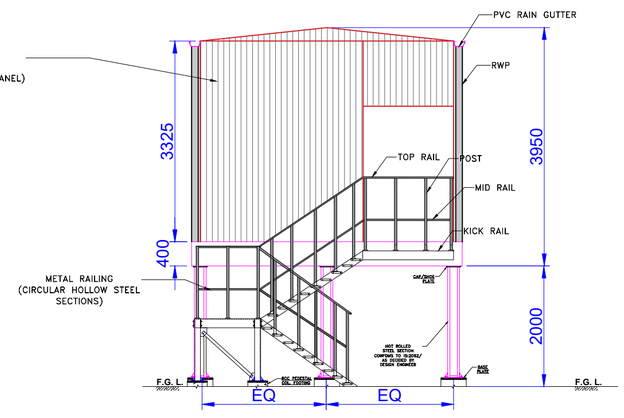
SECTIONAL DETAILS OF CONCRETE WALL , PEDESTAL & CONCRETE FLOORINT AT F.G.L



SUB: DETAILS MAP OF OCS-2



TYPICAL SECTIONAL ELEVATION–AA



TYPICAL SECTIONAL ELEVATION–BB

ALL DIMENSIONS ARE IN MM UNLESS MENTIONED OTHERWISE

REV.	DATE	ZONE	BRIEF RECORD	APPROVED

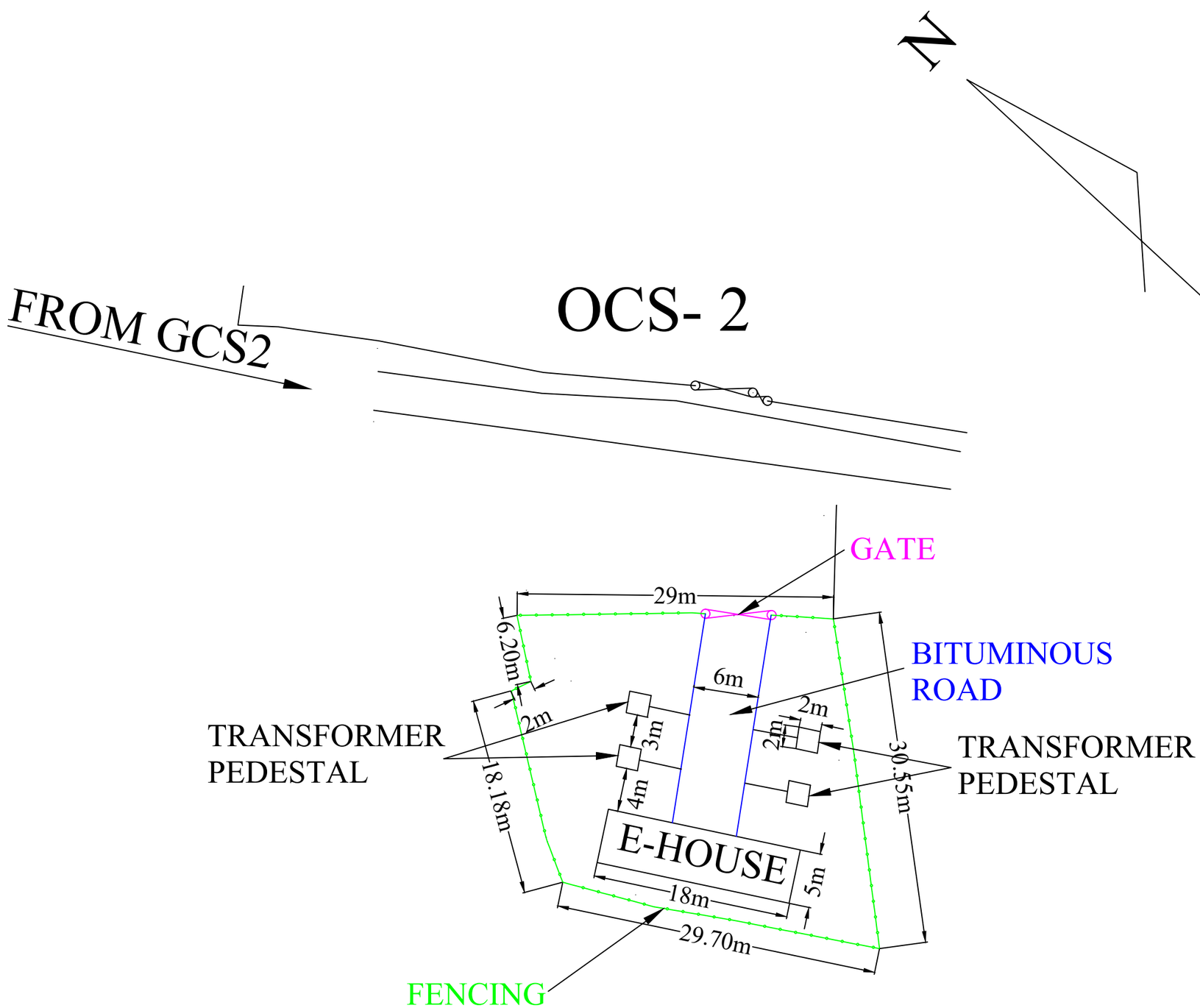
OIL INDIA LIMITED
DRAWING OFFICE
DULIAJAN

SCALE: N.T.S

TITLE : **PROPOSED E-HOUSE PORTA CABIN AT OCS-2 OIL,DULIAJAN**

	NAME	DATE
DESIGNED		
DRAWN	A.R.CHOWDHURY	27.12.2025
CHECKED	A.HAZARIKA	27.12.2025
APPROVED	D.K.SAIKIA	27.12.2025

DRG. No.
OIL /12758



SUB: DETAILS MAP OF OCS-2

HIRING SERVICES TO CARRY OUT GEOTECHNICAL INVESTIGATION

SUB-SOIL INVESTIGATION REPORT

PROJECT

CONSTRUCTION OF 33 KV E-HOUSE WITH GIS PROJECT UNDER OCS-2 INSTALLATION AT DULIAJAN

W.O NO.8132060 FOR CONTRACT NO.6117882

CLIENT

ऑयल इंडिया लिमिटेड
Oil India Limited

Civil Engineering Department

Oil India Limited Duliajan Assam

PREPARED BY

ESS FOUNDATION PVT.LTD.

An ISO 9001:2015 Certified Company

96, BARTHAKUR MILL ROAD , ULUBARI

GUWAHATI - 781007

Ph: +916000360625, 9435110953

e-mail: ess.engineers@rediffmail.com

1. INTRODUCTION

1.1 General

The soil investigation work was carried out during the month of ***October - 2025*** at proposed site for **"Construction of 33 KV E-house with GIS Project under OCS-2 installation at Duliajan".** Besides boring, Standard Penetration Tests at specified intervals were also performed as per I.S. specifications,undisturbed as well as disturbed samples were collected from the bore-holes for classification of soil, shear strength tests and all other relevent tests were performed to determine the safe bearing capacity of the soil.

1.2. Objective :

The objective of the **report** is restricted to the collection of factual information during the investigation period and submission of laboratory tests results,so as to sequence,extent of **soil** stratification,bearing capacity of soil,to ascertain the design parameters for the foundations from the recommended safe bearing capacity of **foundation soil**.

Test point Locations

1. Bore hole Locations

As desired ***Four (04) nos.*** of bore holes were carried out keeping in view of soil strata so as to ascertain the safe bearing capacity of soil at different depths.

Table: List of Field Test

Name of Site	Bore Hole No.	Termination Depth from GL (m)
Construction of 33 KV E-house with GIS Project under OCS-2 installation at Duliajan	1	20.00
	2	20.00
	3	20.00
	4	20.00

1.3 SCENARIO OF SEISMIC HAZARD IN ASSAM

INTRODUCTION:

Geomorphologically, NE India is located in an earthquake prone zone (zone-V) of the Indian subcontinent. In this region earthquake comes with landsliding flood and along series of smaller magnitude earthquakes. Here earthquakes of upto MM intensity IX can be expected. According to a hazard map by the Global Seismic Hazard Assessment Programme, the state can expect to have a peak gravitational acceleration (PGA) of 0.24g to 0.48g. The region where the highest PGA can be expected is along the state's border with Meghalaya, the site of the Great Indian earthquake of 1897.The area falls in zone-v.

EARTHQUAKE HISTORY

Much of Assam lies in the Bramaputra River Valley, except for a few southern districts. The northern and eastern parts of this valley are bounded by the Himalayan Frontal Thrust (HFF). In the eastern parts along with the HFF, there is the arc of the Lohit and Naga thrusts. Among the large earthquakes, in this region were the events in 1897 and 1950. The 1897 earthquake is well known for the dramatic accounts of violent upthrow during the shock.

SIGNIFICANT EARTHQUAKES IN ASSAM :

Both instrumented and non-instrumented events may be listed below. Reported magnitudes are listed for instrumented events while the maximum observed intensities are listed for non-instrumented shocks. Some of the latter might also have magnitudes assigned to them by various authors, in which case the reference is stated.

EARTHQUAKES DURING NON-INSTRUMENTAL PERIOD IN ASSAM 1548, 1596,1601, 1642, 1663, 1696, 1756, 1772, 1838, & 1841.

EARTHQUAKE DURING INSTRUMENTAL PERIOD IN ASSAM 1869, 1897, 1923,1930,1943, 1947, 1950, 1985, 1984 &1988.

Reported magnitudes for instrumented events are given below

SI.NO	Date	Magnitude	Epicentre
1	**10 th January 1869**	7.5	9.4 Kms North of Kumbhir (Assam)
2	**12 June 1897**	8.7	14 Kms ESE of Sangsik (Meghalaya)
3	**9th september 1923**	7.1	South Meghalaya
4	**2nd July 1930**	7.1	3.9 kms NNW of Dabigiri (Meghalaya)
5	**21 st January 1941**	6.5	Near Tezpur,Assam
6	**23 rd October 1943**	7.2	13.6 kms E of Hojai (Assam)
7	**29th July 1947**	7.7	Arunachal Pradesh
8	**15th August 1950**	8.7	20.7 kms NW of Tajobam,Arunachal Pradesh
9	**21st March 1954**	7.7	Manipur Burma border
10	**1st July 1957**	7.0	Indo Burma border
11	**31st December 1984**	6.0	SSE of Silchar
12	**6th August 1988**	7.3	Indo Burma border

The 1897 earthquake is the 2nd largest earthquake in the recorded history.The earthquake originated on a south-southwest dipping fault,named the oldham fault,bounding the North-Western section of the Shillong Plateau.During the event,the total slip on this fault,amounted to 16 m. which is among the greatest for any known earthquake.The towns of Dhubri,Goalpara,Guwahati and kuch Bihar in Assam and West Bengal was heavily damaged.At Guwahati is located in an earthquake prone zone(zone v as per IS:1893-2002),the earth subsided along the Brahmaputra and several sand vents were formed.The Brahmaputra is also reported to have risen by several mtrs. and even reversed its flow during the shock. The earthquake 15th August 1950 was the 6th largest earthquake of the recorded history.
Though it hit in a mountainous region along India's international border with China, 1500 people were killed and the drainage of the region was greatly affected. The resultant floods were the cause of most of the fatalities aftermath of this earthquake. The initial shock was followed by thousands of aftershocks, some of which were big earthquakes enough to be reckoned. It had a magnitude of 8.7 and struck a relatively sparsely populated region along the Indo-China border. This earthquake is often referred to as the “Assam Earthqake of 1950”.It was also felt throughout Bangladesh, Bhutan and Myanmar. Damage occurred in the entire region as far as Kolkata. It was felt across a wide area of the subcontinent, over an area totalling 4.5 million

1.4 Planning And Soil Exploration :

On the basis of nature of work it was decided to carry out **soil** exploration in order to :

a) Obtain **soil** samples, both representative disturbed and undisturbed wherever necessary for classification and other laboratory tests for determining engineering properties of **soil** strata.

b) Obtain soundings of penetration resistance by standard Penetration test in the bore holes.

1.5 Design criteria For Footings :

i) Footing must be safe against **shear failure** of supporting **soil**.

ii) Footing must not settle more than **permissible limit of settlement.**

Net safe bearing capacity 'qns' is obtained by using the S.P.T value of **foundation** & the relevant shear parameters of **soil**. Factor of safety of 2.5 is applied on ultimate bearing capacity as recommended by B.I.S. Net loading intensity 'qns' is obtained by using physical characteristics of **foundation** & relevant compressibility characteristics of the underlying **soil** . The settlement so obtained shall be with in permissible limits as **per** BIS recommendations.

The computed values i.e. **'qns' as the allowable bearing capacity for designing foundations of structure** is adopted after settlement criteria is satisfied or within the permissible limit .

1.6 Sub soil water level

The sub soil water level is encountered at various bore holes as shown in Bore Hole logs.

2. DETAILS OF FIELD WORK

2.1 Boring operation & Sampling :

150 mm dia hole was advanced at the location Using shell and auger/Drilling method.

150 mm nominal dia flush steel casing was advanced with the boring and the full length of the bore hole was encased at each location.

2.2 Disturbed and Undisturbed Sample :

Disturbed and undisturbed **soil** samples were obtained depending upon the nature of **soil** from different depths in the bore hole. The undisturbed samples were collected in sampling tubes. The ends of the tubes are sealed with molten wax to prevent evaporation. These samples were subsequently tested in the laboratory so as to determine the various index and engineering properties of various sub **soil** strata met in the bore holes.

2.3 Standard Penetration Test

Standard Penetration test was performed in the boreholes. The standard split spoon sampler, attached to a string of drill rod was lowered to the bottom of the hole and allowed to rest under self weight. The drill rod was connected to driving assembly which consisted of a hoisting equipments, a drive weight (Hammer) of 65 Kg, and a guide to ensure a 75 cm free fall of hammer on an anvil. The number of hammer blows that were required to penetrate the sampler through three runs of 150 mm each were recorded. Initial driving of 150 mm was disregarded and the number of blows required to drive the sampler through the remaining 300 mm is called BLOW COUNT or PENETRATION NUMBER,N. At the end of the test, the sampler was withdrawn and the **soil** extracted for subsequent **testing** in the laboratory . If the penetration was less than 30 cm for 100 blows, it is considered as refusal and the actual penetration was recorded.

Correction of 'N' value :

In case of Sandy **soil** & Non plastic silts, the observed SPT values, designated as 'N', are to be corrected to account for the following two effects.

(i) Correct to account for the effect of overburden pressure.

N' = Cn x N

Cn' is overburden pressure correction and is calculated from the figure No. 1 given on page No. 8 in IS : 2131-1981.

(ii) Correction due to submergence Correction.

N" = 15 + (N'-15)/2 provided N' is >15 where 'N" is the final corrected value where ever both the overburden and submergence corrections are necessary the overburden correction is applied first correction of N values of Bore Hole.

3.0 LABORATORY TESTS :

3.1 Index Properties

All the relevant classification on the samples obtained from the bore holes were carried out in the laboratory. The index properties obtained from such classification tests at different depths in the bore holes are reported.

3.2 DISTURBED SOIL SAMPLES:

Disturbed **soil** sample collected in field have been tested in laboratory and preparation of sample for the under mentioned tests have been done in accordance with I.S.2720-(Part-I)-1983.

1. Sieve analysis test as **per** I.S. Specification No. 2720 --(Part-IV).
2. Atterburg limit test (L.L. & P.I.) as **per** I.S. Specification No. 2720 --(Part-II).
3. Natural moisture content as **per** I.S.Specification No.2720 – (Part-IV).
4. Particle size analysis test as **per** I.S.Specification No. 2720-(Part-VI).
5. Wet density test as **per** I.S.Specification No 2720- (Part-VI).
6. Dry density test as **per** I.S.Specification No. 2720- (Part-VI)
7. Specific Gravity test as **per** I.S.Specification No-2720-(Part-III)-Sec.2.

3.3 UNDISTURBED SOIL SAMPLES:

Undisturbed **Soil** samples have been prepared in accordance with I.S. Specification No. 2720-(Part-I)- 1983 and tested as follows:-

1. Sieve analysis test as **per** I.S. Specification No. 2720 --(Part-IV).
2. Atterburg limit test (L.L. & P.I.) as **per** I.S. Specification No. 2720 --(Part-II).
3. Natural moisture content as **per** I.S.Specification No.2720 – (Part-IV).
4. Particle size analysis test as **per** I.S.Specification No. 2720-(Part-VI).
5. Wet density test as **per** I.S.Specification No 2720- (Part-VI).
6. Dry density test as **per** I.S.Specification No. 2720- (Part-VI)
7. Specific Gravity test as **per** I.S.Specification No-2720-(Part-III)-Sec.2.
8. Triaxial compression test and determination of shear parameter

   (C & Ø as **per** I.S. XII) & I.S. 2720 – (part – XIII).
9. Consolidation test conducted as **per** I.S Specification No. 2720-(Part-XV).

Calculation of bearing capacity is governed generally by I.S. Specification No . 8009-)Part-I)-1976, I.S.No.2720- (Part – II)- 1980, I.S. No 6403-1981, I.S. 1904-1978 and I.S. 1080-1985 and other relevant I.S. Codes as well as based on assessment and latest developments.

DELETERIOUS CHEMICALS:

The nature of strata was fairly identical through the site therefore one representative **soil** sample from the site was prepared & tested for deleterious chemicals which may effective the concrete & reinforcement the results are given below :

CHEMICAL ANALYSIS OF SOIL:

SL.No.	Particulars	Sample -01	Sample -02	Sample -03	Sample -04
1	pH	6.69	6.66	6.68	6.67
2	Cation Exchange Capcity (meq/100 gm)	21.52	23.03	21.74	21.30
3	Total Sulphate (%)	0.54	0.53	0.55	0.53
4	Calcium Carbonate (%)	0.71	0.70	0.72	0.70
5	Silica (%)	51.23	50.21	51.74	50.72
6	Sesquioxides (%)	1.59	1.56	1.61	1.57
7	Silica : sesquioxide ratio	55.33	54.22	55.88	54.78
8	Chloride (%)	0.179	0.175	0.181	0.177

CHEMICAL ANALYSIS OF SUB-SOIL WATER:

Sample No.	P^H Value	Chlorides (as Cl) (mg/lit)	Sulphate (as SO4) (mg/lit)	Other organic Content (mg/lit)
1	6.63	55.36	55.14	35.12
2	6.65	52.41	52.87	34.65
3	6.55	53.69	55.69	35.43
4	6.65	54.78	57.19	35.34

Above results show that the strata is quite safe for concrete & reinforcement for the site.

The chloride content in percentage in the soil is 0.175 to 0.179, hence PPC cement should be used.

4.0 INTERPRETATION OF TEST RESULTS:

The exact choice of type of **foundation** shall depend on the relative economics and practical considerations.

The allowable bearing pressure for the **foundation** shall be governed by I.S.6403-1981 "code of practice for determination of allowable bearing pressure of shallow **foundation**" for shear consideration and governed by I.S 1904-1978"code of practice for structural safety of building.Shallow **foundation** for settlement considerations has been calculated in accordance with I.S.8009-(Part-I & II) – 1976.

5.0 FOUNDATION PARAMETERS.

Allowable Bearing capacity values are based on the following parameters :

A) Size & Depth of Footing

a) Depth of footings (D_f) = 2.0m, 2.5m, 3.0m, 3.5m & 4.0m

b) Size of footings (B) = 2.0m x 2.0m, 3.0m x 3.0m, 4.0m x 4.0m

6.0 ALLOWABLE BEARING CAPACITY CRITERIA

Foundation can fail by two modes i.e.

i) Shear failure.

ii) Excessive settlement.

Shear failure being catastrophic, an adequate factor of safety is applied to ultimate bearing capacity that can initiate this type of failure. BIS recommends a value of FOS = 2.5 to obtain the net safe bearing capacity qns by using the physical characteristics of the **foundation** and relevant shear strength parameters of **soil**. Through Settlement analysis a net loading intensity qn is obtained by using the physical characteristics of the foundation and the relevant compressibility characteristics of the Underlying soil. The value so obtained ensures that the foundation shall not settle more than that which is permissible as per BIS recommendations. The permissible settlement depends upon the type of superstructure and the nature of supporting strata.

STANDARD PENETRATION TEST

The field S.P.T is corrected for both Over burden pressure and for dilatancy (As per IS:2131-1982)

Depth (m)	Bore Hole No.01		Bore Hole No.02		Bore Hole No.03		Bore Hole No.04	
	Observed N-value	Corrected N-value	Observed N-value	Corrected N-value	Observed N-value	Corrected N-value	Observed N-value	Corrected N-value
1.5	4	4	3	3	3	3	3	3
3.0	3	3	2	2	4	4	4	4
4.5	5	5	18	19	19	19	15	17
6.0	19	18	25	22	25	22	19	18
7.5	25	21	24	21	25	21	22	19
9.0	18	17	17	16	27	21	17	16
10.5	26	20	26	20	28	21	27	21
12.0	29	21	27	20	28	21	28	21
13.5	36	24	41	26	38	25	33	23
15.0	38	24	47	28	45	27	37	24
16.5	40	24	53	30	47	27	41	25
18.0	45	26	56	30	49	28	43	25
19.5	48	27	57	30	50	27	44	25

7.0 COMPUTATION OF ALLOWABLE BEARING CAPACITY

Based on Standard Penetration Resistance value

q_{ns} = $((q (N_q-1) s_q d_q i_q + 0.5 B \gamma N_\gamma s_\gamma d_\gamma i_\gamma W') / F) \times 10$ t / m^2

Where

N_q, N_γ = Bearing capacity factors

s_q, s_γ = Shape factors

For square footing s_q = 1.2 s_γ = 0.80

B = Width dia of foundation in cm

$d_q = d_\gamma$ = Depth factors = 1.00 for $\phi < 10^0$

= $1 + 0.1 (D_f / B) \times \text{sqrt} (N_\phi)$ for $\phi > 10^0$

ϕ = Angle of shearing resistance of soil in degrees

N_ϕ = $\tan^2 (45^0 + \phi / 2)$

D_f = Depth of foundation in cm

N_ϕ = $\tan^2 (45^0 + \phi / 2)$ = 1.0

i_q = Inclination factors = $(1- (\alpha / 90))^2$

i_γ = Inclination factor = $(1- (\alpha / \phi))^2$

α = Inclination of the load to the vertical in degrees

q = Effective surcharge at the base level of foundation in kgf / cm^2

γ = Bulk unit weight of foundation soil in kgf / cm^3

W' = Water table correction factor

F = Factor of safety

For BH.NO - 01

B = 200 cm

At depth D_f = 250 cm

Corrected N-value = (4 + 3 + 5)/3 = 4.00 Say N = 4.0

For N = 4.00 ϕ = 28.09 ^{o} ϕ_{cor} = 19.68 ^{o} Say 19 ^{o}

For ϕ = 19 ^{o} N_q = 5.80 N_γ = 4.68

s_q = 1.20 s_γ = 0.80

$d_q = d_\gamma$ = $1 + 0.1(250 / 200) \times \tan (45 + 19 / 2)$ = 1.18

α = 0 ^{o} $i_q = i_\gamma$ = 1.00

γ = 0.002 kgf / cm^2

γ' = 0.001 kgf / cm^2 q = 0.001 x 250 = 0.250 kgf / cm^2

W' = 0.50

F = 2.5

q_s = ((0.250 x (5.80 - 1) x 1.20 x 1.18 x 1.00 + 0.50 x 200 x 0.002 x 4.68 x 0.8 x 1.18 x 1.00 x 0.5) / 2.5) x 10

= 8.56 t / m^2

BASED ON SHEAR (C-Ø) VALUE :

For bearing capacity the following formula has been adopted as per I.S: 6403 - 1981.

q_s = (c 5.14 s_c d_c i_c) / F) x 10 t / m^2 (when $\phi = 0$)

CALCULATION OF ALLOWABLE BEARING CAPACITY OF SHALLOW FOUNDATION
For BH.NO - 01

B = 200 cm

At depth D_f = 250 cm

c = 0.211 kgf / cm^2 ϕ = 0 ^{o}

s_c = 1.30

d_c = 1 + 0.2 (250 / 200) x tan (45) = 1.25

α = 0 i_c = 1.00

F = 2.5

q_s = ((0.211 x 5.14 x 1.30 x 1.25 x 1.00) / 2.5) x 10

= 7.05 t/m^2

NET SAFE BEARING CAPACITY (t/m^2) AT VARIOUS DEPTHS			
Bore Hole No.	FOOTING SIZE - 2.0 m x 2.0 m		
	Depth (m)	From N- value	From C-Ø value
1	2.0	6.96	6.77
	2.5	8.56	7.05
	3.0	10.18	7.92
	3.5	11.95	8.23
	4.0	13.71	8.53
	FOOTING SIZE - 3.0 m x 3.0 m		
	2.0	7.47	6.37
	2.5	8.97	6.60
	3.0	10.44	7.31
	3.5	11.96	7.50
	4.0	13.64	7.74
	FOOTING SIZE - 4.0 m x 4.0 m		
	2.0	8.14	6.20
	2.5	9.54	6.37
	3.0	11.00	7.01
	3.5	12.39	7.19
	4.0	13.92	7.31
Bore Hole No.	FOOTING SIZE - 2.0 m x 2.0 m		
	Depth (m)	From N- value	From C-Ø value
2	2.0	8.98	6.67
	2.5	10.94	6.95
	3.0	13.08	7.54
	3.5	15.23	7.83
	4.0	17.59	8.12
	FOOTING SIZE - 3.0 m x 3.0 m		
	2.0	9.68	6.28
	2.5	11.49	6.50
	3.0	13.48	6.96
	3.5	15.41	7.13
	4.0	17.41	7.36
	FOOTING SIZE - 4.0 m x 4.0 m		
	2.0	10.48	6.12
	2.5	12.26	6.28
	3.0	14.11	6.67
	3.5	16.01	6.84
	4.0	17.96	6.96

NET SAFE BEARING CAPACITY (t/m^2) AT VARIOUS DEPTHS			
Bore Hole No.	FOOTING SIZE - 2.0 m x 2.0 m		
	Depth (m)	From N- value	From C-Ø value
3	2.0	10.15	6.32
	2.5	12.46	6.58
	3.0	14.76	7.12
	3.5	17.31	7.40
	4.0	19.99	7.67
	FOOTING SIZE - 3.0 m x 3.0 m		
	2.0	10.97	5.95
	2.5	13.00	6.16
	3.0	15.23	6.58
	3.5	17.41	6.74
	4.0	19.82	6.96
	FOOTING SIZE - 4.0 m x 4.0 m		
	2.0	11.89	5.79
	2.5	13.90	5.95
	3.0	15.97	6.30
	3.5	18.10	6.46
	4.0	20.31	6.58
Bore Hole No.	FOOTING SIZE - 2.0 m x 2.0 m		
	Depth (m)	From N- value	From C-Ø value
4	2.0	8.98	6.90
	2.5	10.94	7.18
	3.0	13.08	7.85
	3.5	15.23	8.16
	4.0	17.59	8.46
	FOOTING SIZE - 3.0 m x 3.0 m		
	2.0	9.68	6.49
	2.5	11.49	6.72
	3.0	13.48	7.25
	3.5	15.41	7.43
	4.0	17.41	7.67
	FOOTING SIZE - 4.0 m x 4.0 m		
	2.0	10.48	6.32
	2.5	12.26	6.49
	3.0	14.11	6.95
	3.5	16.01	7.13
	4.0	17.96	7.25

PILE LOAD CAPACITY

The safe load carrying capacity of a bored cast in-situ concrete pile passing through clayey soil layer and resting on granular soil has been worked out by using the following formular as per IS: 2911 (Part I/Sec 2) - 2010

$$Q_s = ((Ap(0.5\ D\ \gamma\ N_\gamma + P_D\ N_q) + \Sigma^n_{i=1} k\ P_{Di}\ \tan\delta\ A_{si} + \Sigma^n_{i=1}\ \alpha_i\ C_i\ A_{si}) / F) / 1000\ t$$

Where

A_p = Cross sectional area of pile stem at toe level in cm^2

D = Stem diameter in cm

γ = Effective unit weight of soil at pile toe in kgf / cm^3

P_D = Effective overburden pressure at pile toe in kgf / cm^2

$N\gamma$ & N_q = Bearing capacity factors depending upon the angle of internal friction f at toe

α = Reduction factor

C' = Average cohesion of the soil along the pile stem in kgf / cm^2

A_s = Surface area of the stem in cm^2

F = Factor of safety

The safe load carrying capacity of concrete bored cast in-situ piles (Qs) in cohesive soil has been calculated out using the following formula as per IS: 2911 (Part I/Sec2) - 2010

$$Qs = (A_p\ N_c\ C_p + \Sigma^n_{i=1}\ \alpha_i\ C_i\ As_i) / F$$

Where

Ap = cross sectional area of pile toe in cm^2

Nc = bearing capacity factor

Cp = average cohesion at pile tip in kg / cm^2

α = reduction factor

C' = average cohesion throughout the length of pile in kg / cm^2

As = surface area of pile shaft in cm^2

F = factor of safety

PILE LOAD CAPACITY CALCULATION

For Borehole No. 01

Length of pile = 1000 cm

D = 45 cm

Effective pile length for overburden pressure = 20 x 45 = 900 cm

γ = 0.001 kgf/cm^3

P_D = 0.90 kgf / cm^2

ϕ = 29.94 ^{o}

N_γ = 22.19

N_q = 21.0

Ap = (3.1415 / 4) x 45^2 = 1,590.43 cm^2

$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.211 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 4474.41 kgf / cm^2 δ = 0.00 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 0.00	**Layer = 0.0-1.5 m**
$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.228 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 4834.91 kgf / cm^2 δ = 0.00 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 0.00	**Layer = 1.5-3.0 m**
$\alpha_{i=1}$ = 0.5 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2 δ = 29.34 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 8045.96	**Layer = 3.0-4.5 m**

$\alpha_{i=1}$ = 0.5 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2		
δ = 29.58 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 8125.96		**Layer = 4.5-6.0 m**
$\alpha_{i=1}$ = 0.5 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2		
δ = 29.64 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 8145.42		**Layer = 6.0-7.5 m**
$\alpha_{i=1}$ = 0.5 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2		
δ = 29.86 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 8218.32		**Layer = 7.5-9.0 m**
$\alpha_{i=1}$ = 0.5 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2		
δ = 29.94 ^{o} K = 1.00 n = 1 **Layer No.** tn = 100.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 14,137.17 cm^2 $KP_{Di} \tan\delta A_{si}$ = 5495.14		**Layer = 9.0-10.0 m**

$\Sigma^n_{i=1} \alpha_i C_i A_{si}$ = 9309.32 kgf

$\Sigma^n_{i=1} K P_{Di} \tan\delta A_{si}$ = 38030.80 kgf

F = 2.5

Qs = ((1,590.43 x (0.5 x 45 x 0.001 x 22.19 + 0.9 x 21) + 9,309.32 + 38030.7970394466) / 2.5) / 1000

= 31.28 ton

PILE LOAD CAPACITY CALCULATION

For Borehole No. 02

Length of pile = 1000 cm

D = 45 cm

Effective pile length for overburden pressure = 20 x 45 = 900 cm

γ = 0.001 kgf/cm^3

P_D = 0.90 kgf / cm^2

ϕ = 29.63 ^{o}

N_γ = 21.21

N_q = 21.0

Ap = (3.1415 / 4) x 45^2 = 1,590.43 cm^2

$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.208 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 4410.80 kgf / cm^2 δ = 0.00 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 0.00	**Layer = 0.0-1.5 m**
$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.217 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 4601.65 kgf / cm^2 δ = 0.00 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 0.00	**Layer = 1.5-3.0 m**
$\alpha_{i=1}$ = 0.5 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2 δ = 29.04 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 7947.64	**Layer = 3.0-4.5 m**

$\alpha_{i=1}$	=	0.5				
$C_{i=1}$	=	0.000	kgf / cm^2			
Pile shaft length			=	150	cm	**For layer i =1**
$A_{si=1}$	=	21,205.75	cm^2			
$\alpha_1 C_1 As_1$	=	0.00	kgf / cm^2			
δ	=	29.28	^{o}			
K	=	1.00				
n	=	1		**Layer No.**		
tn	=	150.00	cm	**layer thickness**		
D_i	=	675.00	cm			
P_{Di}	=	0.6750	kgf/cm^2			
A_{si}	=	21,205.75	cm^2			
KP_{Di} tanδ A_{si}	=	8026.36				

Layer = 4.5-6.0 m

$\alpha_{i=1}$	=	0.5				
$C_{i=1}$	=	0.000	kgf / cm^2			
Pile shaft length			=	150	cm	**For layer i =1**
$A_{si=1}$	=	21,205.75	cm^2			
$\alpha_1 C_1 As_1$	=	0.00	kgf / cm^2			
δ	=	29.34	^{o}			
K	=	1.00				
n	=	1		**Layer No.**		
tn	=	150.00	cm	**layer thickness**		
D_i	=	675.00	cm			
P_{Di}	=	0.6750	kgf/cm^2			
A_{si}	=	21,205.75	cm^2			
KP_{Di} tanδ A_{si}	=	8045.51				

Layer = 6.0-7.5 m

$\alpha_{i=1}$	=	0.5				
$C_{i=1}$	=	0.000	kgf / cm^2			
Pile shaft length			=	150	cm	**For layer i =1**
$A_{si=1}$	=	21,205.75	cm^2			
$\alpha_1 C_1 As_1$	=	0.00	kgf / cm^2			
δ	=	29.56	^{o}			
K	=	1.00				
n	=	1		**Layer No.**		
tn	=	150.00	cm	**layer thickness**		
D_i	=	675.00	cm			
P_{Di}	=	0.6750	kgf/cm^2			
A_{si}	=	21,205.75	cm^2			
KP_{Di} tanδ A_{si}	=	8117.23				

Layer = 7.5-9.0 m

$\alpha_{i=1}$	=	0.5				
$C_{i=1}$	=	0.000	kgf / cm^2			
Pile shaft length			=	150	cm	**For layer i =1**
$A_{si=1}$	=	21,205.75	cm^2			
$\alpha_1 C_1 As_1$	=	0.00	kgf / cm^2			
δ	=	29.63	^{o}			
K	=	1.00				
n	=	1		**Layer No.**		
tn	=	100.00	cm	**layer thickness**		
D_i	=	675.00	cm			
P_{Di}	=	0.6750	kgf/cm^2			
A_{si}	=	14,137.17	cm^2			
KP_{Di} tanδ A_{si}	=	5427.48				

Layer = 9.0-10.0 m

$\Sigma^n_{i=1} \alpha_i C_i A_{si}$ = 9012.44 kgf

$\Sigma^n_{i=1} K P_{Di} \tan\delta A_{si}$ = 37564.21 kgf

F = 2.5

Qs = ((1,590.43 x (0.5 x 45 x 0.001 x 21.21 + 0.9 x 21) + 9,012.44 + 37564.2136581438) / 2.5) / 1000

= 30.96 ton

PILE LOAD CAPACITY CALCULATION

For Borehole No. 03

Length of pile = 1000 cm

D = 45 cm

Effective pile length for overburden pressure = 20 x 45 = 900 cm

γ = 0.001 kgf/cm^3

P_D = 0.90 kgf / cm^2

ϕ = 29.79 ^{o}

N_γ = 21.71

N_q = 21.0

Ap = (3.1415 / 4) x 45^2 = 1,590.43 cm^2

$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.197 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 4177.53 kgf / cm^2 δ = 0.00 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 0.00	**Layer = 0.0-1.5 m**
$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.205 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 4347.18 kgf / cm^2 δ = 0.00 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 0.00	**Layer = 1.5-3.0 m**
$\alpha_{i=1}$ = 0.5 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2 δ = 29.19 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 7997.91	**Layer = 3.0-4.5 m**

$\alpha_{i=1}$	=	0.5					**Layer = 4.5-6.0 m**
$C_{i=1}$	=	0.000	kgf / cm^2				
Pile shaft length				=	150	cm	**For layer i =1**
$A_{si=1}$	=	21,205.75	cm^2				
$\alpha_1 C_1 As_1$	=	0.00	kgf / cm^2				
δ	=	29.44	^{o}				
K	=	1.00					
n	=	1		**Layer No.**			
tn	=	150.00	cm	**layer thickness**			
D_i	=	675.00	cm				
P_{Di}	=	0.6750	kgf/cm^2				
A_{si}	=	21,205.75	cm^2				
KP_{Di} tanδ A_{si}	=	8077.28					
$\alpha_{i=1}$	=	0.5					**Layer = 6.0-7.5 m**
$C_{i=1}$	=	0.000	kgf / cm^2				
Pile shaft length				=	150	cm	**For layer i =1**
$A_{si=1}$	=	21,205.75	cm^2				
$\alpha_1 C_1 As_1$	=	0.00	kgf / cm^2				
δ	=	29.49	^{o}				
K	=	1.00					
n	=	1		**Layer No.**			
tn	=	150.00	cm	**layer thickness**			
D_i	=	675.00	cm				
P_{Di}	=	0.6750	kgf/cm^2				
A_{si}	=	21,205.75	cm^2				
KP_{Di} tanδ A_{si}	=	8096.59					
$\alpha_{i=1}$	=	0.5					**Layer = 7.5-9.0 m**
$C_{i=1}$	=	0.000	kgf / cm^2				
Pile shaft length				=	150	cm	**For layer i =1**
$A_{si=1}$	=	21,205.75	cm^2				
$\alpha_1 C_1 As_1$	=	0.00	kgf / cm^2				
δ	=	29.71	^{o}				
K	=	1.00					
n	=	1		**Layer No.**			
tn	=	150.00	cm	**layer thickness**			
D_i	=	675.00	cm				
P_{Di}	=	0.6750	kgf/cm^2				
A_{si}	=	21,205.75	cm^2				
KP_{Di} tanδ A_{si}	=	8168.91					
$\alpha_{i=1}$	=	0.5					**Layer = 9.0-10.0 m**
$C_{i=1}$	=	0.000	kgf / cm^2				
Pile shaft length				=	150	cm	**For layer i =1**
$A_{si=1}$	=	21,205.75	cm^2				
$\alpha_1 C_1 As_1$	=	0.00	kgf / cm^2				
δ	=	29.79	^{o}				
K	=	1.00					
n	=	1		**Layer No.**			
tn	=	100.00	cm	**layer thickness**			
D_i	=	675.00	cm				
P_{Di}	=	0.6750	kgf/cm^2				
A_{si}	=	14,137.17	cm^2				
KP_{Di} tanδ A_{si}	=	5462.07					

$\Sigma^n_{i=1} \alpha_i C_i A_{si}$ = 8524.71 kgf

$\Sigma^n_{i=1} K P_{Di} \tan\delta A_{si}$ = 37802.75 kgf

F = 2.5

Qs = ((1,590.43 x (0.5 x 45 x 0.001 x 21.71 + 0.9 x 21) + 8,524.71 + 37802.747481178) / 2.5) / 1000

= 30.87 ton

PILE LOAD CAPACITY CALCULATION

For Borehole No. 04

Length of pile = 1000 cm

D = 45 cm

Effective pile length for overburden pressure = 20 x 45 = 900 cm

γ = 0.001 kgf/cm^3

P_D = 0.90 kgf / cm^2

ϕ = 29.94 ^{o}

N_γ = 22.22

N_q = 21.0

Ap = (3.1415 / 4) x 45^2 = 1,590.43 cm^2

$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.215 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 4559.24 kgf / cm^2 δ = 0.00 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 0.00	**Layer = 0.0-1.5 m**
$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.226 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 4792.50 kgf / cm^2 δ = 0.00 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 0.00	**Layer = 1.5-3.0 m**
$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2 δ = 29.35 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 8048.59	**Layer = 3.0-4.5 m**

$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2		
δ = 29.59 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 8128.62		**Layer = 4.5-6.0 m**
$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2		
δ = 29.65 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 8148.09		**Layer = 6.0-7.5 m**
$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2		
δ = 29.87 ^{o} K = 1.00 n = 1 **Layer No.** tn = 150.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 21,205.75 cm^2 $KP_{Di} \tan\delta A_{si}$ = 8221.03		**Layer = 7.5-9.0 m**
$\alpha_{i=1}$ = 1.0 $C_{i=1}$ = 0.000 kgf / cm^2 Pile shaft length = 150 cm **For layer i =1** $A_{si=1}$ = 21,205.75 cm^2 $\alpha_1 C_1 As_1$ = 0.00 kgf / cm^2		
δ = 29.94 ^{o} K = 1.00 n = 1 **Layer No.** tn = 100.00 cm **layer thickness** D_i = 675.00 cm P_{Di} = 0.6750 kgf/cm^2 A_{si} = 14,137.17 cm^2 $KP_{Di} \tan\delta A_{si}$ = 5496.95		**Layer = 9.0-10.0 m**

$\Sigma^n_{i=1} \alpha_i C_i A_{si}$ = 9351.74 kgf

$\Sigma^n_{i=1} K P_{Di} \tan\delta A_{si}$ = 38043.28 kgf

F = 2.5

Qs = ((1,590.43 x (0.5 x 45 x 0.001 x 22.22 + 0.9 x 21) + 9,351.74 + 38043.281042267) / 2.5) / 1000

= 31.30 ton

LATERAL PILE LOAD CAPACITY

The lateral capacity of Pile can be determined as per IS 2911(Part 1/sec 2 -2010)

$Q = (12 \times E \times I \times Y)/(L_1 + L_f)^3$

Where,

Q = Lateral load for the pile

E = Young's modulus of pile material in Kg/cm^2

I = Moment of inertia of pile cross section in Cm^4

D = Dia. Of pile in cm

L_1 = Pile length above Ground level in cm

L_f = Depth of fixity of Pile in cm

y = Permissible deflection, $QL_f^3/12EI$ =5 mm =0.5 cm

$Q = 6EI/L_f^3$

Stifness factor for pile in sand

$T = (EI/\eta_h)^{1/5}$

BH NO.	LENGTH (M)	DIA. (cm)	E	I	η_h (kg/cm^3)	T	L_1	L/T	L_f/T	L_f	Q (Kg)
1	10.00	45	273861	201288.96	0.37	171.61	0.0	0.0	2.2	377.5362	6146.474
2	10.00	45	273861	201288.96	0.37	171.61	0.0	0.0	2.2	377.5362	6146.474
3	10.00	45	273861	201288.96	0.40	169.06	0.0	0.0	2.2	371.9244	6428.916
4	10.00	45	273861	201288.96	0.38	170.30	0.0	0.0	2.2	374.6673	6288.752

UPLIFT CAPACITY OF PILE (IS 2911-Part 1/sec 1 -2010)

$Q_u = W + Q_s$

Where,

Q_s,Frictional resistance of the pile along the length = $\Sigma^{n}_{i=1}\alpha_i c_i A_{si} + \Sigma^{n}_{i=1} K P_{Di} \tan\delta A_{si}$

W = weight of the pile

unit weight of RCC = 2500 kg/m^3

W	=	3976.08	kg	Dia of Pile =	450 mm
Qs	=	47340.12	kg	Length of pile =	10.0 m
F.O.S	=	2.5			
Q_u	=	51316.199	kg		
	=	51.316	ton		
$Q_{u(factored)}$	=	20.53	ton	***(Reffer to BH-01)***	

BH	Length (m)	Dia.	W	F.O.S	Q_s (kg)	Q_u (ton)	$Q_{u(factored)}$ (ton)
1	10.0	450	3976.08	2.5	47340.12	51.32	20.53
2	10.0	450	3976.08	2.5	46576.66	50.55	20.22
3	10.0	450	3976.08	2.5	46327.46	50.30	20.12
4	10.0	450	3976.08	2.5	47395.02	51.37	20.55

Table : Pile Load Capacity

Type of Pile	B.H No.	Length of Pile (m)	Cut-off level of Pile From GL (m)	Dia. Of Pile (mm)	Pile Load Capacity (ton)		
					Axial	Lateral	Uplift
Bored Cast-in-situ R.C.C Concrete Pile	1	10.0	1.0	450	31.28	6.15	20.53
	2	10.0	1.0	450	30.96	6.15	20.22
	3	10.0	1.0	450	30.87	6.43	20.12
	4	10.0	1.0	450	31.30	6.29	20.55

However,the theoretical load carrying capacity of pile is to be verified by conducting load test on pile.

Note:

i) The recommended pile load capacity is considered as lower value as only single bore hole is sinked in the pile group location it may be possible of encounter of loose sand layer.So from the structural safety point of view it is recommended to adopt lower value of pile load capacity.

ii) Contractor shall establish the pile capacities at site by conducting initial pile load tests on tests piles before commencement of pilling works as per IS:2911 Part-IV.Routine pile load test shall be conducted on job piles as per IS:2911 Part-IV.

iii) The concrete shall have a minimum strength of 30 N/mm^2 at 28 days.Ordinary Portland cement/Portland slag cement/Portland Pozzolana cement may be used.The cement content for concrete shall not be less than 400 kg/m^3 with maximum water cement ratio 0.45.Reiforcement steel shall be high strength deformed bar of grade Fe 500 conforming to IS:1786.

iv) Pile shall be designed as per the actual pile head force.

SUMMARY & RECOMMENDATION :

From field and laboratory investigations and analysis the following recommendation had been made for the purpose of design of foundation which is safe against shear as well as settlement criteria.

(A) Type of Foundation - Shallow foundation

Bearing capacities as given in the table below may be adopted for the design of foundation of the structures as per **I.S: 6403 - 1981.**

TABLE : BEARING CAPACITY

Name of Site	Type of Foundation	Size of Foundation	Depth of Foundation (m)	Recommended Net SBC (t/m^2)
Construction of 33 KV E-house with GIS Project under OCS-2 installation at Duliajan	Shallow Foundation	2.0 m x 2.0 m	2.0	6.0
			2.5	6.0
			3.0	7.0
			3.5	7.0
			4.0	7.0
	Shallow Foundation	3.0 m x 3.0 m	2.0	5.0
			2.5	6.0
			3.0	6.0
			3.5	6.0
			4.0	6.0
	Shallow Foundation	4.0 m x 4.0 m	2.0	5.0
			2.5	5.0
			3.0	6.0
			3.5	6.0
			4.0	6.0

(B) For Heavily Loaded Structures (Reffer to IS: 2911 (Part I/Sec 2) - 1979):

Type of Pile	Length of Pile (m)	Cut-off level of Pile From GL (m)	Diameter Of Pile (mm)	Pile Load Capacity (ton)		
				Axial	Lateral	Uplift
Bored Cast-in-situ R.C.C Concrete Pile	10.0	1.0	450	30.00	6.00	20.00

Type of Boring : Shell/Auger	Bore Hole NO.01	Date Started : 10.10.2025 Date Completed : 10.10.2025

DESCRIPTION OF STRATA	DEPTH (m)	STRATA	SAMPLE COLLECTED D/S	SAMPLE COLLECTED U/S	GROUND WATER LEVEL	Depth - N-value curve (10 20 30 40)	N - VALUE
Fillup soil	1.0		1.5				4
Silty clay brown to grey in colour	2.0			2.0			
	3.0		3.0				3
	4.0			3.5			
	5.0		4.5				5
	6.0		6.0				19
	7.0		7.5				25
	8.0						
	9.0		9.0				18
	10.0						
	11.0		10.5				26
	12.0		12.0				29
	13.0						
	14.0		13.5				36
	15.0		15.0				38
	16.0						
Sand brown to grey in colour in colour	17.0		16.5				40
	18.0		18.0				45
	19.0						
	20.0		19.5				48

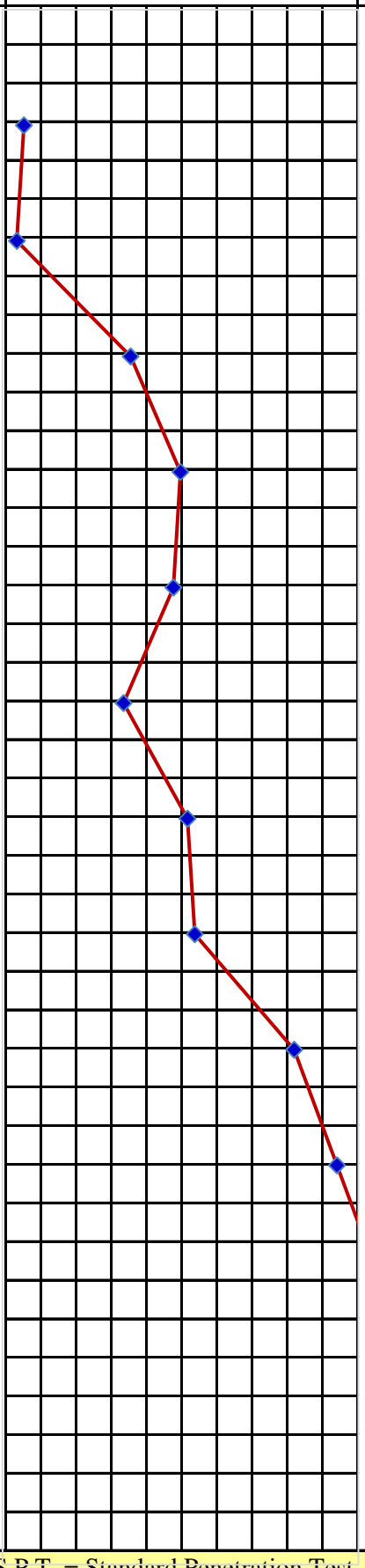
Ground water level is below 1.9 m from the existing ground level

D/S = Disturbed Sample U/S = Undisturbed Sample S.P.T. = Standard Penetration Test

SOIL & FOUNDATION CONSULTANT. Depth of Sampler = 0.45 m

Type of Boring : Shell/Auger					Bore Hole NO.02	Date Started : 10.10.2025 Date Completed : 11.10.2025
DESCRIPTION OF STRATA	DEPTH (m)	STRATA	SAMPLE COLLECTED D/S	SAMPLE COLLECTED U/S	GROUND WATER LEVEL	Depth - N-value curve (10 20 30 40) / N - VALUE
Fillup soil	1.0		1.5			3
Silty clay brown to grey in colour	2.0			2.0		
	3.0		3.0			2
	4.0			3.5		
	5.0		4.5			18
	6.0		6.0			25
	7.0		7.5			24
	8.0					
	9.0		9.0			17
	10.0					
	11.0		10.5			26
	12.0		12.0			27
	13.0					
	14.0		13.5			41
	15.0		15.0			47
	16.0					
Sand brown to grey in colour in colour	17.0		16.5			53
	18.0		18.0			56
	19.0					
	20.0		19.5			57

Ground water level is below 1.90 m from the existing ground level



D/S = Disturbed Sample U/S = Undisturbed Sample S.P.T. = Standard Penetration Test

SOIL & FOUNDATION CONSULTANT. Depth of Sampler = 0.45 m

Type of Boring : Shell/Auger	Bore Hole NO.03	Date Started : 11.10.2025 Date Completed : 11.10.2025

DESCRIPTION OF STRATA	DEPTH (m)	STRATA	SAMPLE COLLECTED D/S	SAMPLE COLLECTED U/S	GROUND WATER LEVEL	Depth - N-value curve (10 20 30 40)	N - VALUE
Silty clay brown to grey in colour	1.0		1.5	2.0	Ground water level is below 2.5 m from the existing ground level		3
	2.0						
	3.0		3.0	3.5			4
	4.0		4.5				19
	5.0						
	6.0		6.0				25
	7.0		7.5				25
	8.0						
	9.0		9.0				27
	10.0		10.5				28
	11.0						
	12.0		12.0				28
	13.0		13.5				38
	14.0						
	15.0		15.0				45
	16.0						
Sand brown to grey in colour in colour	17.0		16.5				47
	18.0		18.0				49
	19.0						
	20.0		19.5				50

D/S = Disturbed Sample U/S = Undisturbed Sample S.P.T. = Standard Penetration Test

SOIL & FOUNDATION CONSULTANT. Depth of Sampler = 0.45 m

Type of Boring : Shell/Auger	Bore Hole NO.04	Date Started : 16.09.2023 Date Completed : 16.09.2023

DESCRIPTION OF STRATA	DEPTH (m)	STRATA	SAMPLE COLLECTED D/S	SAMPLE COLLECTED U/S	GROUND WATER LEVEL	Depth - N-value curve (10 20 30 40)	N - VALUE
Fillup soil	1.0		1.5	2.0			3
Silty clay brown to grey in colour	2.0						
	3.0		3.0	3.5			4
	4.0		4.5				15
	5.0						
	6.0		6.0				19
	7.0		7.5				22
	8.0						
	9.0		9.0				17
	10.0		10.5				27
	11.0						
	12.0		12.0				28
	13.0		13.5				33
	14.0						
	15.0		15.0				37
	16.0						
Sand brown to grey in colour in colour	17.0		16.5				41
	18.0		18.0				43
	19.0		19.5				44
	20.0						

Ground water level is above 2.0 m from the existing ground level

D/S = Disturbed Sample U/S = Undisturbed Sample S.P.T. = Standard Penetration Test

SOIL & FOUNDATION CONSULTANT. Depth of Sampler = 0.45 m

RESULTS OF LABORATORY TEST

BORE HOLE NO.	SAMPLE NO.	DEPTH IN METERS	Type of Sample	WATER CONTENT (%	VOID RATIO	SPECIFIC GRAVITY	DENSITY		LIMITS (%)			GRAIN SIZE ANALYSIS (%)				TRIAXIAL TEST		DIRECT SHEAR TEST		Free Swell Index	IS CLASSIFICATION OF SOIL
							DRY (gm/cc)	WET (gm/cc)	LIQUID	PLASTIC	PLASTICITY INDEX	Gravel	Sand	Hydrometer Analysis		c (kg/cm^2)	ϕ Degree	c (kg/cm^2)	ϕ Degree		
														Silt	Clay						
1	1	1.50	DS	33.07	-	2.634	-	-	36.85	25.44	11.41	-	-	12.00	88.00	-	-	-	-	-	CL
	2	2.00	UDS	32.54	0.89	2.638	1.40	1.85	-	-	-	-	-	-	-	0.211			-		CL
	3	3.00	DS	30.92	-	2.658	-	-	37.12	26.32	10.80	-	-	13.00	87.00	-	-	-	-	-	CL
	4	3.50	UDS	30.17	0.85	2.659	1.44	1.87	-	-	-	-	-	-	-	0.228			-		CL
	5	4.50	DS	29.75	-	2.662	-	-	-	-	-	-	85.00	15.00	-	-	-	-	29.34	-	SM
	6	6.00	DS	29.63	-	2.668	-	-	-	-	-	-	83.00	17.00	-	-	-	-	29.58	-	SM
	7	7.50	DS	28.78	-	2.669	-	-	-	-	-	-	86.00	14.00	-	-	-	-	29.64	-	SM
	8	9.00	DS	28.39	-	2.671	-	-	-	-	-	-	85.00	15.00	-	-	-	-	29.86	-	SM
	9	10.50	DS	26.52	-	2.673	-	-	-	-	-	-	84.00	16.00	-	-	-	-	29.94	-	SM
	10	12.00	DS	25.87	-	2.671	-	-	-	-	-	-	83.00	17.00	-	-	-	-	30.34	-	SM
	11	13.50	DS	25.02	-	2.674	-	-	-	-	-	-	87.00	13.00	-	-	-	-	30.49	-	SM
	12	15.00	DS	23.98	-	2.675	-	-	-	-	-	-	89.00	11.00	-	-	-	-	30.54	-	SM
	13	16.50	DS	23.07	-	2.674	-	-	-	-	-	-	86.00	14.00	-	-	-	-	30.72	-	SM
	14	18.00	DS	21.85	-	2.673	-	-	-	-	-	-	85.00	15.00	-	-	-	-	31.06	-	SM
	15	19.50	DS	20.54	-	2.676	-	-	-	-	-	-	87.00	13.00	-	-	-	-	31.13	-	SM

UCT -Unconfined compression Test, UD -Unconfined Drained Test, UU -Unconfined Undrained Test, DS - Disturbed Sample, UDS - Undisturbed Sample

The soil is Non Expansive

RESULTS OF LABORATORY TEST

BORE HOLE NO.	SAMPLE NO.	DEPTH IN METERS	Type of Sample	WATER CONTENT (%	VOID RATIO	SPECIFIC GRAVITY	DENSITY		LIMITS (%)			GRAIN SIZE ANALYSIS (%)				TRIAXIAL TEST		DIRECT SHEAR TEST		Free Swell Index	IS CLASSIFICATION OF SOIL
							DRY (gm/cc)	WET (gm/cc)	LIQUID	PLASTIC	PLASTICITY INDEX	Gravel	Sand	Hydrometer Analysis		c (kg/cm^2)	ϕ Degree	c (kg/cm^2)	ϕ Degree		
														Silt	Clay						
2	1	1.50	DS	32.65	-	2.628	-	-	37.86	25.80	12.06	-	-	15.00	85.00	-	-	-	-	-	CL
	2	2.00	UDS	32.13	0.88	2.632	1.40	1.85	-	-	-	-	-	-	-	0.208			-		CL
	3	3.00	DS	30.53	-	2.652	-	-	35.79	24.71	11.08	-	-	12.00	88.00	-	-	-	-	-	CL
	4	3.50	UDS	29.79	0.84	2.653	1.44	1.87	-	-	-	-	-	-	-	0.217			-		CL
	5	4.50	DS	29.38	-	2.656	-	-	-	-	-	-	84.00	16.00	-	-	-	-	29.04	-	SM
	6	6.00	DS	29.26	-	2.662	-	-	-	-	-	-	82.00	18.00	-	-	-	-	29.28	-	SM
	7	7.50	DS	28.42	-	2.663	-	-	-	-	-	-	85.00	15.00	-	-	-	-	29.34	-	SM
	8	9.00	DS	28.03	-	2.665	-	-	-	-	-	-	84.00	16.00	-	-	-	-	29.56	-	SM
	9	10.50	DS	26.19	-	2.667	-	-	-	-	-	-	83.00	17.00	-	-	-	-	29.63	-	SM
	10	12.00	DS	25.55	-	2.665	-	-	-	-	-	-	82.00	18.00	-	-	-	-	30.03	-	SM
	11	13.50	DS	24.71	-	2.668	-	-	-	-	-	-	86.00	14.00	-	-	-	-	30.18	-	SM
	12	15.00	DS	23.68	-	2.669	-	-	-	-	-	-	88.00	12.00	-	-	-	-	30.23	-	SM
	13	16.50	DS	22.78	-	2.668	-	-	-	-	-	-	85.00	15.00	-	-	-	-	31.22	-	SM
	14	18.00	DS	21.58	-	2.667	-	-	-	-	-	-	84.00	16.00	-	-	-	-	31.85	-	SM
	15	19.50	DS	20.28	-	2.670	-	-	-	-	-	-	86.00	14.00	-	-	-	-	32.08	-	SM

UCT -Unconfined compression Test, UD -Unconfined Drained Test, UU -Unconfined Undrained Test, DS - Disturbed Sample, UDS - Undisturbed Sample

The soil is Non Expansive

RESULTS OF LABORATORY TEST

BORE HOLE NO.	SAMPLE NO.	DEPTH IN METERS	Type of Sample	WATER CONTENT (%	VOID RATIO	SPECIFIC GRAVITY	DENSITY		LIMITS (%)			GRAIN SIZE ANALYSIS (%)				TRIAXIAL TEST		DIRECT SHEAR TEST		Free Swell Index	IS CLASSIFICATION OF SOIL
							DRY (gm/cc)	WET (gm/cc)	LIQUID	PLASTIC	PLASTICITY INDEX	Gravel	Sand	Hydrometer Analysis		c (kg/cm^2)	ϕ Degree	c (kg/cm^2)	ϕ Degree		
														Silt	Clay						
3	1	1.50	DS	32.77	-	2.623	-	-	36.52	24.17	12.35	-	-	11.00	89.00	-	-	-	-	-	CL
	2	2.00	UDS	32.25	0.87	2.627	1.41	1.86	-	-	-	-	-	-	-	0.197			-		CL
	3	3.00	DS	30.64	-	2.647	-	-	36.95	23.87	13.08	-	-	14.00	86.00	-	-	-	-	-	CL
	4	3.50	UDS	29.90	0.83	2.648	1.45	1.88	-	-	-	-	-	-	-	0.205			-		CL
	5	4.50	DS	29.48	-	2.651	-	-	-	-	-	-	86.00	14.00	-	-	-	-	29.19	-	SM
	6	6.00	DS	29.37	-	2.657	-	-	-	-	-	-	84.00	16.00	-	-	-	-	29.44	-	SM
	7	7.50	DS	28.52	-	2.658	-	-	-	-	-	-	87.00	13.00	-	-	-	-	29.49	-	SM
	8	9.00	DS	28.14	-	2.660	-	-	-	-	-	-	86.00	14.00	-	-	-	-	29.71	-	SM
	9	10.50	DS	26.28	-	2.662	-	-	-	-	-	-	85.00	15.00	-	-	-	-	29.79	-	SM
	10	12.00	DS	25.64	-	2.660	-	-	-	-	-	-	84.00	16.00	-	-	-	-	30.19	-	SM
	11	13.50	DS	24.80	-	2.663	-	-	-	-	-	-	88.00	12.00	-	-	-	-	30.34	-	SM
	12	15.00	DS	23.77	-	2.664	-	-	-	-	-	-	90.00	10.00	-	-	-	-	31.25	-	SM
	13	16.50	DS	22.87	-	2.663	-	-	-	-	-	-	87.00	13.00	-	-	-	-	31.65	-	SM
	14	18.00	DS	21.65	-	2.662	-	-	-	-	-	-	86.00	14.00	-	-	-	-	32.12	-	SM
	15	19.50	DS	20.36	-	2.665	-	-	-	-	-	-	88.00	12.00	-	-	-	-	32.27	-	SM

UCT -Unconfined compression Test, UD -Unconfined Drained Test, UU -Unconfined Undrained Test, DS - Disturbed Sample, UDS - Undisturbed Sample

The soil is Non Expansive

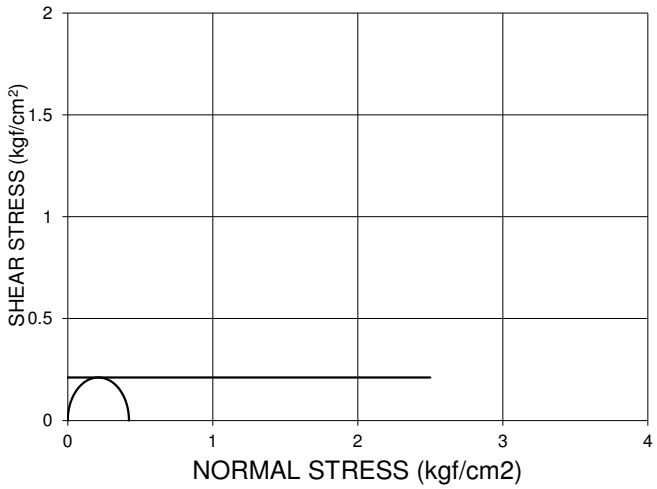
RESULTS OF LABORATORY TEST

BORE HOLE NO.	SAMPLE NO.	DEPTH IN METERS	Type of Sample	WATER CONTENT (%	VOID RATIO	SPECIFIC GRAVITY	DENSITY		LIMITS (%)			GRAIN SIZE ANALYSIS (%)				TRIAXIAL TEST		DIRECT SHEAR TEST		Free Swell Index	IS CLASSIFICATION OF SOIL
							DRY (gm/cc)	WET (gm/cc)	LIQUID	PLASTIC	PLASTICITY INDEX	Gravel	Sand	Hydrometer Analysis		c (kg/cm^2)	ϕ Degree	c (kg/cm^2)	ϕ Degree		
														Silt	Clay						
4	1	1.50	DS	32.89	-	2.629	-	-	36.08	24.18	11.90	-	-	12.00	88.00	-	-	-	-	-	CL
	2	2.00	UDS	32.37	0.86	2.633	1.41	1.87	-	-	-	-	-	-	-	0.215			-		CL
	3	3.00	DS	30.76	-	2.653	-	-	35.88	23.43	12.45	-	-	10.00	90.00	-	-	-	-	-	CL
	4	3.50	UDS	30.01	0.83	2.654	1.45	1.89	-	-	-	-	-	-	-	0.226			-		CL
	5	4.50	DS	29.59	-	2.657	-	-	-	-	-	-	87.00	13.00	-	-	-	-	29.35	-	SM
	6	6.00	DS	29.47	-	2.663	-	-	-	-	-	-	86.00	14.00	-	-	-	-	29.59	-	SM
	7	7.50	DS	28.63	-	2.664	-	-	-	-	-	-	88.00	12.00	-	-	-	-	29.65	-	SM
	8	9.00	DS	28.24	-	2.666	-	-	-	-	-	-	87.00	13.00	-	-	-	-	29.87	-	SM
	9	10.50	DS	26.38	-	2.668	-	-	-	-	-	-	86.00	14.00	-	-	-	-	29.94	-	SM
	10	12.00	DS	25.73	-	2.666	-	-	-	-	-	-	86.00	14.00	-	-	-	-	30.35	-	SM
	11	13.50	DS	24.89	-	2.669	-	-	-	-	-	-	89.00	11.00	-	-	-	-	30.50	-	SM
	12	15.00	DS	23.85	-	2.670	-	-	-	-	-	-	91.00	9.00	-	-	-	-	31.42	-	SM
	13	16.50	DS	22.95	-	2.669	-	-	-	-	-	-	88.00	12.00	-	-	-	-	31.82	-	SM
	14	18.00	DS	21.73	-	2.668	-	-	-	-	-	-	87.00	13.00	-	-	-	-	32.29	-	SM
	15	19.50	DS	20.43	-	2.671	-	-	-	-	-	-	89.00	11.00	-	-	-	-	32.44	-	SM

UCT -Unconfined compression Test, UD -Unconfined Drained Test, UU -Unconfined Undrained Test, DS - Disturbed Sample, UDS - Undisturbed Sample

The soil is Non Expansive

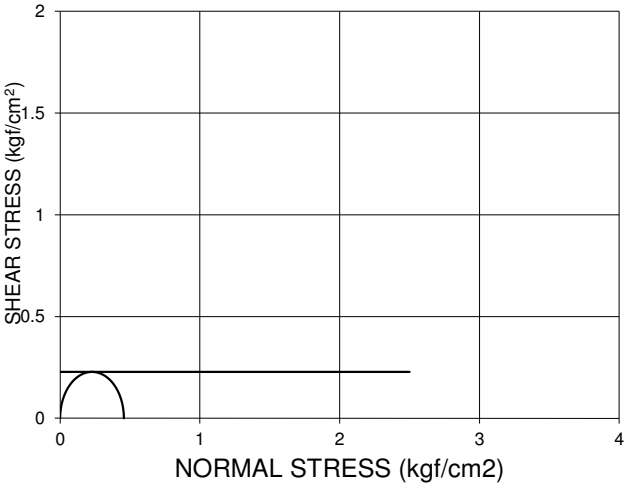
SHEAR TEST GRAPH



BH NO: 1 C = 0.211 kgf/cm^2

DEPTH: 2.0 m Φ = 0.00 ^{O}

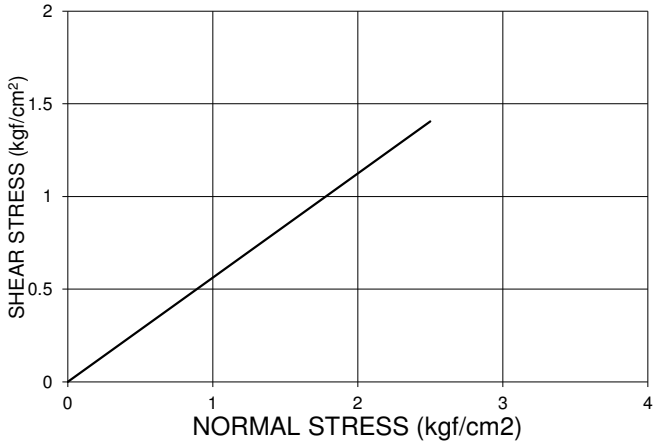
SHEAR TEST GRAPH



BH NO: 1 C = 0.228 kgf/cm^2

DEPTH: 3.5 m Φ = 0.00 ^{O}

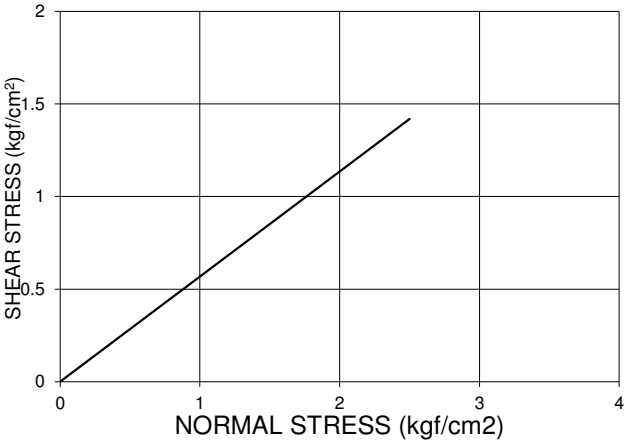
SHEAR TEST GRAPH



BH NO: 1 C = 0.000 kgf/cm^2

DEPTH: 4.5 m Φ = 29.34 ^{O}

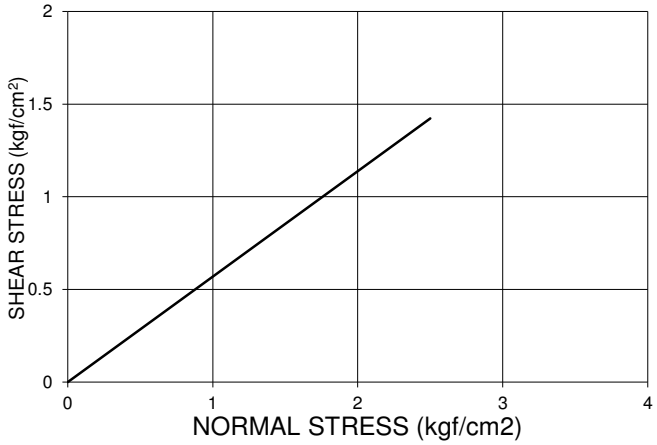
SHEAR TEST GRAPH



BH NO: 1 C = 0.000 kgf/cm^2

DEPTH: 6.0 m Φ = 29.58 ^{O}

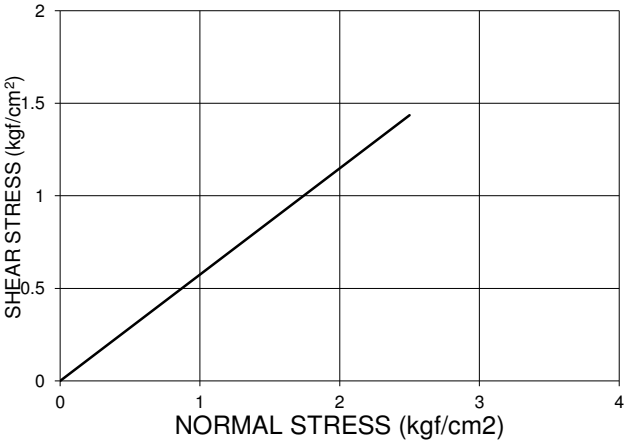
SHEAR TEST GRAPH



BH NO: 1 C = 0.00 kgf/cm^2

DEPTH: 7.5 m Φ = 29.64 ^{O}

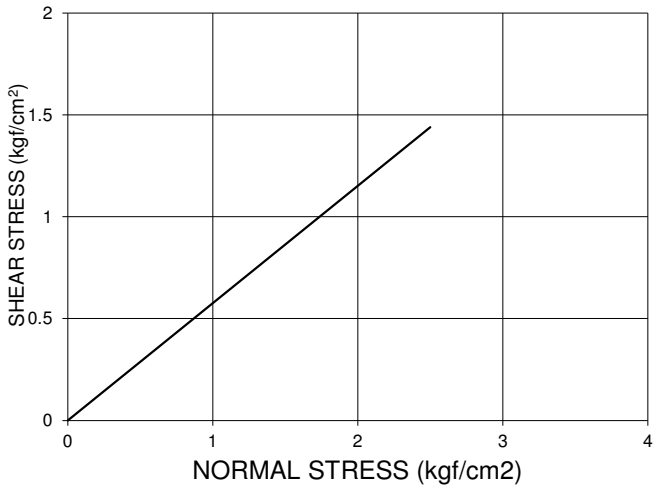
SHEAR TEST GRAPH



BH NO: 1 C = 0.00 kgf/cm^2

DEPTH: 9.0 m Φ = 29.86 ^{O}

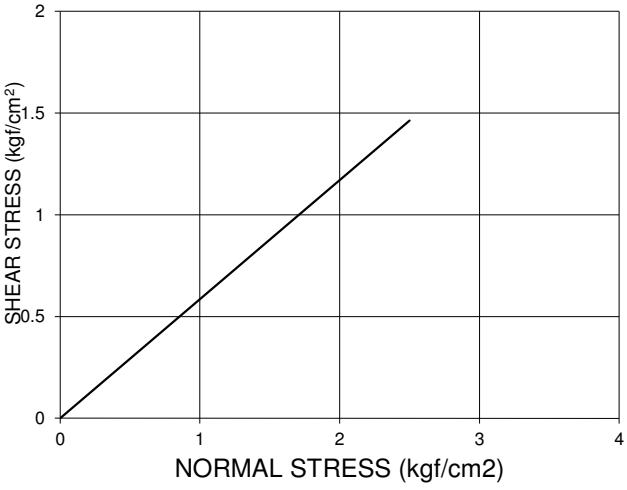
SHEAR TEST GRAPH



BH NO: 1 C = 0.000 kgf/cm^2

DEPTH: 10.5 m Φ = 29.94 ^{O}

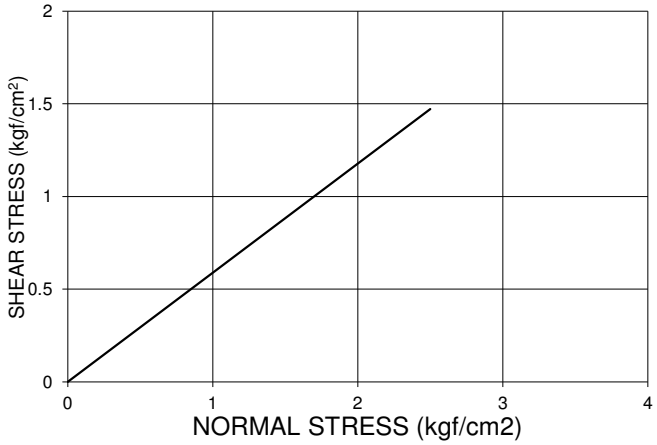
SHEAR TEST GRAPH



BH NO: 1 C = 0.000 kgf/cm^2

DEPTH: 12.0 m Φ = 30.34 ^{O}

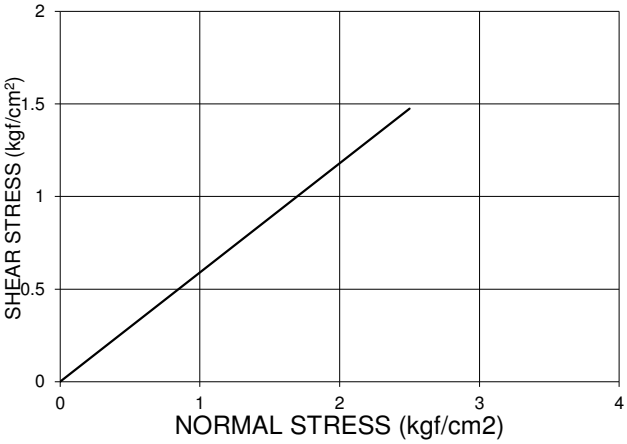
SHEAR TEST GRAPH



BH NO: 1 C = 0.000 kgf/cm^2

DEPTH: 13.5 m Φ = 30.49 ^{O}

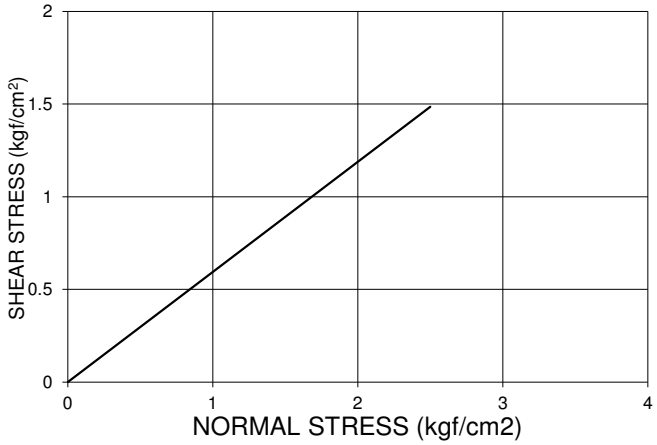
SHEAR TEST GRAPH



BH NO: 1 C = 0.000 kgf/cm^2

DEPTH: 15.0 m Φ = 30.54 ^{O}

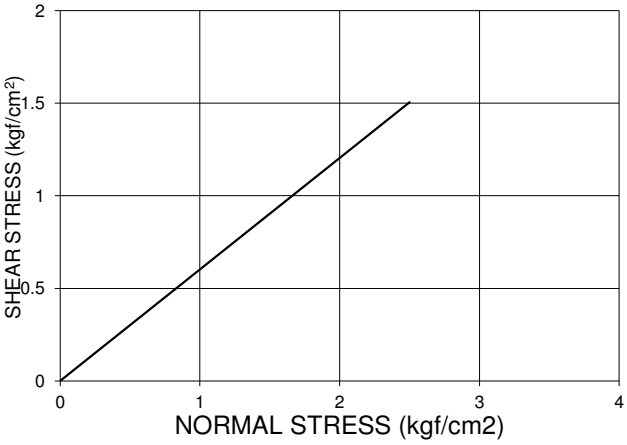
SHEAR TEST GRAPH



BH NO: 1 C = 0.00 kgf/cm^2

DEPTH: 16.5 m Φ = 30.72 ^{O}

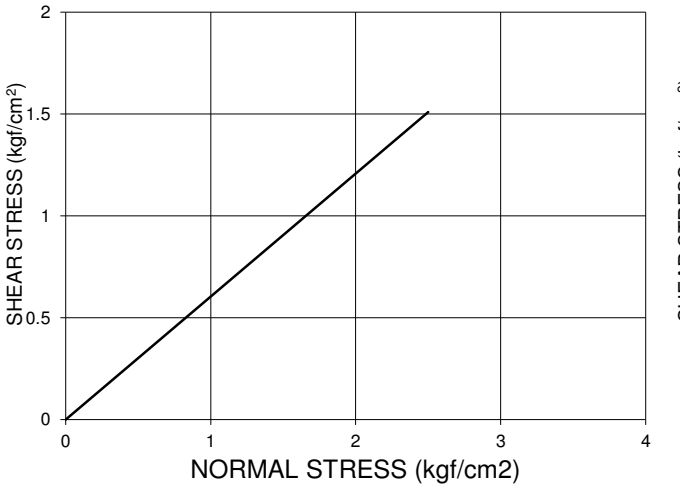
SHEAR TEST GRAPH



BH NO: 1 C = 0.00 kgf/cm^2

DEPTH: 18.0 m Φ = 31.06 ^{O}

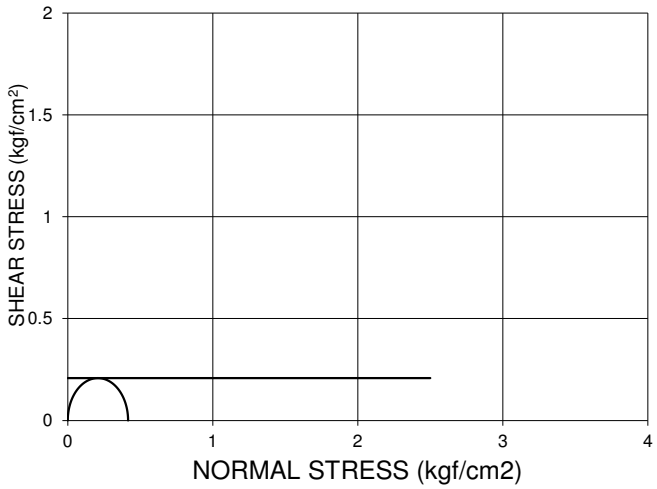
SHEAR TEST GRAPH



BH NO: 1 C = 0.000 kgf/cm^2

DEPTH: 19.5 m Φ = 31.13 ^{O}

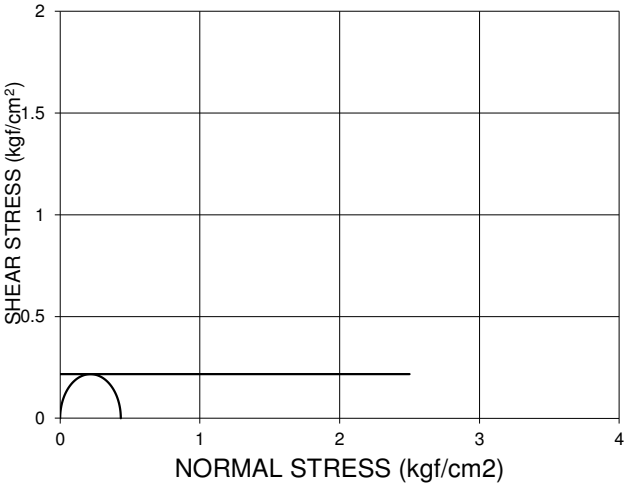
SHEAR TEST GRAPH



BH NO: 2 C = 0.208 kgf/cm^2

DEPTH: 2.0 m Φ = 0.00 ^{O}

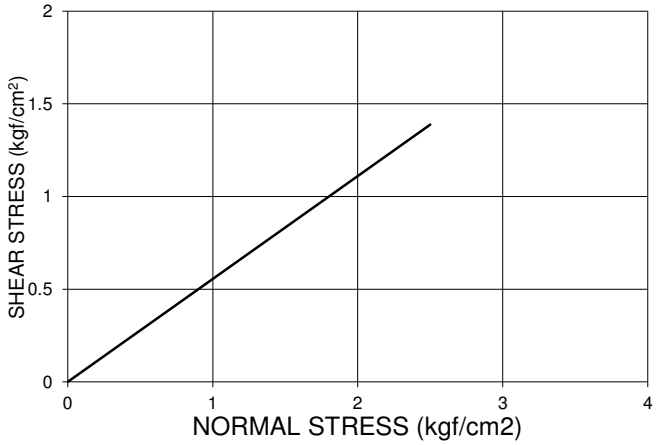
SHEAR TEST GRAPH



BH NO: 2 C = 0.217 kgf/cm^2

DEPTH: 3.5 m Φ = 0.00 ^{O}

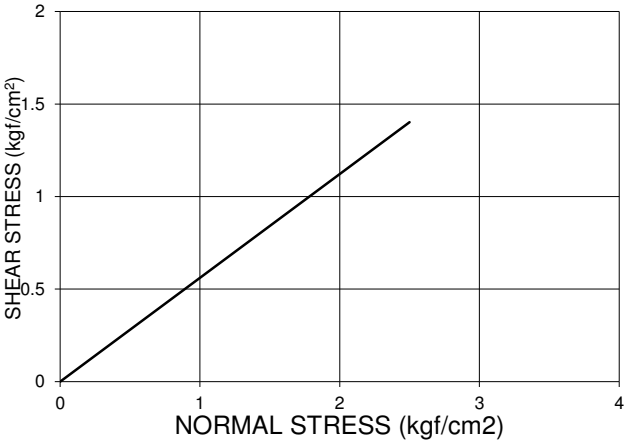
SHEAR TEST GRAPH



BH NO: 2 C = 0.000 kgf/cm^2

DEPTH: 4.5 m Φ = 29.04 ^{O}

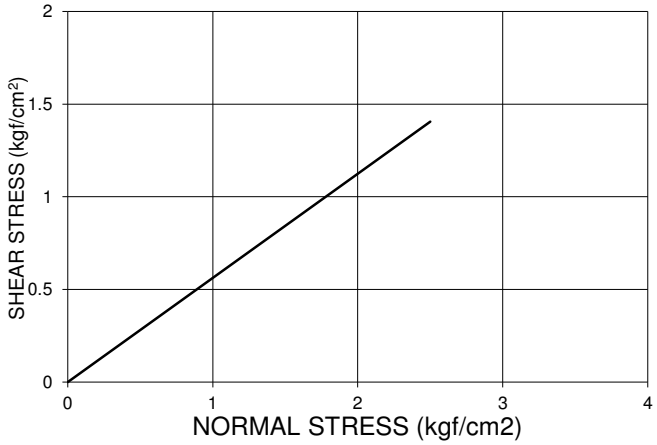
SHEAR TEST GRAPH



BH NO: 2 C = 0.000 kgf/cm^2

DEPTH: 6.0 m Φ = 29.28 ^{O}

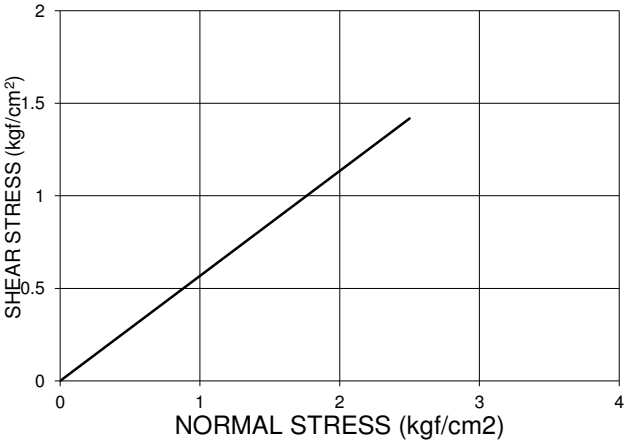
SHEAR TEST GRAPH



BH NO: 2 C = 0.00 kgf/cm^2

DEPTH: 7.5 m Φ = 29.34 ^{O}

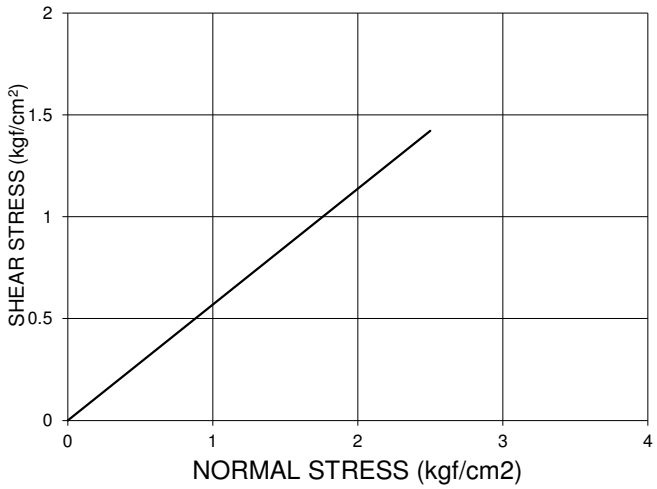
SHEAR TEST GRAPH



BH NO: 2 C = 0.00 kgf/cm^2

DEPTH: 9.0 m Φ = 29.56 ^{O}

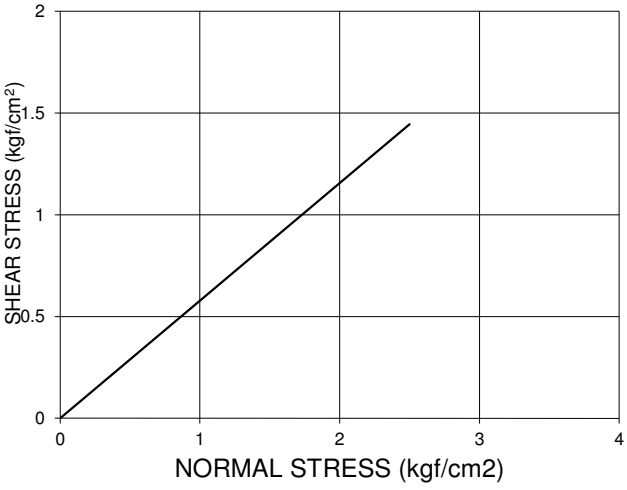
SHEAR TEST GRAPH



BH NO: 2 C = 0.000 kgf/cm^2

DEPTH: 10.5 m Φ = 29.63 ^{O}

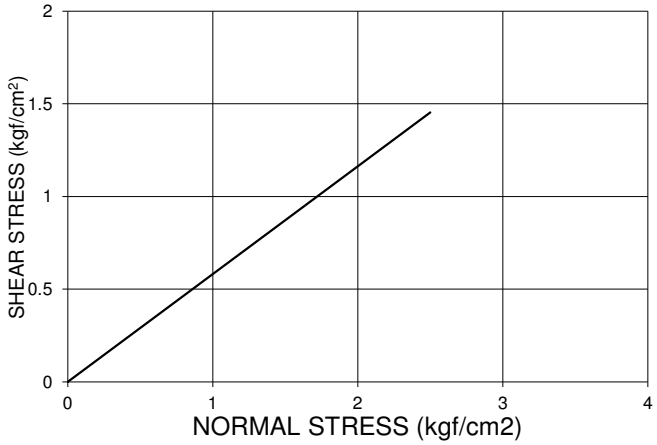
SHEAR TEST GRAPH



BH NO: 2 C = 0.000 kgf/cm^2

DEPTH: 12.0 m Φ = 30.03 ^{O}

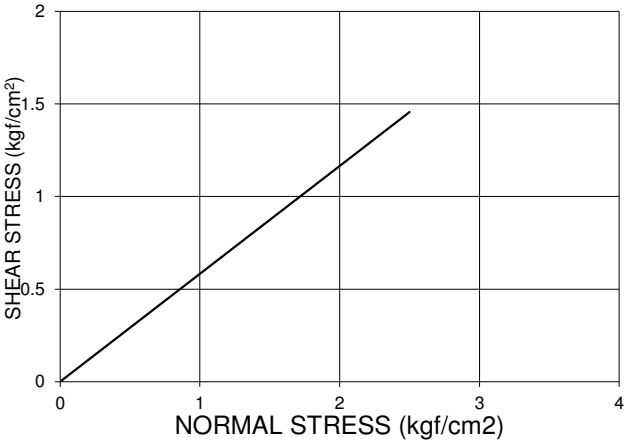
SHEAR TEST GRAPH



BH NO: 2 C = 0.000 kgf/cm^2

DEPTH: 13.5 m Φ = 30.18 ^{O}

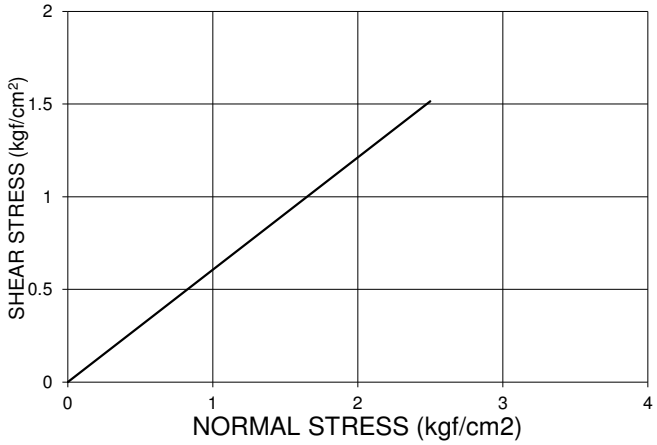
SHEAR TEST GRAPH



BH NO: 2 C = 0.000 kgf/cm^2

DEPTH: 15.0 m Φ = 30.23 ^{O}

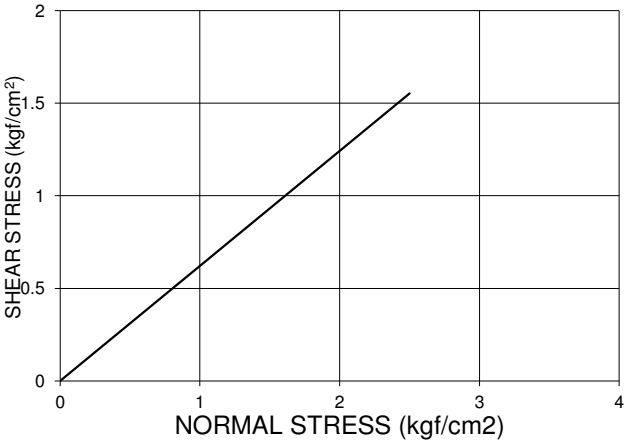
SHEAR TEST GRAPH



BH NO: 2 C = 0.00 kgf/cm^2

DEPTH: 16.5 m Φ = 31.22 ^{O}

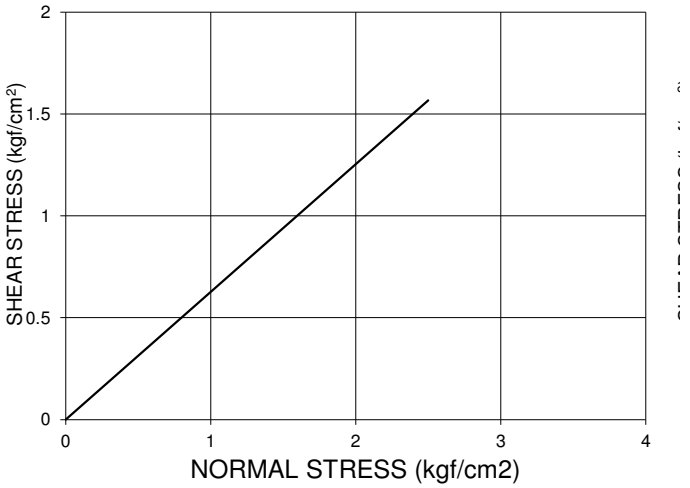
SHEAR TEST GRAPH



BH NO: 2 C = 0.00 kgf/cm^2

DEPTH: 18.0 m Φ = 31.85 ^{O}

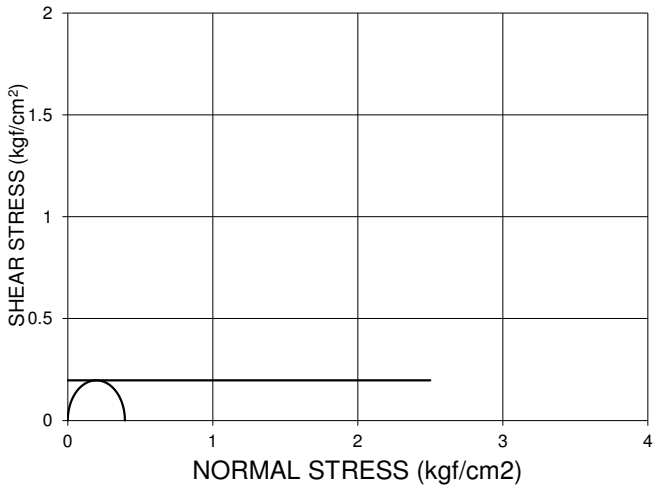
SHEAR TEST GRAPH



BH NO: 2 C = 0.000 kgf/cm^2

DEPTH: 19.5 m Φ = 32.08 ^{O}

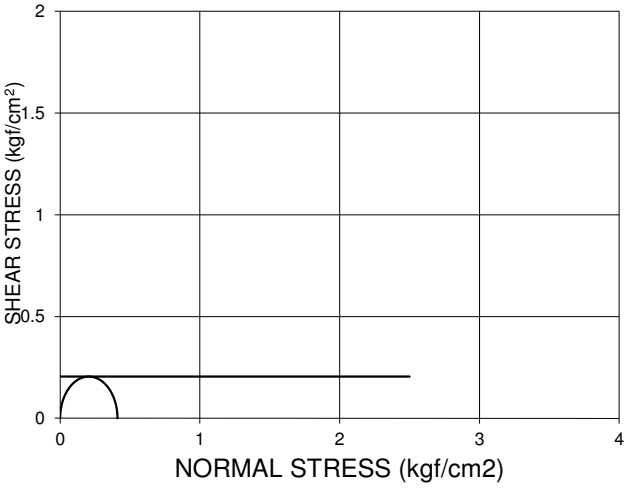
SHEAR TEST GRAPH



BH NO: 3 C = 0.197 kgf/cm^2

DEPTH: 2.0 m Φ = 0.00 ^{O}

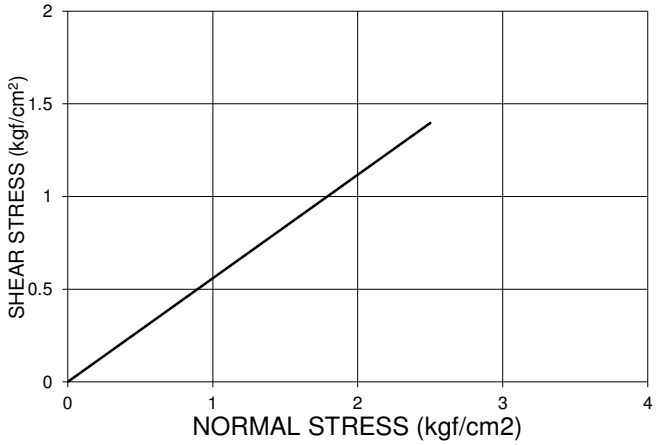
SHEAR TEST GRAPH



BH NO: 3 C = 0.205 kgf/cm^2

DEPTH: 3.5 m Φ = 0.00 ^{O}

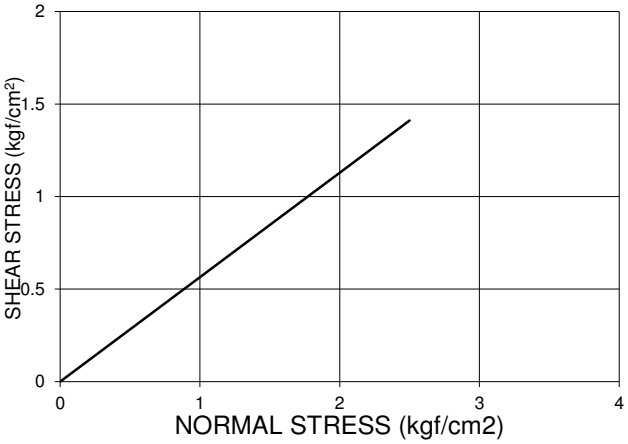
SHEAR TEST GRAPH



BH NO: 3 C = 0.000 kgf/cm^2

DEPTH: 4.5 m Φ = 29.19 ^{O}

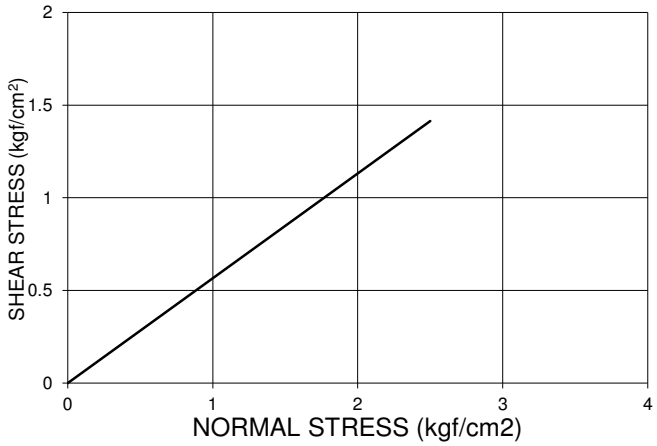
SHEAR TEST GRAPH



BH NO: 3 C = 0.000 kgf/cm^2

DEPTH: 6.0 m Φ = 29.44 ^{O}

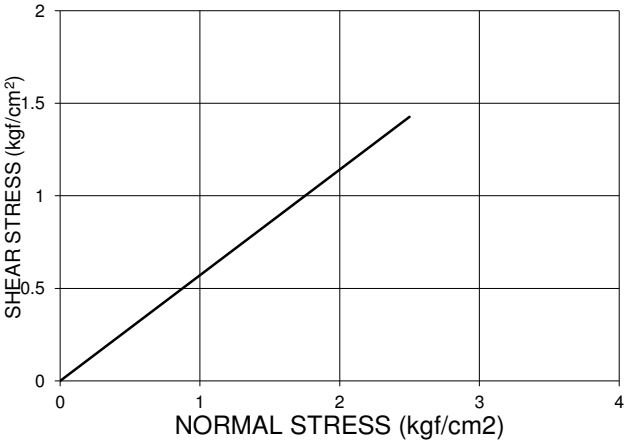
SHEAR TEST GRAPH



BH NO: 3 C = 0.00 kgf/cm^2

DEPTH: 7.5 m Φ = 29.49 ^{O}

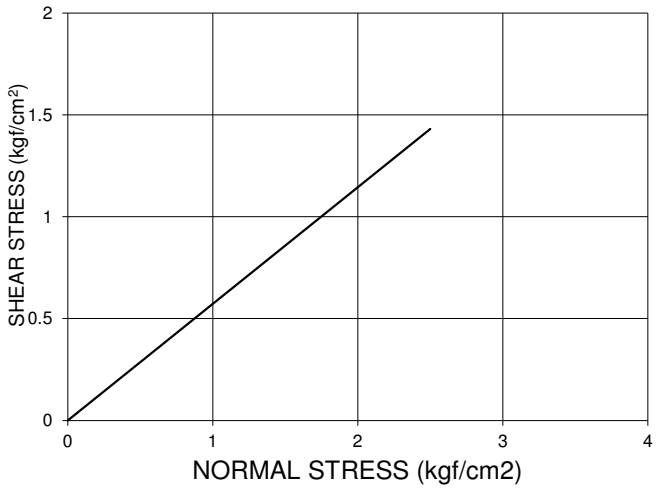
SHEAR TEST GRAPH



BH NO: 3 C = 0.00 kgf/cm^2

DEPTH: 9.0 m Φ = 29.71 ^{O}

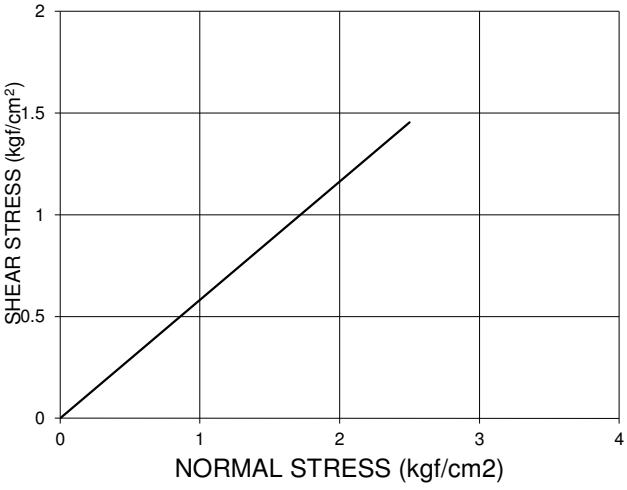
SHEAR TEST GRAPH



BH NO: 3 C = 0.000 kgf/cm^2

DEPTH: 10.5 m Φ = 29.79 ^{O}

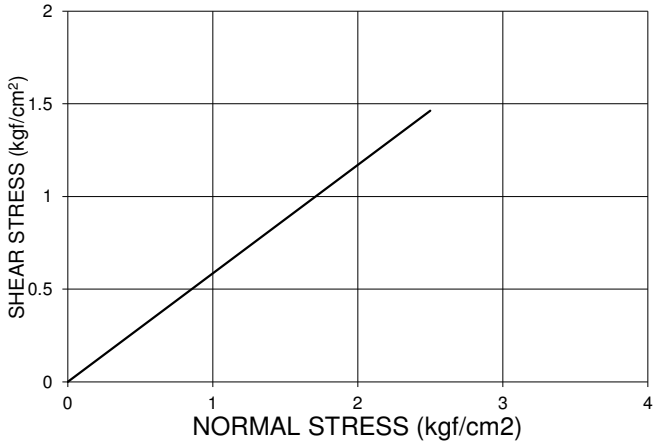
SHEAR TEST GRAPH



BH NO: 3 C = 0.000 kgf/cm^2

DEPTH: 12.0 m Φ = 30.19 ^{O}

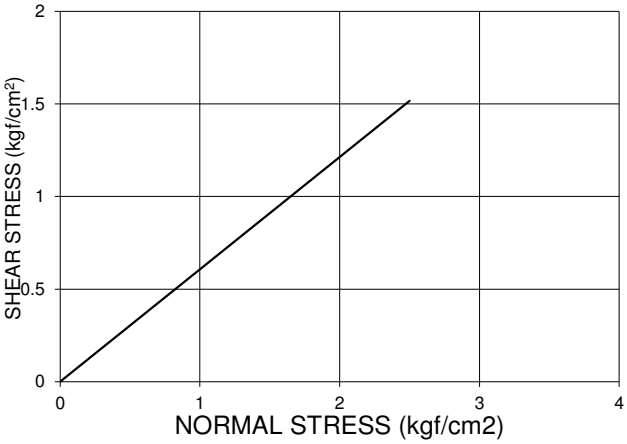
SHEAR TEST GRAPH



BH NO: 3 C = 0.000 kgf/cm^2

DEPTH: 13.5 m Φ = 30.34 ^{O}

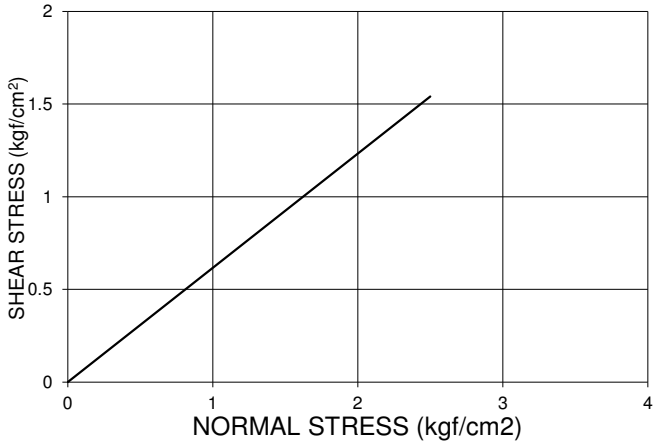
SHEAR TEST GRAPH



BH NO: 3 C = 0.000 kgf/cm^2

DEPTH: 15.0 m Φ = 31.25 ^{O}

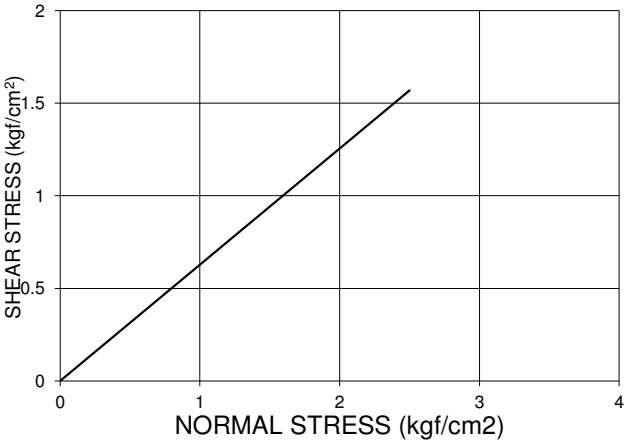
SHEAR TEST GRAPH



BH NO: 3 C = 0.00 kgf/cm^2

DEPTH: 16.5 m Φ = 31.65 ^{O}

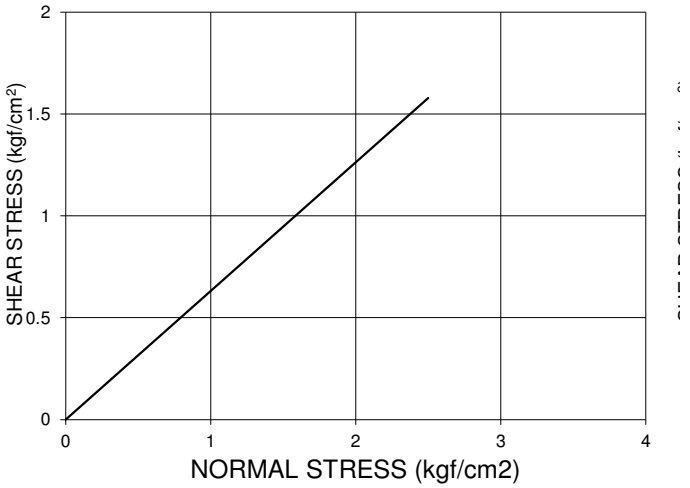
SHEAR TEST GRAPH



BH NO: 3 C = 0.00 kgf/cm^2

DEPTH: 18.0 m Φ = 32.12 ^{O}

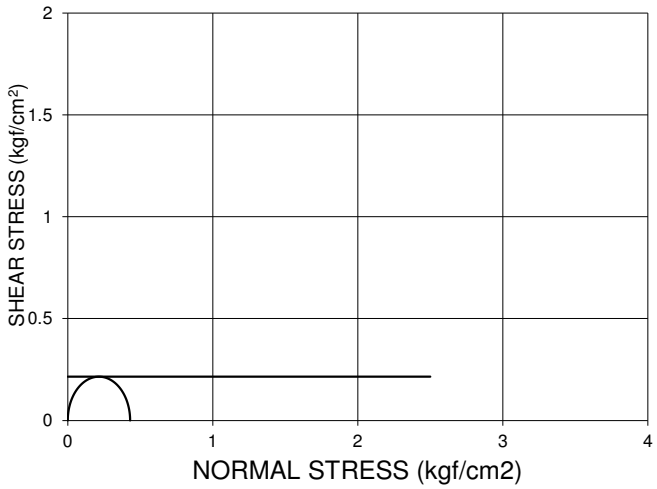
SHEAR TEST GRAPH



BH NO: 3 C = 0.000 kgf/cm^2

DEPTH: 19.5 m Φ = 32.27 ^{O}

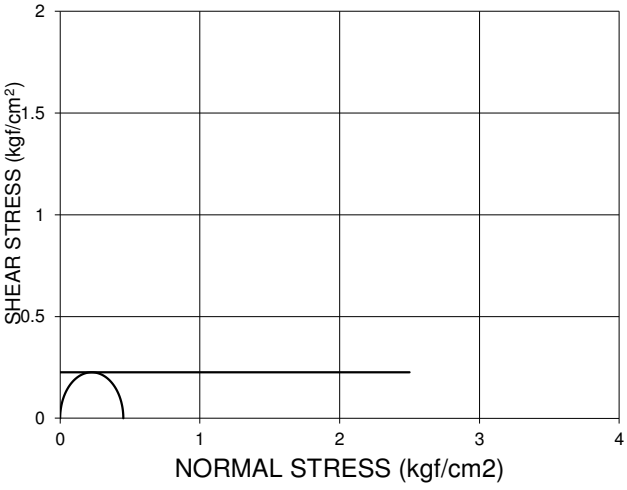
SHEAR TEST GRAPH



BH NO: 4 C = 0.215 kgf/cm^2

DEPTH: 2.0 m Φ = 0.0 ^{O}

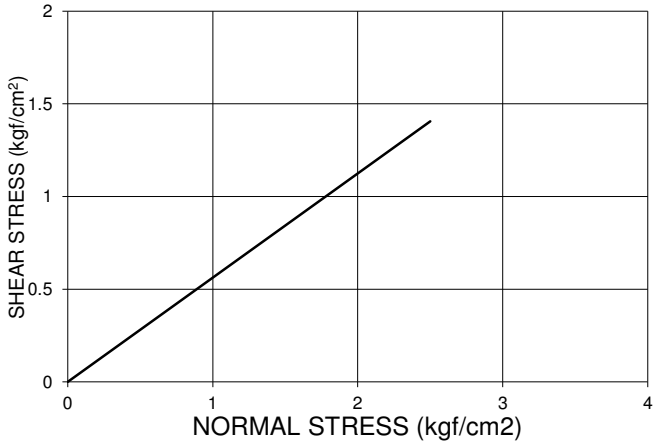
SHEAR TEST GRAPH



BH NO: 4 C = 0.226 kgf/cm^2

DEPTH: 3.5 m Φ = 0.0 ^{O}

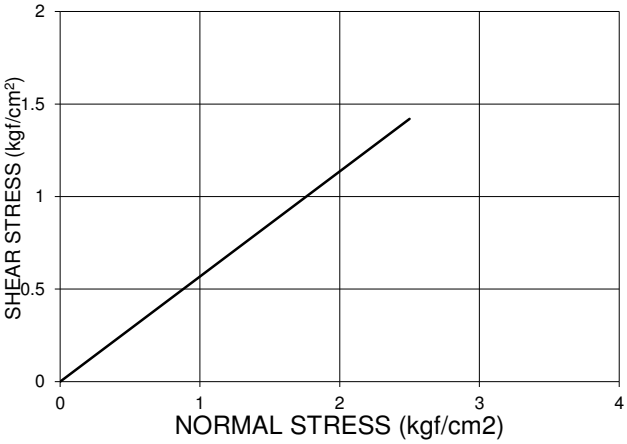
SHEAR TEST GRAPH



BH NO: 4 C = 0.000 kgf/cm^2

DEPTH: 6.0 m Φ = 29.3 ^{O}

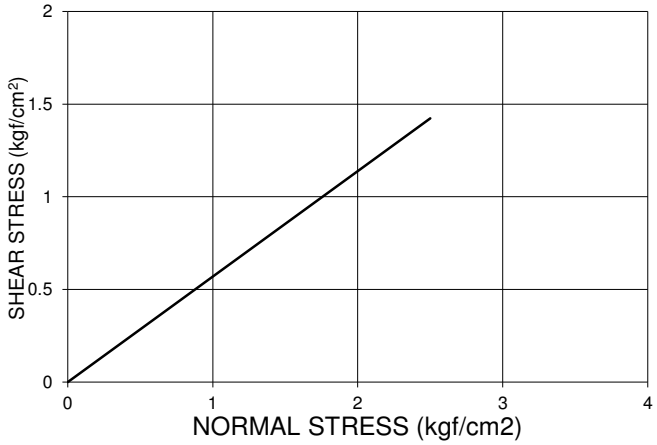
SHEAR TEST GRAPH



BH NO: 4 C = 0.000 kgf/cm^2

DEPTH: 7.5 m Φ = 29.59 ^{O}

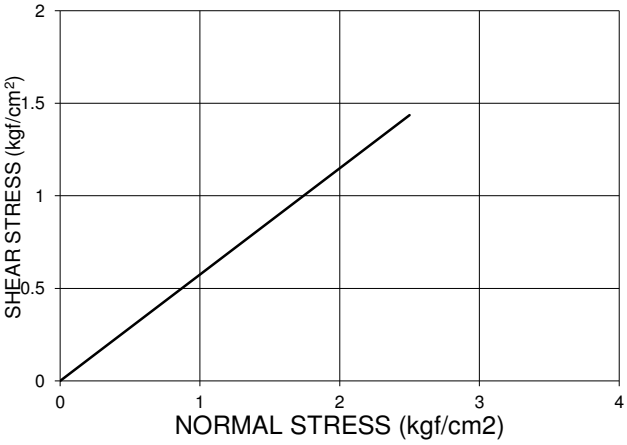
SHEAR TEST GRAPH



BH NO: 4 C = 0.00 kgf/cm^2

DEPTH: 9.0 m Φ = 29.65 ^{O}

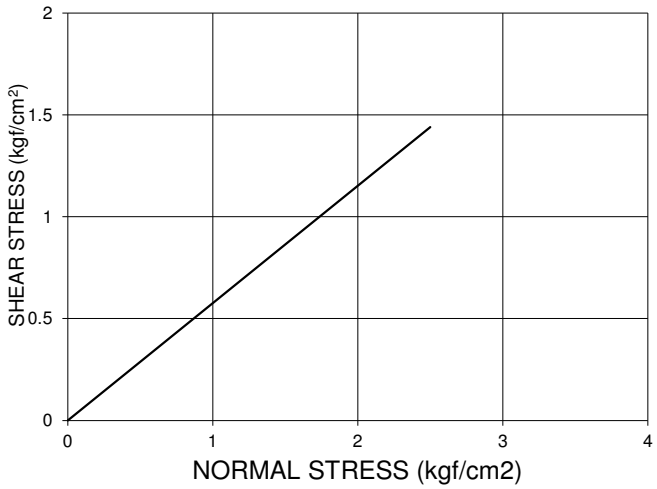
SHEAR TEST GRAPH



BH NO: 4 C = 0.00 kgf/cm^2

DEPTH: 10.5 m Φ = 29.87 ^{O}

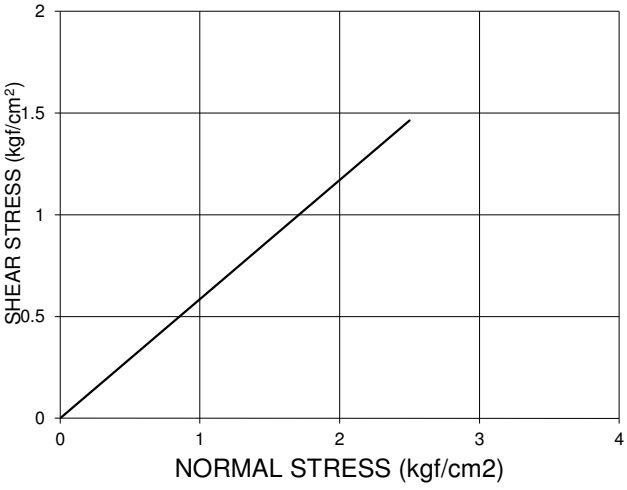
SHEAR TEST GRAPH



BH NO: 4 C = 0.000 kgf/cm^2

DEPTH: 12.0 m Φ = 29.94 ^{O}

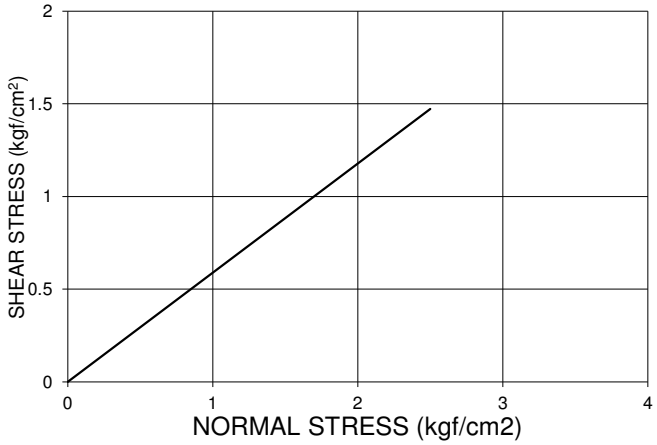
SHEAR TEST GRAPH



BH NO: 4 C = 0.000 kgf/cm^2

DEPTH: 13.5 m Φ = 30.35 ^{O}

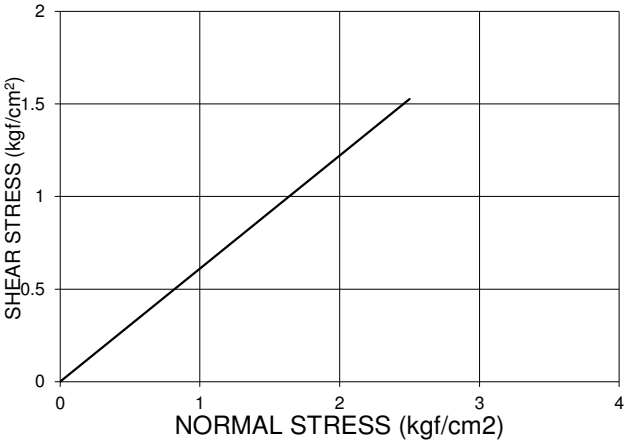
SHEAR TEST GRAPH



BH NO: 4 C = 0.000 kgf/cm^2

DEPTH: 15.0 m Φ = 30.50 ^{O}

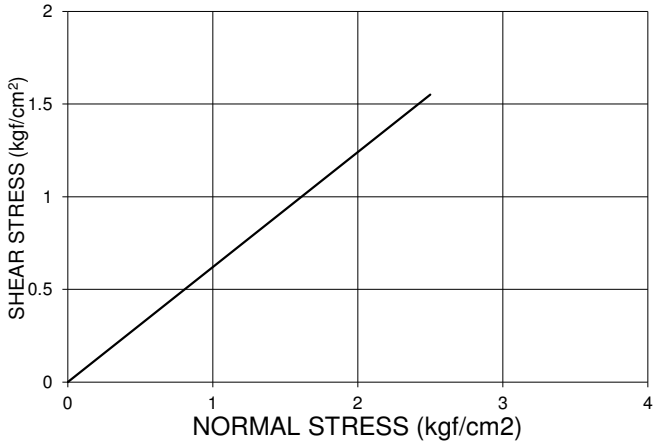
SHEAR TEST GRAPH



BH NO: 4 C = 0.000 kgf/cm^2

DEPTH: 16.5 m Φ = 31.42 ^{O}

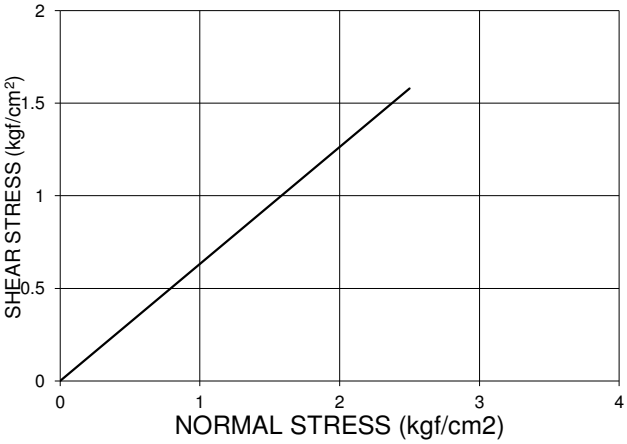
SHEAR TEST GRAPH



BH NO: 4 C = 0.00 kgf/cm^2

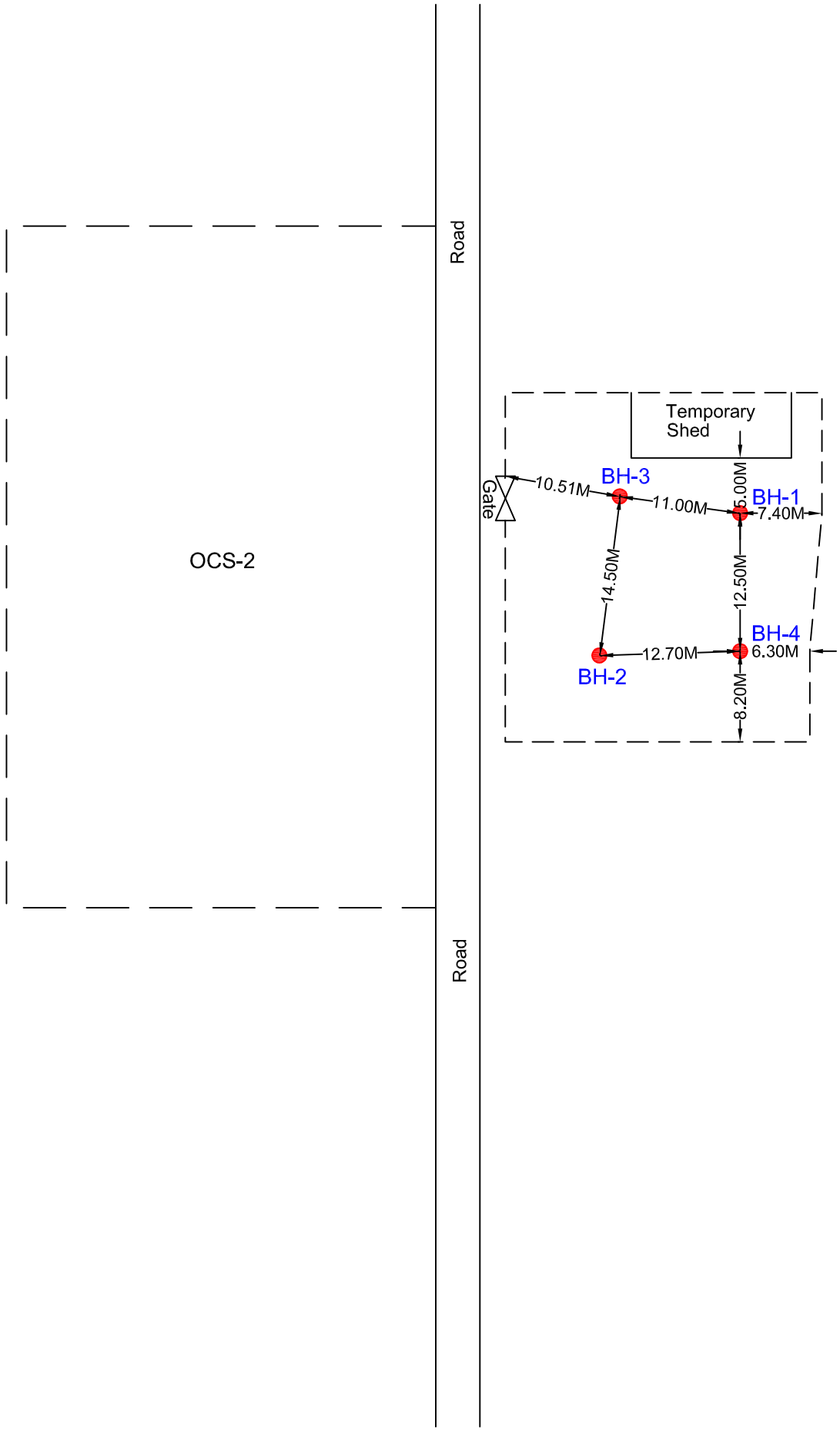
DEPTH: 18.0 m Φ = 31.82 ^{O}

SHEAR TEST GRAPH



BH NO: 4 C = 0.00 kgf/cm^2

DEPTH: 19.5 m Φ = 32.29 ^{O}



Site Plan
OCS-2, Duliajan

PHOTOGRAPH



BH-1



BH-2



BH-3



BH-4


B.H NO - 01
DIS
Depth - 1.50m
OIL INDIA DULIAJAN SITE
(OCS - 2)
B.H NO - 01
DIS
Depth - 9.00m
(OCS - 2)
OIL INDIA DULIAJAN SITE
B.H NO - 01
DIS
Depth - 10.50m
OIL INDIA DULIAJAN SITE
B.H NO - 01
DIS
Depth - 16.50m
(OCS - 2)
OIL INDIA DULIAJAN SITE
B.H NO - 01
DIS
Depth - 3.00m
OIL INDIA DULIAJAN SITE
(OCS - 2)
B.H NO - 01
DIS
Depth - 12.00m
(OCS - 2)
OIL INDIA DULIAJAN SITE
B.H NO - 01
DIS
Depth - 18.00m
OIL INDIA DULIAJAN SITE
(OCS - 2)
B.H NO - 01
DIS
Depth - 4.50m
(OCS - 2)
OIL INDIA DULIAJAN SITE
B.H NO - 01
DIS
Depth - 13.50m
(OCS - 2)
OIL INDIA DULIAJAN SITE
B.H NO - 01
DIS
Depth - 6.00m
(OCS - 2)
OIL INDIA DULIAJAN SITE
B.H NO - 01
DIS
Depth - 15.00m
(OCS - 2)
OIL INDIA DULIAJAN SITE
B.H NO - 01
DIS
Depth - 7.50m
(OCS - 2)
OIL INDIA DULIAJAN SITE

BH-1



BH-2



BH-3


B.H NO-04
D/S
Depth - 1.50m
(OCS-2)
OIL INDIA DULIAJAN SITE
B.H NO-04
D/S
Depth - 10.50m
(OCS-2)
OIL INDIA DULIAJAN SITE
B.H NO-04
D/S
Depth - 3.00m
(OCS-2)
OIL INDIA DULIAJAN SITE
B.H NO-04
D/S
Depth - 12.00m
(OCS-2)
OIL INDIA DULIAJAN SITE
B.H NO-04
D/S
Depth - 4.50m
(OCS-2)
OIL INDIA DULIAJAN SITE
B.H NO-04
D/S
Depth - 6.00m
(OCS-2)
OIL INDIA DULIAJAN SITE
B.H NO-04
D/S
Depth - 7.50m
(OCS-2)
B.H NO-04
D/S
Depth - 15.00m
(OCS-2)
B.H NO-04
D/S
Depth - 19.50m
(OCS-2)
OIL INDIA DULIAJAN SITE

BH-4

ANNEXURE-A

Sample Format of authorization letter from OEM (To be typed on the letterhead of the OEM)

Ref. No_____ Date _____

To,
CGM – Contracts (HoD)Oil India
Limited, Duliajan -786602

Sir,

Sub: Authorization Certificate

Ref: Your tender enquiry No._____ Dated_____.

1.0 We hereby authorize M/s_____to participate in the above-mentioned tender, for which we shall have no objection.

2.0 We affirm that we shall bear the responsibility and accountability in regard to design, manufacturing supply & installation of 33KV GIS with E-House.

3.0 Onsite warranty and AMC support, including replacement of spares will be provided (tick on any of the following)

a) Directly by us.
b) By the bidder on our behalf.

3.0 Upon award of the contract, we shall provide full OEM support for the entire duration of the contract, including in extension period (if any).

Yours faithfully,

For (type name of the firm here)

Signature of Authorized Signatory

Name: Designation: Phone No.: Place: Date: Email:

(Affix Seal of the Organization here, if applicable)

*******************END OF ANNEXURE-A*******************

ANNEXURE-B TO BEC/PQC

FORMAT OF AGREEMENT BETWEEN BIDDER AND THEIR OEM

(TO BE EXECUTED ON STAMP PAPER OF REQUISITE VALUE AND NOTORISED)

This agreement made this ___ day of ____ month ____ year by and between M/s _____ (Fill in the Bidder's full name, constitution and registered office address) hereinafter referred to as bidder on the first part and M/s. _____ (Fill in full name, constitution and registered office address of OEM) of the other part:

WHEREAS

M/s. Oil India Limited (hereinafter referred to as OIL) has invited offers vide their Tender No. _____ for _____ and M/s _____(Bidder) intends to bid against the said tender and desires to have technical support of M/s_____[OEM] and whereas OEM represents that they have gone through and understood the requirements of subject tender and are capable and committed to provide the services as required by the bidder for successful execution of the contract, if awarded to the bidder.

Now, it is hereby agreed to by and between the parties as follows:

1. M/s._____(Bidder) will submit an offer to OIL for the full scope of work as envisaged in the tender document as a main bidder and liaise with OIL directly for any clarifications etc. in this context.

2. M/s. _____ (OEM) undertakes to provide technical support and expertise, expert manpower and procurement assistance and project management to support the bidder to discharge its obligations as per the Scope of work of the tender/ Contract for which offer has been made and accepted by the bidder.

3. This agreement will remain valid till validity of bidder's offer to OIL including extension if any and till satisfactory performance of the contract in the event the contract is awarded by OIL to the bidder.

4. It is further agreed that for the performance of work during contract period bidder and OEM shall be jointly and severely responsible to OIL for satisfactory execution of the contract.

5. However, the bidder shall have the overall responsibility of satisfactory execution of the contract awarded by OIL.

In witness whereof the parties hereto have executed this agreement on the date

mentioned above.

For and on behalf of M/s……..	For and on behalf of M/s ……
(OEM)	(Bidder)
Witness:	Witness:
1.	1.
2.	2.

LIST OF PROFORMAS

Sl. No	PROFORMA NOS	DESCRIPTION
1	PROFORMA I	**Bid form**
2	PROFORMA-II	**Statement of non-compliance (if any)**
3	PROFORMA-III	**Proforma letter of authorization for attending bid opening**
4	PROFORMA-IV	**Proforma letter of authority**
5	PROFORMA-V	**FORM OF BID SECURITY (BANK GUARANT FORMAT**
6	PROFORMA-VI	**To be filled-up/submitted by the vendor on letter head for E-remittance**
7	PROFORMA-VII	**Form of performance bank guarantee**
8	PROFORMA-VIII	**Agreement form**
9	PROFORMA-IX	**Format of undertaking by bidders towards submission of authentic information/documents (to be typed on the letter head of the bidder)**
10	PROFORMA-X	**Certificate of compliance to financial criteria**
11	PROFORMA-XI	**Technical evaluation sheet**
12	PROFORMA-XII	**Commercial check list**
13	PROFORMA-XIII	**Undertaking towards submission of performance bank guarantee**
14	PROFORMA-XIV	**Safety measures**
15	PROFORMA-XV	**Certificate of annual turnover & net worth**
16	PROFORMA-XVI	**Undertaking for local content**
17	PROFORMA-XVII	**Integrity Pact**
18	PROFORMA-K	**PROFORMA OF "INSURANCE SURETY BOND" F "BID SECURITY"**
19	PROFORMA-L	**PROFORMA OF "INSURANCE SURETY BOND" F "PERFORMANCE SECURITY"**
20	PROFORMA-Z	**FORMAT FOR HINDRANCE REGISTER**
21	PROFORMA-M	**Undertaking from TPI Agency**

PROFORMA-I

BID FORM

To
M/s Oil India Limited,
P.O. Duliajan, Assam, India

Sub: "Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works."

Gentlemen,

Having examined the General and Special Conditions of Contract and the Terms of Reference including all attachments thereto, the receipt of which is hereby duly acknowledged, we the undersigned offer to perform the work/services in conformity with the said conditions of Contract and Terms of Reference for the sum quoted in the Price Bid Format or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to commence the work as per the terms & conditions set out in the subject tender.

If our Bid is accepted, we will submit the Performance Security Deposit as specified in the tender document for the due performance of the Contract.

We agree to abide by this Bid for a period of 120 days from the date of bid opening and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof in your notification of award shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any Bid you may receive.

Dated this _____ day of _____ 2026.

Authorised Person's Signature: _____

Name: _____

Designation: _____

Seal of the Bidder:

PROFORMA-II

STATEMENT OF NON-COMPLIANCE (IF ANY)

(Only exceptions/deviations to be rendered)

1.0 The Bidder shall furnish detailed statement of **exceptions/deviations**, if any, to the IFB stipulations, terms, and conditions in respect of each Section of Bid Document in the following format:

Section No.	Clause No. (Page No.)	Non-Compliance	Remarks

Signature of Bidder: _____

Name: _____

NOTE: OIL INDIA LIMITED expects the bidders to fully accept the terms and conditions of the bid document. However, should the bidders still envisage some exceptions/deviations to the terms and conditions of the bid document, the same should be indicated as per above format and submit along with their bids. If the "**Statement of Non-Compliance**" in the above Proforma is left blank (or not submitted along with the Bid), then it would be constructed that the bidder has not taken any exception/deviation to the IFB requirements.

PROFORMA-III

PROFORMA LETTER OF AUTHORISATION FOR ATTENDING BID OPENING

TO
CGM-CONTRACTS (HoD)
OIL INDIA LIMITED
P.O. DULIAJAN-786602
Assam, India

Sir,

SUB: "Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works."

I/We _____ confirm that Mr. _____ (Name and address) as authorized to represent us during bid opening on our behalf with you against IFB for **"**Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works.**"**

Yours Faithfully,

Authorised Person's Signature: _____

Name: _____

Signature of Bidder: _____

Name: _____

Date: _____

PROFORMA-IV

PROFORMA LETTER OF AUTHORITY

TO
CGM-CONTRACTS (HoD)
Contracts Department
P.O. DULIAJAN PIN-786602
Dist. Dibrugarh, Assam
India

Dear Sir,

SUB: Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works.

We_____of_____
Confirm that Mr. _____
_____ (Name and Address) is authorized to represent us to Bid, negotiate and conclude the agreement on our behalf with you against IFB for **Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works** for any commercial/ legal purpose etc.

We confirm that we shall be bound by all and whatsoever our said representative shall commit.

Authorised Person's Signature: _____

Name: _____

Yours faithfully,

Signature: _____

Name & Designation _____

For & on behalf of _____

NOTE: This letter of authority shall be on printed letter head of the bidder and shall be signed by a person competent and having the power of attorney (Power of attorney shall be annexed) to bind such Bidder.

FORM OF BID SECURITY (BANK GUARANTEE FORMAT)

To
M/s OIL INDIA LIMITED,
CONTRACTS DEPARTMENT,
DULIAJAN, ASSAM, INDIA, PIN-786602

WHEREAS, (Name of Bidder) _____ (hereinafter called "the Bidder") has submitted their offer Dated _____ for the provision of certain services (hereinafter called "the Bid") against OIL INDIA LIMITED, Duliajan, Assam, India (hereinafter called the Company's) Tender No. _____ KNOW ALL MEN BY these presents that we (Name of Bank) _____ of (Name of Country) _____ having our registered office at _____ (hereinafter called "Bank") are bound unto the Company in the sum of (*_____) for which payment well and truly to be made to Company, the Bank binds itself, its successors and assignees by these presents.

SEALED with the said Bank this ___ day of _____ 20_____

THE CONDITIONS of these obligations are:

1. If the Bidder withdraws their Bid within its original/extended validity; or
2. The Bidder modifies/revises their bid suomoto; or
3. The Bidder does not accept the contract; or
4. The Bidder does not furnish Performance Security Deposit within the stipulated time as per tender/contract; or
5. If it is established that the Bidder has submitted fraudulent documents or has indulged into corrupt and fraudulent practice.

We undertake to pay to Company up to the above amount upon receipt of its first written demand (by way of letter/fax/cable), without Company having to substantiate its demand provided that in its demand Company will note that the amount claimed by it is due to it owing to the occurrence of any of the conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including the date (**--/--/--) and any demand in respect thereof should reach the Bank not later than the above date.

The details of the Issuing Bank and Controlling Bank are as under:

A. Issuing Bank:

BANK FAX NO:

BANK EMAIL ID:

BANK TELEPHONE NO.:

IFSC CODE OF THE BANK:

B. Controlling Office:

Address of the Controlling Office of the BG issuing Bank:
Name of the Contact Person at the Controlling Office with Mobile No. and e-mail address:

SIGNATURE AND SEAL OF THE GUARANTORS _____

Name of Bank & Address _____

Contd.... P/2

Witness _____

Address _____

_____

(Signature, Name and Address)

Date: _____

Place: _____

***** The Bidder should insert the amount of the guarantee in words and figures.

****** Date of expiry of Bank Guarantee should be minimum 30 days after the end of the validity period of the Bid/as specified in the Tender.

Note:

The Bank Guarantee issuing bank branch shall ensure the following:

a. The Bank Guarantee issued by the Bank must be routed through SFMS platform as per following details:

   (i) MT 760 / MT 760 COV for issuance of Bank Guarantee
   (ii) MT 760 / MT 767 COV for amendment of Bank Guarantee

   The above message / intimation shall be sent through SFMS (indicating the Contract Number) by the BG issuing bank branch to ICICI BANK LTD., Duliajan Branch; IFS Code – ICIC0000213; SWIFT Code – ICICINBBXXX; Branch Address: Kunja Bhavan, Daily Bazaar, Duliajan, Dibrugarh, Assam – 786602.

b. Bank Guarantee issued by a Scheduled Bank in India at the request of some other Non-Scheduled Bank of India shall not be acceptable.

PROFORMA-VI

[TO BE FILLED-UP/SUBMITTED BY THE VENDOR ON ITS LETTER HEAD FOR E-REMITTANCE]

Name:

FULL Address:

Phone Number:
Mobile Number:
E-mail address:
Fax Number:
Bank Account Number (in which the Bidder wants remittance against invoices):
Bank Name:
Branch:
Address of the Bank:
Bank Code:
IFSC/RTGS Code of the Bank:
NEFT Code of the Bank:
PAN Number:
GST Registration Number:

_____
Signature of Bidder with Official Seal

PROFORMA-VII

FORM OF PERFORMANCE BANK GUARANTEE

To:

M/s. Oil India Limited
Contracts Department
Duliajan, Assam - 786602

WHEREAS _____ (Name and address of Contractor) (hereinafter called "Contractor") had undertaken, in pursuance of Contact No. _____ to execute (Name of Contract and Brief Description of the Work) _____ (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee as security for compliance with Contractor's obligations in accordance with the Contract.

AND WHEREAS we (May incorporate the Bank Name) have agreed to give the Contractor such a Bank Guarantee; NOW THEREFORE we hereby affirm that we are Guarantors on behalf of the Contractor, up to a total of (Amount of Guarantee in figures) _____ (in words_____), such amount being payable in the types and proportions of currencies in which the Contract price is payable, and we undertake to pay you, upon your first written demand and without cavil or arguments, any sum or sums within the limits of guarantee sum as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein. We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or the work to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way cease us from any liability under this guarantee, and we hereby waive notice of such change, addition or modification.

This guarantee is valid until the _____day of _____

The details of the Issuing Bank and Controlling Bank are as under:

A. Issuing Bank:
BANK FAX NO:
BANK EMAIL ID:
BANK TELEPHNE NO:
IFSC CODE OF THE BANK:

B. Controlling Office:

Address of the Controlling Office of the BG issuing Bank:

Name of the Contract Person at the Controlling Office with Mobile No. and e-mail address:

Notwithstanding anything contained herein:

a) Our liability under this Bank Guarantee shall is restricted up to Rs._____

b) This guarantee shall be valid till .....

c) We are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before .....(Date of Expiry of BG PLUS one year claim period).

d) At the end of the claim period that is on or after ..... (Date of expiry of the Bank Guarantee Plus Minimum of 1 year claim period shall be stipulated) all your rights under this Guarantee shall stand extinguished and we shall be discharged from all our liabilities under this Guarantee irrespective of receipt of original Bank Guarantee duly discharged, by Bank.

Name of the Contact Person at the Controlling Office with Mobile No. and e-mail address:

SIGNATURE AND SEAL OF THE GUARANTORS_____
Designation_____
Name of the Bank_____
Address _____

Note:

The Bank Guarantee issuing bank branch shall ensure the following:

a. The Bank Guarantee issued by the Bank must be routed through SFMS platform as per following details:

(i) MT 760 / MT 760 COV for issuance of Bank Guarantee
(ii) MT 760 / MT 767 COV for amendment of Bank Guarantee

The above message / intimation shall be sent through SFMS (indicating the Contract Number) by the BG issuing bank branch to ICICI BANK LTD., Duliajan Branch; IFS Code – ICIC0000213; SWIFT Code – ICICINBBXXX; Branch Address: Kunja Bhavan, Daily Bazaar, Duliajan, Dibrugarh, Assam – 786602.

b. Bank Guarantee issued by a Scheduled Bank in India at the request of some other Non-Scheduled Bank of India shall not be acceptable.

PROFORMA-VIII

AGREEMENT FORM

This Agreement is made on ____ day of _____ between Oil India Limited, a Government of India Enterprise, incorporated under the Companies Act 1956, having its registered office at Duliajan in the State of Assam, hereinafter called the "Company" which expression unless repugnant to the context shall include executors, administrators and assignees on the one part, and M/s. _____ (Name and address of Contractor) hereinafter called the "Contractor" which expression unless repugnant to the context shall include executors, administrators and assignees on the other part,

WHEREAS the Company desires that Services _____ (brief description of services) should be provided by the Contractor as detailed hereinafter or as Company may requires;

WHEREAS, Contractor engaged themselves in the business of offering such services represents that they have adequate resources and equipment, material etc. in good working order and fully trained personnel capable of efficiently undertaking the operations and is ready, willing and able to carry out the said services for the Company as per Section-II attached herewith for this purpose and

WHEREAS, Company had issued a firm Letter of Award No. _____ dated _____ based on Offer No. _____ dated _____ submitted by the Contractor against Company's IFB No. _____ and the Contractor accepted the same vide Letter No. _____ dated _____.

WHEREAS, the Contractor has furnished to Company the performance security in the form of DD/BC/BG for Rs. _____ (being 3% of Annualized Contract value) with validity of 90 (Ninety) days beyond the contract period.

All these aforesaid documents shall be deemed to form and be read and construed as part of this agreement/contract. However, should there be any dispute arising out of interpretation of this contract in regard to the terms and conditions with those mentioned in Company's tender document and subsequent letters including the Letter of Intent and Contractor's offer and their subsequent letters, the terms and conditions attached hereto shall prevail. Changes, additions or deletions to the terms of the contract shall be authorized solely by an amendment to the contract executed in the same manner as this contract.

NOW WHEREAS, in consideration of the mutual covenants and agreements hereinafter contained, it is hereby agreed as follows –

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. In addition to documents herein above, the following Sections and Annexures attached herewith shall be deemed to form and be read and construed as part of this agreement viz.:
(a) PART-I indicating the General Conditions of this Contract;
(b) PART-II indicating the Schedule of work, unit, quantities & rates;
(c) PART-III indicating the Special Conditions of Contract;
(d) PART-V indicating the Safety Measures.

3. In consideration of the payments to be made by the Company to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Company to provide the Services and to remedy defects therein in conformity in all respect with the provisions of this Contract.

4. The Company hereby covenants to pay the Contractor in consideration of the provision of the Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of this Contract at the times and in the manner prescribed by this Contract.

IN WITNESS thereof, each party has executed this contract at Duliajan, Assam as of the date shown above.

Signed, Sealed and Delivered,

For and on behalf of Company (Oil India Limited)	for and on behalf of Contractor (M/s. _____)
Name:	Name:
Status:	Status:
In presence of	In presence of
1.	1.
2.	2.

PROFORMA- IX

Format of undertaking by Bidders towards submission of authentic information/documents (To be typed on the letter head of the bidder)

Ref. No_____ Date _____

Sub: Undertaking of authenticity of information/documents submitted

To,
The CGM-Contracts (HoD)
Contracts Department,
OIL, Duliajan

Sir,

With reference to our quotation against your above-referred tender, we hereby undertake that no fraudulent information/documents have been submitted by us.

We take full responsibility for the submission of authentic information/documents against the above cited bid.

We also agree that, during any stage of the tender/contract agreement, in case any of the information/documents submitted by us are found to be false/forged/ fraudulent, OIL has right to reject our bid at any stage including forfeiture of our PBG and/or cancel the award of contract and/or carry out any other penal action on us, as deemed fit.

Yours faithfully,

For (type name of the firm here)

Signature of Authorized Signatory

Name:

Designation:

Phone No.

Place:

Date:

(Affix Seal of the Organization here, if applicable)

(TO BE EXECUTED BY THE AUTHORIZED SIGNATORY OF THE BIDDER ON THE OFFICIAL LETTER HEAD OF THE BIDDER)

CERTIFICATE OF COMPLIANCE TO FINANCIAL CRITERIA

Ref: Note 'b' under Clause 3.0 Financial Criteria of BEC/BRC

I _____ the authorized signatory(s) of _____ (Company or Firm name with address) do hereby solemnly affirm and declare/ undertake as under:

The balance sheet/Financial Statements for the financial year _____ have actually not been audited as on the Original Bid Closing Date.

Yours faithfully,

For (type name of the firm here)

Signature of Authorized Signatory

Name:

Designation:

Phone No.

Place:

Date:

(Affix Seal of the Organization here, if applicable)

Note: This certificate is to be issued only considering the time required for preparation of Financial Statements i.e. if the last date of preceding financial/accounting year falls within the preceding six months within the due date for furnishing of audit report as per Section 139(1) of IT Act, 1961 (read along with latest circulars/notifications issued by CBDT from time to time) reckoned from the Original Bid Closing Date.

COMMERCIAL CHECK LIST

Bidder's Name:_____

This Questionnaire duly filled in should be returned along with each copy of Un-priced Bid. Clauses confirmed hereunder should not be repeated in the Bid.

Sl. No.	Description	Bidder's Confirmation
1.	Type of Bidding Entity (Partnership Firm/Proprietorship Firm/etc.)	
2.	Bidder's name and address:	
3.	It is noted that deviations to Terms & Conditions shall lead to rejection of offer, as specified in the Tender.	
4.	Ensure and confirm that prices quoted in 'Schedule of Rates', are for complete scope of work as defined in the tender	
5.	Indicate SAC Code Indicate rate of GST applicable.	SAC Code: GST ……%
6.	EMD Details: Whether Bid Security of requisite value submitted	
7.	Confirm to Submit PBG as per Tender requirement	
8.	Confirm that the offer shall remain valid for acceptance up to 120 (One Hundred Twenty) days from Date of bid opening.	
9.	Whether Mobilization and Completion period of contract is complied?	
10.	Whether Integrity Pact Submitted (if applicable)?	
11.	Confirm that quoted prices shall remain firm and fixed until completion of the contract, except as otherwise mentioned in the bid document.	
12.	Confirm that percentage of Local Content along with Certificate of Incorporation/registration and	

	other relevant documents required under BEC Clause No. 1.0 has been submitted.	
13.	Confirm whether you want to avail/claim Purchase Preference. If yes, specify under which category: **PP-LC/MII ~~or MSE~~**?	
14.	Confirm that you have submitted all documents as mentioned in the Tender/Annexures.	
15.	Confirm acceptance to all terms & conditions of the Tender.	
16.	Confirm that all correspondence must be in English Language only.	
17.	Indicate Name & Contact No. (Telephone/Fax/E-mail) of person signing the bid.	Name: Contact No.: Fax: Email:
18.	Confirm that all Bank charges associated with Bidder's Bank shall be borne by Bidder.	
19.	Please indicate the following: (i) PAN No. (ii) GST Regn. No.	
20	Confirm that you have duly filled up and submitted the Technical Evaluation Sheet for BEC BRC	

Bidder confirms that in case of conflicting version of various terms & conditions at different places, the confirmation furnished as above shall be considered over-riding and final and any other deviation indicated elsewhere shall be treated as redundant.

Signature _____

Name _____

Designation _____

Office Stamp _____

UNDERTAKING TOWARDS SUBMISSION OF BANK GUARANTEE

To,
Oil India Limited
Contracts Department
Duliajan, Assam - 786602

We, M/s..... are submitting the Performance Security in favour of Oil India Limited, Duliajan in the form of bank guarantee bearing Reference No. .....for an amount of INR..... valid up to ..... as per terms and conditions of Tender/Contract No. .....

BG issuing bank details:-

Bank Branch IFS Code	
Contact Details E-mail Addresses	Mobile Telephone Fax
Correspondence Address H No/Street/City	State Country Pin Code

Declaration:

We have arranged to send the confirmation of issuance of the bank guarantee via SFMS portal through our bank using the details mentioned in the tender and hereby confirming the correctness of the details mentioned.

Authorized Signature: _____
Name: _____
Vendor Code: _____
Email ID: _____
Mobile No: _____

Encl: Original bank guarantee

To,
CGM-CONTRACTS (HoD)
OIL INDIA LIMITED
DULIAJAN-786602

SUB: SAFETY MEASURES

Description of service: Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works.

Sir,

We hereby confirm that we have fully understood the safety measures to be adopted during execution of the above contract and that the same have been explained to us by the concerned authorities. We also give the following assurances.

a) Only experienced and competent persons shall be engaged by us for carrying out work under the said contract.

b) The names of the authorized persons who would be supervising the jobs on day to day basis from our end are the following:

i) _____

ii) _____

iii) _____

The above personnel are fully familiar with the nature of jobs assigned and safety precautions required.

c) Due notice would be given for any change of personnel under item (b) above.

d) We hereby accept the responsibility for the safety of all the personnel engaged by us and for the safety of the Company's personnel and property involved during the course of our working under this contract. We would ensure that all the provisions under the Oil Mines Regulations, 1984 and other safety rules related to execution of our work would be strictly followed by our personnel. Any violation pointed out by the Company's Engineers would be rectified forthwith or the work suspended till such time the rectification is completed by us and all expenditure towards this would be on our account.

e) We confirm that all persons engaged by us would be provided with the necessary Safety Gears at our cost.

f) All losses caused due to inadequate safety measures or lack of supervision on our part would be fully compensated by us and the Company will not be responsible for any lapses on our part in this regard.

g) We shall abide by the HSE (Health, Safety & Environmental) POINTS as stipulated in SOW of the contract.

(Seal) Yours Faithfully

Date_____

M/s_____

FOR & ON BEHALF OF CONTRACTOR

PROFORMA-XV

CERTIFICATE OF ANNUAL TURNOVER & NET WORTH

TO BE ISSUED BY PRACTISING **CHARTERED ACCOUNTANTS' FIRM** ON THEIR LETTER HEAD

TO WHOM IT MAY CONCERN

This is to certify that the following financial positions extracted from the audited financial statements of M/s..... (Name of the Bidder) for the last 03 (Three) completed accounting years upto..... **(as the case may be)** are correct.

YEAR	**TURN OVER** In INR	**NET WORTH** In INR

Place:
Date:

Seal:

Membership Number: Signature

Registration No.:

UDIN:

PROFORMA-XVI

UNDERTAKING FOR LOCAL CONTENT
(To be submitted in the letter head of the bidder)

We, _____ (Name of the bidder) have submitted Bid No. _____ against Tender No. _____ dated _____ for **Hiring Services on LSTK basis for 33kV E-House with Gas Insulated Switchgear (GIS) substation at an area opposite OCS-2 along with associated components and Civil Works.**

We hereby undertake that we meet the mandatory minimum local content requirement as mandated by Public Procurement (Preference to Make in India) Order, 2017 of Department for Promotion of Industry and Internal Trade (DPIIT), Govt. of India as revised vide Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 (and as amended time to time) with modifications as notified vide MoPNG Order No. FP-20013/2/2017-FP-PNG-Part (4) (E-41432) dated 26th April 2022 (including subsequent amendments thereof, if any). The percentage of Local Content is _____ %.

For and on behalf of _____

Authorized signatory _____

Name _____

Designation _____

Contact No. _____

PROFORMA-XVII

INTEGRITY PACT

Between

Oil India Limited (OIL) hereinafter referred to as "The Principal"

And

(Name of the bidder).....hereinafter referred to as "The Bidder"

Preamble:

The Principal intends to award, under laid down organizational procedures, contract/s for ----------. The Principal values full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder/s.

In order to achieve these goals, the Principal cooperates with the renowned international Non-Governmental Organization "Transparency International" (TI). Following TI's national and international experience, the Principal will appoint an external independent Monitor who will monitor the tender process for compliance with the principles mentioned above.

Section: 1 -Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:

(i) No employee of the Principal, personally or through family members, will in connection with the tender for, or during execution of a contract, demand, take a promise for or accept, for him/herself or third person, any material or immaterial benefit which he/she is not legally entitled to.

(ii) The Principal will, during the tender process treat all Bidders with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidders the same information and will not provide to any Bidder confidential/additional information through which the Bidder could obtain an advantage in relation to the tender process.

(iii) The Principal will exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officers and in addition can initiate disciplinary actions.

Section: 2 -Commitments of the Bidder/Contractor

(1) The Bidder commits itself to take all measures necessary to prevent corruption. During his participation in the tender process, the Bidder commits himself to observe the following principles:

(i) The Bidder will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or immaterial benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during subsequent contract execution, if awarded.

(ii) The Bidder will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, Subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

(iii) The Bidder (s) will not commit any offence under the relevant Anticorruption Laws of India, further, the Bidder (s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

(iv) The Bidder will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

(v) Bidders to disclose any transgressions with any other public/government organization that may impinge on the anti-corruption principle. The date of such transgression, for the purpose of disclosure by the bidders in this regard, would be the date on which cognizance of the said transgression was taken by the competent authority. The period for which such transgressions (s) is/are to be reported by the bidders shall be the last **three years** to be reckoned from date of bid submission. The transgression (s), for which cognizance was taken even before the said period of three years, but are pending conclusion, shall also be reported by the bidders.

(vi) The Bidder (s) of foreign origin shall disclose the name and address of the Agents/ representatives in India, if any. Similarly, the Bidder (s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further, all the payments made to the Indian agent/ representative have to be in India Rupees only.

(vii) Bidders not to pass any information provided by Principal as part of business relationship to others and not to commit any offence under PC/ IPC Act;

(2) The Bidder will not instigate third persons to commit offences outlined above or be an accessory to such offences.

(3) The Bidder signing Integrity Pact shall not approach the Courts while representing the matters to IEMs and he/she will await their decision in the matter.

Section 3 -Disqualification from tender process and exclusion from future Contracts

If the Bidder, before contract award has committed a transgression through a violation of Section 2 or in any other form such as to put his reliability or risibility as Bidder into question, the Principal is entitled to disqualify the Bidder from the tender process for such reason.

1. If the Bidder has committed a transgression through a violation of Section 2 such as to put his reliability or credibility into question, the Principal is entitled also to exclude the Bidder from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case, in particular the number of transgressions, the position of the transgressions within the company hierarchy of the Bidder and the amount of the damage. The exclusion will be imposed for a minimum of 6 months and maximum of 2 years.

2. The Bidder accepts and undertakes to respect and uphold the Principal's Absolute right to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

3. If the Bidder can prove that he has restored/recouped the Damage caused by him and has installed a suitable corruption prevention system, the Principal may revoke the exclusion prematurely.

4. A transgression is considered to have occurred if in light of available evidence no reasonable doubt is possible.

5. Integrity Pact, in respect of a particular contract, shall be operative from the date Integrity Pact is signed by both the parties or as mentioned in Section 9- Pact Duration whichever is later. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

Section 4 -Compensation for Damages

(1) If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover from the Bidder liquidated damages equivalent to Earnest Money Deposit / Bid Security.

(2) The bidder agrees and undertakes to pay the said amounts without protest or demur subject only to condition that if the Bidder can prove and establish that the exclusion of the Bidder from the tender process has caused no damage or less damage than the amount or the liquidated damages, the Bidder shall compensate the Principal only to the extent of the damage in the amount proved.

Section 5 -Previous transgression

(1) The Bidder declares that no previous transgression occurred in the last 3 years with any other company in any country conforming to the TI approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process for such reason.

Section: 6 -Equal treatment of all Bidders/Contractor/Subcontractors

(1) The Principal will enter into Pacts on identical terms with all bidders and contractors.

(2) The Bidder undertake(s) to procure from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder shall be responsible for any violation(s) of the provisions laid down in this agreement/Pact by any of its sub-contractors/sub-vendors.

(3) The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section: 7 -Criminal charges against violating Bidders/Contractors/ Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section: 8 -External Independent Monitor/Monitors

(1) The Principal appoints competent and credible Independent External Monitor (IEM) for this Pact.

(2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the Chairperson of the Board of the Principal.

(3) The Bidder accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Bidder. The Bidder will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder/Contractor/Subcontractor with confidentiality.

(4) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Bidder. The parties offer the Monitor the option to participate in such meetings.

(5) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or heal the violation, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action. However, the Independent External Monitor shall give an opportunity to the bidder to present its case before making its recommendations to the Principal.

(6) The Monitor will submit a written report to the Chairperson of the Board of the Principal within 8 to 10 weeks from the date of reference or intimation to him by

the 'Principal' and, should the occasion arise, submit proposals for correcting problematic situations.

(7) If the Monitor has reported to the Chairperson of the Board a Substantiated suspicion of an offence under relevant Anti-Corruption Laws of India, and the Chairperson has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

(8) The word 'Monitor' would include both singular and plural.

(9) In case of any complaints referred under IP Program, the role of IEMs is advisory and the advice of IEM is non-binding on the Organization. However, as IEMs are invariably persons with rich experience who have retired as senior functionaries of the government, their advice would help in proper implementation of the IP.

Section:9 -Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the respective contract, and for all other Bidders 6 months after the contract has been awarded.

If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by Chairperson of the Principal.

Section:10 -Other provisions

(1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal. The Arbitration clause provided in the main tender document / contract shall not be applicable for any issue / dispute arising under Integrity Pact.

(2) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

(3) In case of a joint venture, all the partners of the joint venture should sign the Integrity Pact. In case of sub-contracting, the principal contractor shall be solely responsible for the adherence to the provisions of IP by the sub-contractor (s).

(4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intensions.

..... **For the Principal** Date : Place :	**.....** **For the Bidder/Contractor** Witness 1: ..... Witness 2: .....

PROFORMA-K

PROFORMA OF "INSURANCE SURETY BOND" FOR "BID SECURITY"

(To be stamped in accordance with the Stamp Act)

To **M/s OIL INDIA LIMITED,** **Address: DULIAJAN, DIBRUGARH, ASSAM** **PIN-786602**	**Insurance Surety Bond (ISB) No.**	
	Date of ISB	
	ISB Valid up to (Expiry date)	
	Claim period up to (indicate date of expiry of claim period which includes minimum three months from the expiry date)	
	Stamp Sl. No./e-Stamp Certificate No.	

WHEREAS, (Name of Bidder) _____ (hereinafter called "the Bidder") has submitted their offer Dated _____ for the provision of certain services (hereinafter called "the Bid") against OIL INDIA LIMITED, Duliajan, Assam, India (hereinafter called the Company's) Tender No. _____ KNOW ALL MEN BY these presents that we _____ (Name & address of the "Insurer") _____ having our registered office at _____ (hereinafter called " Insurer "), its successors and assignees, unconditionally and irrevocably undertake to pay forthwith to the Company an amount of Rs. .....(Rupees ..... only) (hereinafter referred to as the "Surety Bond") as our primary obligation without any demur, reservation, recourse, contest or protest and without reference to the Bidder, if the Bidder shall fail to fulfil or comply with all or any of the conditions mentioned below or referred in the Tender document in this regard.

Any such written demand made by the Company stating that the Bidder is in default of the due and faithful fulfilment and compliance with the aforesaid conditions shall be final, conclusive and binding on the Surety Insurer.

SEALED with the said Insurer this ___ day of _____ 20_____

THE CONDITIONS of these obligations are:

1. If the Bidder withdraws their Bid within its original/extended validity; or
2. The Bidder modifies/revises their bid suomoto; or
3. The Bidder does not accept the contract; or
4. The Bidder does not furnish Performance Security Deposit within the stipulated time as per tender/contract; or
5. If it is established that the Bidder has submitted fraudulent documents or has indulged into corrupt and fraudulent practice.

NOW, THEREFORE, the Surety Insurer hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Surety Bond shall not be affected by any change in the constitution or winding up of the Bidder or the Surety Insurer or any absorption, merger or amalgamation of the Bidder or the Surely Insurer with any other person.

2. In order to give full effect to this Surety Bond, the Company shall be entitled to treat the Surety Insurer as the principal debtor.

3. The Surety Insurer declares that it has the power to issue this Surety Bond and discharge the obligations contemplated herein, the undersigned is duly authorised and has full power to execute this Surety Bond for and on behalf of the Surety Insurer.

4. Notwithstanding anything contained herein:

   a) The Insurer's liability under this Insurance Surety Bond shall not exceed (currency in figures) . . . . . (currency in words only) . . . . .

   b) This Insurance Surety Bond shall remain in force upto _____ and any extension(s) thereof; and

   c) The Surety insurer shall be released and discharged from all liability under this Insurance Surety Bond unless a written claim or demand is issued to the insurer on or before the midnight of .....(indicate date of expiry of claim period which includes minimum **three months** from the expiry of this Insurance Surety Bond) and any extension(s) thereof. If a claim has been received by us within the said date, all the rights of Company under this Insurance Surety Bond shall be valid and shall not cease until we have satisfied that claim.

In witness whereof the insurer, through its authorized officer, has set its hand and stamp on this _____day of _____ 20__ at _____.

Witness:	**Issuing Authority:**
.....	.....
(Signature)	(Signature of the Authorised Signatory)
.....	.....
(Name)	(Name)
.....	.....
(Designation & official address)	(Designation with Insurer Stamp)

Authorised Vide
Power of Attorney
No.....
Date.....

PROFORMA-L

PROFORMA OF "INSURANCE SURETY BOND" FOR "PERFORMANCE SECURITY"

(To be stamped in accordance with the Stamp Act)

To **M/s OIL INDIA LIMITED,** **Address: DULIAJAN, DIBRUGARH, ASSAM** **PIN-786602**	**Insurance Surety Bond (ISB) No.**	
	Date of ISB	
	ISB Valid up to (Expiry date)	
	Claim period up to (indicate date of expiry of claim period which includes minimum three months from the expiry date)	
	Stamp Sl. No./e-Stamp Certificate No.	

WHEREAS, (Name and address of Contractor) _____ (hereinafter called "Contractor") had undertaken, in pursuance of Contact No. _____ to execute (Name of Contract and Brief Description of the Work) _____ (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with an Insurance Surety Bond (ISB) as security for compliance with Contractor's obligations in accordance with the Contract.

AND WHEREAS we (May incorporate the Insurer) have agreed to give the Contractor such an Insurance Surety Bond; NOW THEREFORE we hereby affirm that we are Insurer on behalf of the Contractor, up to a total of (Amount of ISB in figures) _____ (in words_____), such amount being payable in the types and proportions of currencies in which the Contract price is payable, and we, undertake to pay you, upon your first written demand stating the default/breach committed by the Contractor without cavil or arguments, any sum or sums within the limits of guarantee sum as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein. We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or the work to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way cease us from any liability under this ISB, and we hereby waive notice of such change, addition or modification.

NOW, THEREFORE, the Surety Insurer hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Surety Bond shall not be affected by any change in the constitution or winding up of the Contractor or the Surety Insurer or any absorption, merger or amalgamation of the Contractor or the Surely Insurer with any other person.
2. In order to give full effect to this Surety Bond, the Company shall be entitled to treat the Surety Insurer as the principal debtor.
3. The Surety Insurer declares that it has the power to issue this Surety Bond and discharge the obligations contemplated herein, the undersigned is duly authorised and has full power to execute this Surety Bond for and on behalf of the Surety Insurer.
4. Notwithstanding anything contained herein:

   a) The Insurer's liability under this Insurance Surety Bond shall not exceed (currency in figures) . . . . . (currency in words only) . . . . .

   b) This Insurance Surety Bond shall remain in force upto _____ and any extension(s) thereof; and

   c) The Surety insurer shall be released and discharged from all liability under this Insurance Surety Bond unless a written claim or demand is issued to the insurer on or before the midnight of .....(indicate date of expiry of claim period which includes minimum **three months** from the expiry of this Insurance Surety Bond) and any extension(s) thereof. If a claim has been received by us within the said date, all the rights of Company under this Insurance Surety Bond shall be valid and shall not cease until we have satisfied that claim.

In witness whereof the insurer, through its authorized officer, has set its hand and stamp on this _____day of _____ 20__ at _____.

Witness: **Issuing Authority:**

.....	.....
(Signature)	(Signature of the Authorised Signatory)
.....	.....
(Name)	(Name)
.....	.....
(Designation & official address)	(Designation with Insurer Stamp)

Authorised Vide
Power of Attorney No.....
Date.....

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Bidder's Name: _____ **PROFORMA-XI**

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
1.	**1.0**	**1.0 GENERAL CONFORMITY:** The bid shall conform to the specifications and terms and conditi given in the Bidding Documents. Bids will be rejected in case mate and services offered do not conform to the required paramet stipulated in the technical specifications. Notwithstanding the gene conformity of the bid to the stipulated specifications, the follow requirements will have to be particularly met by the Bidders with which the same will be considered as non-responsive and will not considered for evaluation. All the documents related to BEC shall submitted along with the Technical Bid.			
2.	**2.0**	**ELIGIBILITY CRITERIA:** **The Bidder must be incorporated/constituted in India and m maintain more than or equal to 20% local content for the offe services. With regard to calculation of local content and submiss of documents during bidding & execution of contracts, notificat**			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		vide letter no. FP-20013/2/2017-FP-PNG dated 17.11.2020 MoPNG (or as amended from time to time) shall be applicable. **If such local content is not maintained during execution contract, OIL reserves the right to invoke the Performa Securities submitted by the bidding and supporting companies. this regard, the bidder must submit an undertaking from authorized signatory of bid having the power of Attorney along w the bid stating the bidder meets the minimum LC requirement a such undertaking shall become part of the contract.** Whether or not the bidders want to avail PP-LC benefit against t tender, it is mandatory for them to meet the following at the bidd stage: (a) Without specifying the unit rates and bid amount in the techn bid, the bidder must specify the **percentage (%) of local content** their bid as per format prescribed in **PROFORMA-XVI (duly signed sealed by the Power of Attorney holder),** without which the bid m be rejected being non-compliant. Such undertaking shall become a p of the contract, if awarded.			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		(b) The aforesaid undertaking of the bidder shall also be suppor by a certificate from the statutory auditor or cost auditor of the compa (in case of companies) or from a practicing cost accountant or practic chartered accountant (in respect of other than companies) giving percentage of local content. (c) Along with the technical bid, bidder must submit a copy of th Certificate of Incorporation/Registration or any other valid documen which substantially establishes its constitution in India.			
3.0 <u>TECHNICAL EVALUATION CRITERIA</u>					
3.	**3.1**	The Bidder must be the OEM (Original Equipment manufacturer) of b Gas Insulated Switchgear voltage level 33kV (or above) and Air Insula Switchgear voltage level 11kV (or above). In this regard, the bidder m submit an OEM Declaration/Certificate on its letterhead, duly signed an authorized signatory, confirming the same. OR			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		The bidder must be an Authorized Busin Partner/Dealer/Distributor/System Integrator/Chan Partner/Implementer of the OEM. In this regard, the bidder shall sub an authorization certificate, as per the enclosed forn (**Annexure–A**), issued by the Original Equipment Manufacturer (OEM both Gas Insulated Switchgear (GIS) of voltage level 33 kV and Insulated Switchgear (AIS) of voltage level 11 kV, authorizing the bid to participate in the tender. The bidder shall also submit, along with technical bid, a duly filled-in and signed Agreement (format enclosed **Annexure–B**) executed between the OEM and the bidder (Authori Business Partner/Dealer/Distributor/Channel Partner) for fulfilling obligations under the contract. Any bid not meeting this requirem shall be liable for rejection.			
4.	**3.2**	The bidder must have successfully executed/completed '**SIMIL WORKS'** over the last 07 (seven) years reckoned from the Original Closing Date in PSUs/Central Government/State Governm Organization/Nationalized Banks/Public Limited Company, in India under: One similar completed works costing not less than the amount equa			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		Rs. 10,27,15,200.00 ; OR Two similar completed works each costing not less than the amo equal to **Rs. 6,41,97,000.00**; OR Three similar completed works each costing not less than the amo equal to **Rs. 5,13,57,600.00** .			
5.	**3.3**	The bidder shall submit Type Test Certificates issued NABL/BIS/CPRI/ILAC accredited laboratories/STL members/cen govt. approved laboratories or any other reputed national international laboratories in the name of the Original Equipm Manufacturer (OEM) only. a) For the offered make, model and rating of the 33 kV GIS Switchgear a 11 kV AIS Switchgear, the following Type Test Certificates not older t **15 (fifteen) years** reckoned from the original bid closing date must submitted along with the bid: i) Temperature Rise Test			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		ii) Dielectric Test iii) Internal Arc Classification Test for Cable Chamber and Bus Chamber iv) Short-Time Withstand Current and Peak Withstand Current Te b) For the offered make and rating **[33 kV/11 kV, 5 MVA]** Po Transformer, the following Type Test Certificates not older than **05 (fi years** reckoned from the original bid closing date must be submit along with the bid. i) Temperature Rise Test ii) Dielectric Test iii) Short-Circuit Withstand Test			
6.	**3.4**	As part of the execution of the job, the bidder shall deploy person meeting the specifications stipulated under the Special Terms a Conditions [Clause 4(iv) and Clause 5(g)] and possessing the requi qualifications and experience to carry out the work in accordance w the Scope of Work during the contract period. The bidder shall sub the credentials of such personnel during the mobilization period of			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		contract. In this regard, the bidder shall submit an undertaking along with bid confirming that the specified personnel shall be deployed dur execution of the contract and that their credentials shall be submit during the mobilization period of the contract.			
7.	**Notes to Clause 3.2 above:**	**A.** **'SIMILAR WORK'** mentioned above means; **"*Supply, installation, testing and commissioning of Gas Insula Switchgear substation of voltage level of 33KV or above integra within an E-House/Containerised/Modular/Portable Sub-Stat having minimum three GIS feeders* with associa switchgears/transformers/cabling/civil works"** **B.** For proof of requisite experience (refer Clause No. 3.2 above), following documents/photocopy (self-attested/attested) must submitted along with the bid: i) Contract document/LOI/LOA/WO showing details of work,			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		AND ii) Job Completion Certificate issued by the end user/client in th official letter head duly sealed and signed showing: a) Gross value of job done b) Nature of jobs done and Work Order No./Contract No. c) Contract period and date of completion. OR SES (Service Entry Sheet)/Certificate of Payment (COP) issu by the company indicating the following: a) Work Order No./Contract No. b) Gross value of jobs done. c) Period of service d) Nature of service			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		C. Only Letter of Intent (LOI)/Letter of Award (LOA) and/or Work Order Job Completion certificates are not acceptable as evidence of experien However, in case the requisite experience is against OIL's contract, bidder shall only be required to categorically specify OIL's Contract N **D.** Mere award of contract(s) shall not be counted towards experien Successful completion of the awarded contract(s) to the extent of val as stipulated respectively under Clause No. 3.2 shall only be treated acceptable experience. **E.** Following work experience will also be taken into consideration: **(a)** If the prospective bidder is executing **'SIMILAR WORK'** which still running and the contract value executed prior to origi bid closing date is equal to or more than the minim prescribed value in the BEC. **(b)** In case the start date of the requisite experience is beyond prescribed 07 (seven) years reckoned from the original closing date, but completion is within the prescribed 07 (sev			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		years reckoned from the original bid closing date and the va executed within the last 07 (seven) years reckoned from original bid closing date is equal to or more than the minim quantum prescribed in the BEC. **(c)** If the prospective bidder has executed a contract in wh **'SIMILAR WORK'** is a component of the contract. • In case the document submitted as per **Para B** above, are sufficient to satisfy a) work defined above b) minim prescribed value c) prescribed period of 07 years, for proo work experience as per '**SIMILAR WORK**' against **Para E** abo the bidder shall have to additionally submit a certificate clea specifying the period and value, issued by end user o practicing Chartered/Cost Accountant Firm (with Members Number & Firm Registration Number). **F.** In case requisite experience is against **OIL's Contract**, bidder shall only be required to categorically specify OIL's Contract Number and date.			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		G. Experience of executing '**SIMILAR WORK**' through 'sub-contracting' shall not be considered for evaluation. **H.** **'SIMILAR WORK**' executed by a bidder for its own organization/subsidiary cannot be considered as experience for the purpose of meeting BEC. **I.** Bids submitted for part of the **'SIMILAR WORK'** will be rejected. **J.** Bid will be rejected if not accompanied with adequate documentary proof in support of Work experience as mentioned in Para 3.2. **K.** Oil India Limited (OIL) reserves the right to contact the Client(s) referred by the Bidder for authentication of the documents submitted by the Bidder. OIL may contact the clients/operators under intimation/copy to the respective Bidder. It will be the responsibility of the Bidder to take up the matter with his Client(s) and arrange for the confirmation as desired by OIL.]			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		L. Bidders submitting their bid based on the experience of their Technical Collaborator/Joint Venture/Parent/Subsidiary/Co-subsidiary/Sister Subsidiary/MOU with another party shall not be considered. Bids from Consortium, Joint Venture shall also not be considered. **M.** Only one bid against a party offering individually as well as under Proprietorship/Partnership firms shall be accepted. In case any bidder is found to submit more than one bid including separate bids under proprietorship as well as under any Partnership firm then all the bids submitted by the bidder in his own name or in the name of firm where he/she is a partner/sole proprietor will be rejected.			
8.	**MOBILIZATION PERIOD**:	The bidders must confirm their compliance in their "technical" bid complete the mobilization **within thirty (30) days** from the date of is of mobilization notice by Electrical Department i.e. after issuance Letter of Award (LOA). Offers without confirmation of stipula			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		mobilization time or with mobilization time more than **30 (Thirty) d** shall be summarily rejected. The bidder shall confirm compliance of t in their technical bid.			
3.0 FINANCIAL CRITERIA					
9.	5.0	Annual Financial Turnover of the bidder in any of preceding 03 (thi financial/accounting years, reckoned from the original bid closing d should be at least **Rs. 4,81,47,800.00** only. **5.2 Net worth** of bidder must be positive for preceding financial/account year. **Note: The Net worth to be considered against Clause 4.1.2 abo should be read in conjunction with the definition of Net worth mentioned in Section 2 (57) of the Companies Act, 2013.** **Note**: • Annual Financial Turnover of the bidder from operations shall me "Aggregate value of the realisation of amount made from the sale, sup			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		or distribution of goods or on account of services rendered, or both, the company (bidder) during a financial year" as per the Companies A 2013 Section 2 (91). • Net worth shall mean: "Share capital + Reserves created out of pro and securities Premium – Aggregate value of accumulated los (excluding revaluation reserves) – deferred expenditure – Miscellane Expenditure to the extent not written off and carried forward Los Reserves created out of write back of depreciation and amalgamation" • The Net worth to be considered against the clause above, should be r in conjunction with the definition of Net worth as mentioned in Sectio (57) of The Companies Act, 2013.			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
10.	**Notes to BEC Clause 5.0 above:**	**A.** For proof of Annual Turnover & Net worth any one of the follow document must be submitted along with the bid: (i) A certificate issued by a practicing Chartered/Cost Accountant (w Membership Number and Firm Registration Number), certifying Annual turnover & Net worth as per format prescribed in **Proforma-X** OR (ii) Financial Statements (Balance Sheet & Profit & Loss account along w all the schedules/notes forming part of the Balance sheet & Profit a Loss Account) audited by the auditors appointed under the statute Companies Act etc. wherever applicable. *Note: • Mention of UDIN (Unique Document Identification Number) mandatory for all Certificates issued w.e.f. February 1, 2019 Chartered Accountant in Practice. • In case the bidder is a Central Govt. organization/PSU/State G organization /Semi-State Govt. Organization or any other Central/St			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		Govt. Undertaking, where the auditor is appointed only after approval of Comptroller and Auditor General of India and the Cen Government, their certificates may be accepted even though FRN is available. However, bidder to provide documentary evidences for same. **B.** Considering the time required for preparation of Financial Statements the last date of preceding financial/accounting year falls within preceding six months /within the due date for furnishing of audit rep as per Section 139(1) of IT Act, 1961 (read along with lat circulars/notifications issued by CBDT from time to time) reckoned fr the original bid closing date and the Financial Statements of preceding financial/accounting year are not available with the bidd then the financial turnover of the previous three financial/account years excluding the preceding financial/accounting year will considered. In such cases, the Net worth of the previ financial/accounting year excluding the preceding financial /account year will be considered. However, the bidder has to submit undertaking in support of the same along with their technical bid as **PROFORMA-X**.			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		C. In case the bidder is a Central Govt. organization/PSU/State G organization /Semi-State Govt. Organization or any other Central/St Govt. Undertaking, where the auditor is appointed only after approval of Comptroller and Auditor General of India and the Cen Government, their certificates may be accepted even though FRN is available. However, bidder to provide documentary evidence for same. **D.** In case the bidder is a Government Department, they are exempted fr submission of documents mentioned under **Para-A. & Para-B.** above. **E.** Bid will be rejected if not accompanied with adequate documentary pr in support of Annual turnover and Net worth as mentioned in Para &			
COMMERCIAL EVALUATION CRITERIA					

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
11.	**6.0**	**6.1** Bids are to be submitted under Single-Stage Two-Bid System i.e., Un-priced Techno-Commercial Bid and Price Bid in their respective fields in e-tender portal. Only the Price Bid should contain the quoted price**.** **6.2** The price quoted by the successful bidder must be firm during the performance of the contract and not subject to variation on any account except as mentioned in the bid document. Any bid submitted with adjustable price quotation other than the above will be treated as non-responsive and rejected. **Note: The breakup of the quoted/offered price i.e., the duly filled Price Bid Format MUST NOT be uploaded with the technical bid; otherwise, the bid shall be rejected straightway.** **6.3** Bid Security in Original shall be furnished as a part of the Technical Bid and shall reach the office of CGM- Contracts, OIL at Duliajan on or before 12.45 Hrs (IST) on the bid closing date. A scanned copy of the bid security shall however be uploaded in OIL's E-Procurement portal along with the Technical Bid. The amount of Bid Security shall be **₹ 25,67,900.00.** Bid without proper & valid Bid Security will be rejected. For detailed may please refer to **Clause No. 12.0 of INSTRUCTIONS TO**			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		BIDDERS (ITB). **6.4** Bid Documents / User Id & Password for OIL's E-Tender portal are not transferable. **6.5** Any bid received in the form of Physical document/ Telex/ Cable/ Fax/ E-mail will not be accepted. **6.6** Bids shall be typed or written in indelible ink. The bidder or his authorized representative shall sign the bid digitally, failing which the bid will be rejected. **6.7** Bids shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by bidder, in which case such corrections shall be initiated by the persons(s) signing (digitally) the bid. However, white fluid should not be used for making corrections. Any bid not meeting this requirement shall be rejected. **6.8** Any bid containing false statement will be rejected and action will be taken by Company as per Bid Document. **6.9** Bidder must accept and comply with the following provisions as given in the Tender Document in toto, failing which offer will be rejected: (i) Firm price			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		(ii) Bid Security (iii) Period of validity of Bid (iv) Price Schedule (v) Performance Bank Guarantee / Security deposit (vi) Delivery / Completion Schedule (vii) Scope of work (viii) Guarantee of material / work (ix) Liquidated Damages clause (x) Tax liabilities (xi) Arbitration / Resolution of Dispute Clause (xii) Force Majeure (xiii) Applicable Laws (xiv) Specifications (xv) Integrity Pact (xvi) Mobilization			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		6.10 There should not be any indication of price in the Un-priced Techno-Commercial Bid. A bid will be straightway rejected if this is given in the Un-priced Techno-Commercial Bid. **6.11** Bid received with validity of offer less than **One Hundred and Twenty (120) Days** from Bid Closing Date will be rejected. **6.12** The Integrity Pact is applicable against this tender. OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide **PROFORMA-XVII** of the tender document. This Integrity Pact proforma has been duly signed by OIL's competent signatory. The proforma must be returned by the bidder (along with the Un-priced Techno-Commercial Bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact have been signed by the bidder's authorized signatory who sign the Bid. **6.13** Bidders shall submit declaration as per **Appendix-1** that they are neither bankrupt nor undergoing any insolvency resolution process or liquidation or bankruptcy proceeding under any law OR no insolvency resolution process or liquidation or bankruptcy proceeding is initiated under any law against them.			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		6.14 Bidders shall submit declaration as per **Appendix-2** confirming that neither the bidder nor any of their allied concerns, partners or associates or directors or proprietors involved in any capacity, are currently put on holiday list/banning list by OIL debarring them from carrying on business dealings with OIL. **6.15** The bidder shall submit an undertaking/declaration as per **Appendix-3** confirming that they have read and understood OIL's Banning Policy and that neither they nor any of their allied concerns or partners or associates or directors, or proprietors involved in any capacity, are currently on OIL's Holiday/Banning List. Further, the bidder shall confirm that neither they nor any of their aforementioned entities have, during the last three years, been involved in any transgression with any company conforming to the Transparency International (TI) approach or with any Public Sector Enterprise of India that could justify exclusion from the tender process. The bidder shall also disclose details of all such allied entities, if any, as required under the Banning Policy.			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
12.	**PRICE EVALUATION CRITERIA**	**7.1** Price bid shall be opened in respect of only the techno-commercially acceptable bidders whose bids have been found to be substantially responsive. A substantially responsive bid is one that meets the terms and conditions of the Tender and/or the acceptance of which bid will not result in indeterminate liability on OIL. **7.2** If a bidder quotes Total Charges/Consideration as NIL, the bid shall be treated as unresponsive and will not be considered. **7.3** It is to be clearly understood that the assumptions made in respect of the quantities for various operations are only for the purpose of evaluation of the bid and the Contractor will be paid on the basis of the actual number of days/parameters. **7.4** The bidders are advised not to offer any discount/rebate separately and to offer their prices after considering discount/rebate, if any. **7.5** Conditional and unsolicited discount will not be considered in evaluation. However, if such bidder happens to be the lowest recommended bidder, unsolicited discount without any condition will be considered for computing the contract price. **7.6 The inter-se-ranking of the techno-commercially qualified**			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		bidders will be determined on overall lowest cost basis (L-1 offer) i.e., considering the Total quoted price inclusive of all liabilities and GST. **7.7** Based on the evaluation of techno-commercially qualified bidders, the job will be awarded to the L-1 bidder. **7.8** In case of identical overall lowest offered rate by more than 01 (one) bidder, the selection will be made by draw of lot between the parties offering the same overall lowest price. **7.9** OIL will prefer to deal with registered bidder under GST. Therefore, bidders are requested to get themselves registered under GST, if not registered yet. However, in case any unregistered bidder is submitting their bid, their prices will be loaded with applicable GST while evaluation of bid. **7.10** When a bidder mentions taxes as extra without specifying the rates & amount, the offer will be loaded with maximum value towards taxes received against the tender for comparison purposes. If the bidder emerges as lowest bidder after such loading, in the event of order on that bidder, taxes mentioned by OIL on the Purchase Order/Contracts will be binding on the bidder. **7.11** Input Tax Credit on GST (Goods & Service Tax) for this service is NOT available to OIL & the bids will be evaluated based on total price			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		including GST. **7.12** For evaluation purpose, quoted unit rates against each Line Item of the price bidding format shall be considered only upto 02 (two) decimal places without rounding off for evaluation.			
13.	**PURCHASE PREFERENCE CLAUSE:**	**8.1 PURCHASE PREFERENCE TO MSE BIDDERS (NOT APPLIACBLE FOR THIS TENDER):** Purchase Preference to Micro and Small Enterprises is applicable for this tender. Documentation required to be submitted by MSEs: Categorization and various criteria applicable to MSE bidders shall be guided by the Gazette Notification No. CG-DL-E-26062020-220191 dated 26.06.2020 (and as amended time to time) issued by MINISTRY OF MICRO, SMALL AND MEDIUM ENTERPRISES. The bidder claiming the MSE status (MSE-General, MSE-SC/ST, MSE-Woman) against this tender has to submit Udyam Registration Number with Udyam Registration Certificate along with the technical bid for availing the benefits applicable to MSEs. Note: In case bidding MSE is owned by Schedule Caste or Schedule Tribe or Woman entrepreneur, valid documentary evidence issued by the agency who has registered the			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		bidder as MSE owned by SC/ST/Woman entrepreneur should also be enclosed. **8.2 PURCHASE PREFERENCE POLICY (LINKED WITH LOCAL CONTENT) (PP-MII):** Purchase preference under Public Procurement (Preference to Make in India) Order, 2017 of Department for Promotion of Industry and Internal Trade (DPIIT), Govt. of India as revised vide Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 (and as amended time to time) with modifications as notified vide MoPNG Order No. FP-20013/2/2017-FP-PNG-Part (4) (E-41432) dated 26th April 2022, shall be applicable in this tender. Bidders to check the provisions of the Order for their eligibility to bid and seek benefits for Purchase preference, accordingly. **8.3** Contract shall be awarded for the entire scope of work under this tender subject to concurrent application of Public Procurement Policy for MSE Order 2012 and PP(MII) Order 2017 as per Order No. F.1/4/2021-PPD dated 18.05.2023 issued by Public Procurement Division, Department of Expenditure, Ministry of Finance, Govt. of India and any subsequent amendment thereto.			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		Note: Services under this tender is not splitable.			
14.	**GENERAL:**	**9.1** In case bidder takes exception to any clause of bidding document not covered under BEC/PQC, then the Company has the discretion to load or reject the offer on account of such exception if the bidder does not withdraw / modify the deviation when/as advised by company. The loading so done by the company will be final and binding on the bidders. No deviation will however be accepted in the clauses covered under BEC/PQC. **9.2** Bidders should provide self-attested copies of GST Registration Certificate, PAN Card, ESIC registration (if applicable), P.F. Registration Number OR Declaration (Declaration by applicant that provisions of Provident Fund Act are not applicable to them. In case P.F. is required to be deposited later on, the same will be deposited by the bidder (Applicant). In case successful bidder doesn't have			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		P.F. Code at the time of bidding and PF Act is applicable on him / her, the same has to be provided by him / her before signing of contract agreement and issue of Work Order by OIL. **9.3** To ascertain the substantial responsiveness of the bid the Company reserves the right to ask the bidder for clarification in respect of clauses covered under BEC-BRC also and such clarifications fulfilling the BEC-BRC clauses in toto must be received or before the deadline given by the company, failing which the offer will be evaluated based on the submission. However, mere submission of such clarification shall not make the offer responsive, unless company is satisfied with the substantial responsiveness of the offer. **9.4** If any of the clauses in the BEC-BRC contradict with other clauses of bidding document elsewhere, the clauses in the BEC-BRC shall prevail. **9.5** Bidder(s) must note that requisite information(s) / financial values etc. as required in the BEC-BRC & Tender must be clearly understandable from the supporting documents submitted by the			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
		Bidder(s); otherwise Bids shall be rejected. **9.6** OIL will not be responsible for delay, loss or non-receipt of applications for participating in the bid sent by mail and will not entertain any correspondence in this regard. **9.7** The originals of such documents [furnished by bidder(s)] shall have to be produced by bidder(s) to OIL as and when asked for. **9.8** Any bidder who are on Holiday/ Banning/ Suspension list of OIL on due date of submission of bid/ during the process of evaluation of the bids, the offers of such bidders shall not be considered and will be straightaway rejected.			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
15.	**PROFORMA-XIV**	**10.0** Bidders have to submit a declaration as per the format prescribed **PROFORMA-XIV** regarding compliance of Safety Measures along w the technical bid.			
16.	**CHECKLIST FOR BEC-BRC**	**11.0** Enclosed as **TECHNICAL EVALUATION SHEET (PROFORMA-XI)** and **COMMERCIAL CHECK-LIST (PROFORMA-XII).** To be submitted along with the technical bid. In case of non-submission of the checklist, the offer shall be liable for rejection.			
17.	**COMPLIANCE OF THE COMPETITION ACT, 2002**:	The bidder shall strictly comply with the provisions of the Competition Act, 2002, more particularly, Section-3 of the Act. Any violation the provisions of the Act shall attract penal action under the Act.			

TECHNICAL EVALUATION SHEET FOR BEC/BRC

Sl. No.	Clause No. of BEC/BRC	Description	Compliance		Bidder must indicate Relevant Page No. of their Bid to support the remarks/ compliance
			Yes	No	
18.	**Exhibit-I, Exhibit-II** and **Exhibit-III**	**12.0** Bidders should submit an undertaking that their bid is compliant to Order No. F. 7/10/2021-PPD (1) dated 23.02.2023 issued by Ministry of Finance, Department of Expenditure, Public Procurement Division, Govt. of India (including subsequent amendments thereto, if any), regarding restrictions on procurement from a bidder of a country which shares land border with India. In this regard, bidders must submit duly sealed & signed undertaking as per format provided vide **Exhibit-I, Exhibit-II** and **Exhibit-III** along with the technical bid.			
19.	**14.0VERIFICATION AND CERTIFICATION OF DOCUMENTS BY INDEPENDENT THIRD-PARTY INSPECTION AGENCIES (TPIA)::**	Please refer to the relevant Clause in BEC/PQC Clause No. 14.0 of the tende			

PROFORMA-MC

MOBILIZATION COMPLETION CERIFICATE

(to be issued on completion of mobilization)

Ref. No. **Date:**

1.0 Contract No. & Date:

2.0 Letter of Award (LOA) with Ref. No. & Date:

3.0 Name of the Contractor:

4.0 Description of Services:

5.0 Mobilization Period:

6.0 Mobilization Notice with Ref. No. & Date:

7.0 Schedule Date of Completion of Mobilization:

8.0 Actual Date of Completion of Mobilization:

9.0 Any other information:

It is hereby certified that the above Mobilization activities have been completed in all respects in accordance with the scope, terms and conditions of the contract/ Mobilization Notice.

For OIL INDIA LIMITED,

(Signatory of User Department)

Signatory Name: .....

Designation: .....

Department: .....

PROFORMA-M

PROFORMA FOR UNDERTAKING FROM THIRD PARTY INSPECTION AGENCY

(to be submitted on official letter head)

TO
M/s OIL INDIA LIMITED

Sir,

SUB: OIL's Tender No.....

M/s. _____ having registered office at _____ intend to participate in the above referred tender of OIL INDIA LIMITED.

The tender conditions stipulates that the bidder shall submit documents pertaining to Bid Evaluation Criteria (BEC), duly verified and certified by designated independent Third-Party Inspection Agency.

In this regard this is to certify that copies of documents pertaining to Bid Evaluation Criteria (BEC)/PQC submitted to us by the bidder have been verified and certified by us with originals and found to be genuine and authentic. We have signed and stamped on the copies of all the verified and certified documents having ____nos. pages.

Note: In the event of any requirement, OIL reserves the right to ask the inspection agencies to verify the documents with source, if required at no extra cost to OIL.

Thanking you,

Authorised Person's Signature:_____

Name: _____

APPENDIX-1

DECLARATION ABOUT BIDDER'S FINANCIAL STANDING

To,
CGM-CONTRACTS
OIL INDIA LIMITED
DULIAJAN - 786602

Sub: Undertaking/Declaration regarding financial standing

Ref: Tender No. _____

We, _____ (name of bidder), hereby confirm that:

(1) We are neither bankrupt nor undergoing any insolvency resolution process or liquidation or bankruptcy proceeding under any law.

(OR)

(2) No insolvency resolution process or liquidation or bankruptcy proceeding is initiated under any law against us.

Place: _____
_____

Date: _____ (Name & Signature of the authorised

signatory of the bidder)

APPENDIX-2

DECLARATION THAT BIDDER IS NOT UNDER HOLIDAY LIST/DELISTED/BLACKLISTED/DEBARRED IN OIL

To,
CGM-CONTRACTS
OIL INDIA LIMITED
DULIAJAN - 786602

Sub: Undertaking/Declaration regarding Holiday List, debarment etc.

Ref: Tender No. _____

We, _____ (Name of the bidder) hereby declare that neither our company nor any of its allied concerns, partners or associates or directors or proprietors involved in any capacity, are currently put on holiday list/banning list by OIL debarring us/them from carrying on business dealings with OIL.

Place: _____

_____

Date: _____ (Name & Signature of the authorised signatory of the bidder)

APPENDIX-3

DECLARATION THAT BIDDER IS NOT UNDER HOLIDAY LIST/DELISTED/BLACKLISTED/DEBARRED

To,
M/s. OIL INDIA LIMITED

TENDER NO. _____

Tender Description: _____

Sub: Undertaking/Declaration regarding Holiday List, debarment etc.

Ref: Tender No. _____

a) We, __ (Name of the bidder) solemnly affirm that we have read and understood OIL's Banning Policy as available at OIL's website https://www.oil-india.com/banning-policy and accept the Banning Policy in toto without any demur, protest, reservations and agree to be bound by the said Policy.

b) We, hereby declare that neither our company nor any of its allied concerns, partners or associates or directors or proprietors involved in any capacity, are currently put on holiday list/banning list by OIL debarring us/them from carrying on business dealings with OIL.

c) We, also hereby declare that neither our company nor any of its allied concerns, partners or associates or directors or proprietors involved in any capacity, have not been involved in any previous transgressions in the last 3 years with any other company in any country conforming to the TI (Transparency International) approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

d) We, disclose the following allied concerns, partners or associates or directors or proprietors involved in any capacity in terms of the definition of Allied firms given in the "Banning Policy" of Oil India Limited:

Sl. No.	**Name**	**Address**	**PAN No.**	**GST No.**	**OIL Vendor Code**

Place: _____ _____

Date: _____ (Name & Signature of the authorized signatory the bidder)

EXHIBIT–I

UNDERTAKING FOR WORKS INVOLVING POSSIBILITY OF SUB-CONTRACTIONG

Refer Clause No. 13.0 of the BEC/PQC

We, M/s _____, have read the clause regarding restrictions on procurement from a country which shares a land border with India and on sub-contracting to contractors from such-countries, we certify that we are not from such a country/or if from such a country, has been registered with the Competent Authority and 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 fulfil all requirements in this regard and are eligible to be considered.

Yours faithfully,

For (type name of the firm here)

Signature of Authorized Signatory

Name:

Designation:

Phone No.

Place:

Date:

(Affix Seal of the Organization here, if applicable)

EXHIBIT–II

UNDERTAKING TOWARDS COMPLIANCE OF CLAUSE NO. 13.0 of the BEC/PQC

We, M/s _____, have read the clause regarding restrictions on procurement from a country which shares a land border with India, we certify that we are not from such a country/or if from such a country, has been registered with the Competent Authority. We hereby certify that we fulfil all requirements in this regard and is eligible to be considered.

Yours faithfully,

For (type name of the firm here)

Signature of Authorized Signatory

Name:

Designation:

Phone No.

Place:

Date:

(Affix Seal of the Organization here, if applicable)

EXHIBIT–III

ADDITIONAL UNDERTAKING BY BIDDER IN CASES OF SPECIFIED TRANSFER OF TECHNONLOGY (ToT)
Refer Clause No. 13.0 of the BEC/PQC

We, M/s _____, have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. We certify that we do not have any ToT arrangement requiring registration with competent authority.

OR

We, M/s _____, have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. We certify that we have valid registration to participate in this procurement.

Yours faithfully,

For (type name of the firm here)

Signature of Authorized Signatory

Name:

Designation:

Phone No.

Place:

Date:

(Affix Seal of the Organization here, if applicable)

PROFORMA-Z

PROFORMA Z - FORMAT FOR HINDRANCE REGISTER

Description of Project : ……..

Contract No. & Date : ……..

Contractor's Name : ……..

Scheduled Completion Date : ……..

Sl. No.	Nature of Hindrance	Items of work that could not be executed because of this hindrance	Date of start of hindrance	Date of Removal of hindrance	Period of hindrance	Overlapping Period, if any	Net hindrance days	Remarks

Signature of Contractor's Representative	Signature of Engineer-in-charge	Signature of HoD