

OIL INDIA LIMITED
(A GOVT. OF INDIA ENTERPRISE)
P.O. DULIAJAN-786602
CONTRACTS DEPARTMENT

Date: 15.03.2018

(CIVIL TENDER: ONLY FOR OIL REGISTERED VENDOR)

SEALED Bids are invited from OIL Registered Contractors on **"one Firm/Contractor one bid"** basis for the following works:

Sl. No.	IFB No.	Description of work	Location	Contract Period	OIL Class	Bid document cost.
1	DCC7434L18	Construction of Shift Engineer's room and Tool room inside Central Workshop, Industrial Area (Protected area) including electrification and supply of all materials except cement at Duliajan.	CWS, Inside Industrial Area, Duliajan	36 (Thirty Six) Weeks	D	Free

2. All the tender documents are available at OIL's website www.oil-india.com. The bidders will have to download the Proforma-I, duly fill it up and sign it, and submit the same in **SEALED ENVELOPES (Only Proforma-I is to be submitted. No other document is required to be submitted by the bidders)**.

3. Sealed envelopes containing duly filled up and duly signed Proforma-I shall be marked at top with the above IFB No. and description of work and addressed to the CGM-Contracts, Oil India Limited, P.O. Duliajan, Dist. Dibrugarh, Assam.

4. Bids will be received upto **12.45 P.M.** (IST) on **12.04.2018** at the office of the **CGM-Contracts, Duliajan** and opened on the same day at **1.00 P.M.** (IST) at his office.

5. However, if the above mentioned closing/opening day of the tender happens to be non-working day due to Bandh/Strike or any other reason, the bids will be received and opened on the following working day at the same time except on Saturday.

6.(i) The bidder should not quote their rates for individual items. They should offer their overall rate only as a percentage of Company's internally estimated cost within the limit of 'at Par' to '+10%' on the Company's internal estimated contract cost. However, the bids with overall rates quoted below 'at par' and above (+10%) of Company's internal estimate will be rejected outright. In case of identical lowest quoted overall rate by more than 1 (one) bidder, the selection will be made by Draw of Lots amongst the parties offering the same lowest overall rate for Priority-1 and Priority-2 bidder. **The DOL will be held on the day of bid opening after the opening of bids is completed.** The Contract shall be awarded to Priority-1 bidder only but if Priority-1 bidder fails to accept the LOI/found non eligible/ fails to execute the jobs, then Company reserves the right to award the same to Priority-2 bidder, if approved by Company's management.

(ii) Estimated contract cost is inclusive of all overheads, Taxes, duties, levies etc. except PF & GST.

(iii) If the rate (percentage) is quoted in figures as well as in words, the percentage rate quoted in words shall be considered to be correct in case of discrepancy. No overwriting shall be allowed. However, in case of any correction, same should be initialed.

7. All corrigenda, addenda, amendments, time extension, clarifications etc. to the tender will be hosted on the OIL's website only. Prospective bidders are requested to regularly visit the website to keep themselves updated.

GM-CONTRACTS (CIVIL)
For CGM - CONTRACTS
For RESIDENT CHIEF EXECUTIVE

OIL INDIA LIMITED
(A Govt. of India Enterprise)
Contracts Department, Duliajan

SEALED BIDS on percentage rate basis are invited from OIL's Registered Class 'D' Contractors for the following work.

DESCRIPTION OF WORK	LOCATION	CONTRACT PERIOD (WEEKS)	ESTIMATED CONTRACT COST OF THE WORK (₹)	BID CLOSING/ OPENING DATE
Construction of Shift Engineer's room and Tool room inside Central Workshop, Industrial Area (Protected area) including electrification and supply of all materials except cement at Duliajan.	CWS, Inside Industrial Area, Duliajan	36	18,97,203.92	12.04.2018

- 2.0 All the tender documents are available at OIL's website www.oil-india.com. The bidders will have to download the Proforma-I, duly fill it up and sign it with firm's seal, and submit the same in SEALED ENVELOPES (Only Proforma-I is to be submitted. No other document is required to be submitted by the bidders). The envelope shall be marked at the top with the above Tender no. and Description of Work and addressed to

CGM-Contracts
OIL INDIA LIMITED
Contracts Department, Duliajan

The Proforma-I to be submitted by the bidders (after filling up and signing the same) should be the Proforma-I uploaded with the bid document which is signed by OIL's authorized signatory. Bid document, i.e. filled up and signed Proforma-I, submitted by the bidders not containing the signature of OIL's authorized signatory and / or submitted in any other format shall be rejected straightway.

If more than one bid is received from any bidder, Company reserves the right to reject all such bids. However, Company, at its discretion, may consider any one of such bids.

- 3.0 Bids will be received upto **12:45 PM** (IST) on the date as mentioned above and opened on the same day at **01:00 PM** (IST) at the office of **CGM-Contracts** in front of the bidders present. Tender box is placed at the office of **CGM-Contracts, Duliajan**.
- 4.0 The bidders who did not submit the "One Time Security Deposit" in line with OIL's Notification No. CONT/CIV/1296/2016 dated 25.08.2016, one week prior to closing/opening date of the tender will not be eligible to participate in this tender. If such bidders participate in this tender, their bids will be rejected.
- 5.0 (i) The bidders need not to quote their rates for individual items. They should offer their overall rate only as a percentage of Company's internally estimated cost within the limit of 'at Par' to '+10%' on the Company's internal estimated contract cost. However the bids with overall rates quoted below at par or above (+10%) of Company's internal estimate will be rejected outright.

In case of identical lowest offered rate by more than 1 (one) bidder, the selection will be made by draw of lots amongst the parties offering the same lowest price for Priority-1 and Priority-2 bidder. The Contract shall be awarded to Priority-1 bidder only, but if Priority-1 bidder fails to accept the LOI/found non eligible/ fails to execute the jobs, then Company reserves the right to award the same to Priority-2 bidder, if approved by Company's management.

The Draw of Lots, if required, will be conducted on the day of bid opening as per the procedure mentioned below:-

After taking out the bids from the envelopes, the envelopes will be disposed off immediately and will not be kept in file/record. The offers/ bids will then be numbered & signed by Contracts and F&A officers. The vendor code and the name of the firm will be checked. It will also be checked whether the firm had submitted One-time Security Deposit one week prior to closing/opening date of the tender as mentioned in paragraph 4.0 or not. If the vendor code and the name of the firm do not match correspondingly, or if it is found that the One-time Security Deposit had not been submitted by the bidder one week prior to closing/opening date of the tender, the bidder will be rejected. The quoted overall rate will be checked and the bids quoting the minimum overall rate (within 'at par' to '+10%' of IE) will be selected for Draw of Lots (D.o.L). By such D.o.L, the Priority-1 (P-1) bidder will be selected first. Next, Priority-2 (P-2) bidder will also be selected in the similar manner. **All the above procedures will be completed on the day of bid opening.**

(ii) Estimated contract cost is inclusive of all overheads, taxes, duties, levies etc. except PF & GST.

(iii) If the rate (percentage) is quoted in figures as well as in words, the percentage rate quoted in words shall be considered to be correct in case of discrepancy. No overwriting shall be allowed. However, in case of any correction, same should be initialed.

6.0 The bidder must submit the followings before signing of contract, if he/she is selected as the P-1 bidder:

1. The bidder shall have a valid Electrical Contractor's License issued by Electrical Licensing board, Govt. of Assam or shall form a consortium with an Electrical contractor, having required technical credentials as per tender and holding valid Electrical Contractor's License issued by Electrical Licensing board, Gov't of Assam for executing the jobs. In support of the above the bidder shall submit a copy of either of the above Electrical Contractor's License.

2. The Bidder who have submitted any of the above Electrical contractor's Licenses, other than issued by Electrical Licensing board, Gov't of Assam, have to provide an undertaking along with the bid, stating that on award of contract to them, they will submit a valid Electrical License issued by Electrical Licensing board, Gov't of Assam in their name or get their Electrical License recognized/endorsed by Electrical Licensing board, Gov't of Assam for executing the job at Assam within 30 days from date of award of Contract and same will be subsequently renewed till the completion of the contract.

3. The undertaking shall be on a non-judicial stamp paper duly notarized by Notary Public with legible stamp.

7.0 Before tendering, the bidder is advised to inspect the works with permission from GM-Civil or his representative, to assess the nature and extent of and the conditions under which it will be carried out.

Though effort will be made to allot the works at the specified location, Company reserves the right to allot the works in any other location.

8.0 The Company reserves the right of rejecting or accepting any or all bids without assigning any reason.

9.0 No bidder must withdraw the bid after its public opening. Any such withdrawal will make the bidder liable to forfeit his Earnest Money in full and be debarred from further tendering at the sole discretion of the Company and the period of debarment will not be less than 2 (two) years.

- 10.0 The bid must be valid for 90 (Ninety) days from the date of opening of the tender.
- 11.0 Conditional bids are liable for rejection at the sole discretion of the Company.
- 12.0 Time shall be regarded as the essence of the Contract and the failure on the part of Contractor to complete the work within the stipulated time, shall entitle the Company to recover liquidated damages and/or penalty from the Contractor as per terms of the tender/contract.
- 13.0 The selected bidder will be required to enter into formal contract, which will be based on his bid on the OIL Standard Form of Contract.
- 14.0 **PERFORMANCE SECURITY DEPOSIT:** The successful bidder shall furnish a Performance Security Deposit in the form of Letter of Credit/Bank Guarantee (PBG in prescribed format of **Annexure-I**) as specified above before signing the formal contract. The Security Deposit will be refunded to the Contractor after satisfactory completion of the work, 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. This Security Money shall not earn any interest.

Note: The bidders are requested to advise the Performance Bank Guarantee issuing bank to comply with the following and ensure to submit, the receipt of the copy of SFMS message as sent by the issuing bank branch, along with the original Performance Bank Guarantee in OIL's tender issuing office:

The Performance 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 Performance Bank Guarantee.
- ii. "MT 760 / MT 767 COV for amendment of Performance Bank Guarantee.

The above message/intimation shall be sent through SFMS by the PBG issuing bank branch to Axis Bank, Duliajan Branch, IFS Code – UTIB0001129, Branch Address – AXIS Bank Ltd, Duliajan Branch, Daily Bazar, Jyotinagar, Duliajan, District - Dibrugarh, PIN 786602.

- 15.0 Bids can be dropped in the tender box placed at the Office of the CGM-Contracts or can be sent by registered post addressed to

**CGM-Contracts
OIL INDIA LIMITED
Contracts Department, Duliajan**

So as to reach his office before scheduled closing date and time. The Company will not be responsible for any postal delay or non-receipt.

- 16.0 Price shall be firm throughout the whole contract period.
- 17.0 The Contractor will be required to allow OIL officials to inspect the works and documents in respect of the workers' payment.
- 18.0 Debarred contractors are not eligible for bidding during the time of debarment.
- 19.0 **BACKING OUT BY BIDDER:** In case any bidder withdraws their bid within the bid validity period, the Bid security will be forfeited and shall be dealt as per OIL's Banning Policy dated 6th Jan 2017 available at OIL's website.
- 20.0 **BACKING OUT BY L-1 BIDDER AFTER ISSUE OF LOI:** In case LOI issued is not

accepted by the L-1 bidder or the Performance Security is not submitted as per the terms of the contract within the time specified in the Bid Document, the bid security shall be forfeited and the bidder shall be dealt as per OIL's Banning Policy dated 6th Jan 2017 available at OIL's website.

- 21.0 **FURNISHING FRAUDULENT INFORMATION/DOCUMENT:** If it is found at any time that, a Bidder / Contractor has / had furnished fraudulent documents / information, the Bid Security / Performance Security shall be forfeited and the bidder shall be dealt as per OIL's banning policy dated 6th Jan 2017 available at OIL's website.

GM-CONTRACTS (CIVIL)
For CGM - CONTRACTS
For RESIDENT CHIEF EXECUTIVE

(Only this Proforma-I is required to be submitted by the bidders in the tender box. No other document is required.)

Name of Work : Construction of Shift Engineer's room and Tool room inside Central Workshop, Industrial Area (Protected area) including electrification and supply of all materials except cement at Duliajan.

Location : CWS, Inside Industrial Area, Duliajan

Contract Cost : ₹ 18,97,203.92

Name of the Firm:

Vendor Code: OIL Registration No.:

Name of Bidder/ Power of Attorney Holder:

Mobile No.: E mail ID:

I/We have gone through all the tender documents (i) ITB (ii) GCC (iii) SCC (iv) SOQ (v) SCPME (vi) SM along with NIT uploaded in the website www.oil-india.com and agree with all the terms and conditions provided there in.

I/We hereby declare that, I/We shall submit a valid Electrical Contractor's License or requisite documents as per Clause No. 6 of ITB of this tender.

I/We hereby declare that, I/We have submitted the "One Time Security Deposit" in line with OIL's notification no.: CONT/CIV/1296/2016 dated 25.08.2016, one week prior to closing/opening date of the tender.

I/we on this date ____/____/2018, hereby offer to execute the work described above at the below mentioned rate (ticked below) inclusive of all overheads, taxes, duties, levies etc. except PF & GST in accordance with the Contract Terms & Conditions, which I/ we have fully understood.

(Please tick **any one box** to declare your rate)

☐ My offered rate is "at par" with Company's internal estimated contract cost.

☐ My offered rate is _____ % above Company's internal estimated contract cost.

* If the rate (percentage) is quoted in figures as well as in words, the percentage rate quoted in words shall be considered to be correct in case of discrepancy.

** If any corrections are made, same has to be signed by the concerned bidder. If the same is not signed, the bid will be rejected outright]

I/We are aware that, my/our bid will be rejected in case of following conditions:

- 1.0 Bid without any Quoted Rate shall be rejected straightway.
- 2.0 Bid with Rate quoted below "at par" or above (+10%) of Company's internal estimated contract cost shall be rejected straightway.
- 3.0 Bid will be rejected straightway if the Vendor Name does not match with corresponding Vendor Code and/or OIL Registration no.
- 4.0 Bid will be rejected if submitted without the sign and/or seal of the bidder.

Note:

- 1.0 If more than one bid is received from any bidder, Company reserves the right to reject all such bids. However, Company, at its discretion, may consider any one of such bids.
- 2.0 In case of any identical situation, the L-1 bidder will be determined through draw of lots.
- 3.0 The % aggregate offered by the bidder over the Company's internal estimated contract cost shall be applicable uniformly towards all individual items.

Signature of bidder with Seal
Date:

OIL INDIA LIMITED
(A Govt. of India Enterprise)
Contracts Department,
Duliajan, District: Dibrugarh
Assam, PIN: 786602

Works Contract

DESCRIPTION OF WORK: Construction of Shift Engineer's room and Tool room inside Central Workshop, Industrial Area (Protected area) including electrification and supply of all materials except cement at Duliajan.

GENERAL CONDITIONS OF CONTRACT (GCC)

MEMORANDUM OF AGREEMENT made this _____ day of _____ between OIL INDIA LIMITED a Company incorporated under the Companies Act 1956 and having its Registered Office at Duliajan in the District of Dibrugarh, Assam (hereinafter called Company) of the one part and Shri/Smti _____ and Shri/Smti _____ carrying on business as partners /proprietor under the firm name and style of M/s. _____ with the main Office at _____ in the District of _____ aforesaid (hereinafter called 'Contractor') on the other part.

WITNESSETH:

1. a) The contractor hereby agrees to carry out the work set down in the Schedule of work which forms Part-II of this Contract in accordance with the 1968 General Conditions of Contract of Oil India Limited and General Specifications read in conjunction with any drawings and Particular Specifications & instructions which forms Part-III of the contract utilizing any materials/services as offered by the Company as per Part-IV of the contract at location _____.

b) In this Contract all words and expressions shall have the same meaning as are respectively assigned to them in the 1968 General Conditions of Contract of Oil India Limited which the Contractor has perused and is fully conversant with before entering into this Contract.

c) The clauses of this contract and of the specifications set out hereunder shall be paramount and in the event of anything herein contained being inconsistent with any term or terms of the 1968 General Conditions of Contract of Oil India Limited, the said term or terms of the 1968 General conditions of Contract to the extent of such inconsistency, and no further, shall not be binding on the parties hereto.

2. i) The contractor shall provide all labour, supervision and transport and such specified materials described in Part-II of the Contract 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.

ii) Contractor shall have to produce necessary cash memos towards forest produce used against the contract to Head (Civil) used against this contract from the authorities prior to processing of final payment. In absence of cash memos, the final bill shall not be processed.

3. The Company's Engineer shall have power to:

a) Reduce the rates at which payments shall be made if the quality of work although acceptable is not up to the required standard set forth in the OIL Standard Specifications which have been perused and fully understood by the Contractor.

b) Order the Contractor to remove any inferior material from the site and to demolish or rectify any work of inferior workmanship, failing 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.

c) Order the Contractor to remove or replace any workman who he (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.

d) Issue to the Contractor from time to time during the progress of the work such further drawings and instructions as shall be 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.

e) Order deviations in Part II and III of this Contract. All such deviation orders shall be in writing and shall show the financial effect, if any, of such deviation and whether any extra time is to be allowed. The rates to be applied for such Deviation Order shall be the same for those appearing in Company's Schedule of Rate in force on the date of issue of such Deviation Order, to which the contractor has no objection.

4. The Contractor shall have no claim against the company in respect of any work which may be withdrawn but only for work actually completed under this contract. The contractor shall have no objection to carry out work in excess of the quantities stipulated in Part-II. During the actual execution of the contract, if any, additional items (deviation items) are required, which are not covered in the tender, payment of such items shall be made at the current OIL schedule of rate. In case of positive variation in quantity of any items for the quantity mentioned in the schedule of work during the actual execution of work, the contractor will have to carry out the positive varied quantity at the contract rate, or internally estimated rate, whichever is lower.

5. The Company reserves the right to cancel this Contract at any time upon full payment of work done and the value of the materials collected by the contractor for permanent incorporation in the work under this contract particularly for execution of this contract up to the date of cancellation of the Contract. The valuation of the work done and the materials collected shall be estimated by the company's Engineer in presence of the contractor. The Contractor shall have no claim to any further

payment whatsoever. The valuation would be carried out exparte if Contractor fails to turn up despite reasonable notice which will be binding on the Contractor.

6. The Contractor hereby undertakes to indemnify the Company against all claims which may arise under the under noted Acts:-

- I. The Mines Act.
- II. The Minimum Wages Act, 1948.
- III. The Workman's Compensation Act, 1923.
- IV. The Payment of wages Act, 1963.
- V. The Payment of Bonus Act, 1965.
- VI. The Contract Labour (Regulation & Abolition) Act, 1970 and the rules framed there under.
- VII. Employees' Pension Scheme, 1995.
- VIII. Inter-State Migrant (Regulation of Employment and Condition of Service) Act. 1979.
- IX. The Employees Provident Fund and Miscellaneous Provisions Act, 1952.
- X. Goods and Service Tax (GST) Law,

Or any other Acts or Statute 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 shall clear away all rubbish and surplus material from the site on completion of work and shall leave the site clean and tidy.

8. The Contractor must complete the work within **36 weeks** of the written order to commence work. During the currency of the job, the work progress must be commensurate with the time elapsed. In the event of any delay on the contractor's part, he/she will be liable to pay to the company liquidated damages at the rate of 1/2% (Half percent) per week of the contract price of the item(s) delayed in completion and the maximum value of the liquidated damage will be 7.5% of the contract price of the item(s) delayed provided the item(s) delayed are not critical for commissioning and final utilization of the work. If, however, the item(s) delayed in completion are critical for commissioning and final utilisation of the work then the contractor will be liable to pay liquidated damages by way of penalty at the rate of 1/2% (Half percent) per week of delay of the total contract cost subject to a maximum of 7.5% of total contract cost.

The GM-Civil's certificate as to the criticality or otherwise of an item shall be final.

The payment of liquidated damages/penalty may be reduced or waived at the sole discretion of the Company whose decision in this regard will be final.

In the event of there being undue delay in execution of the Contract, the Company reserves the right to cancel the Contract and / or levy such additional damages as it deems fit based on the actual loss suffered by the company attributable to such delay. The company's decision in this regard shall be final.

9. In order to promote, safeguard and facilitate the general operational economic in the interest of the Company during the continuance of this contract the Contractor hereby agrees and undertakes not to take any direct or indirect interest and or support, assist, maintain or help any person or persons engaged in antisocial activities, demonstration, riots , or in any agitation prejudicial to the Company's interest and any such even taking shape or form at any place of the Company's works or and its neighbourhood.

10. The tendered all-inclusive Price (i.e. the Contract price) is ₹ _____ ***(Not to be filled up by bidder while submitting the offer in c-Folder. This figure will be filled up by OIL at the time of award of the contract to the successful bidder.)*** (₹ _____ only) but the Company shall pay the Contractor only for actual work done at the all inclusive rates set down in the Schedule of work part II of this Contract.

On account payment may be made, not oftener than monthly, up to the amount of 92.5% 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 Engineer before any such final payment is made.

11. The contractor employing 20 (twenty) or more workmen on any day preceding 12 months shall be required to obtain requisite licence at his cost from the appropriate Licensing Officer before undertaking any Contract work. The Contractor shall also observe the rules & regulations framed under the Contract Labour (Regulation & Abolition) Act.

12. Wages shall be paid by the Contractor to the workmen directly without any intervention of any Jamadars or Thekadars and that the Contractor shall ensure that no amount by way of commission or otherwise be deducted/ recovered by the Jamadar from the wages of the workmen.

13. The Company for any reason whatsoever and of which the company shall be sole judge may terminate this Contract with a 24 hours notice in writing to the Contractor and in the event of Company's so doing the clause 5 here of shall prevail and the accounts between the parties will be in accordance therewith finalised.

14. The Contractor will 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.

15. The Contractor shall ensure that all men engaged by him/her are provided with appropriate protective clothing and safety wear in accordance with the Oil Mines Regulations 2017. The Company's representative shall not allow/accept those men who are not provided with the same.

16. All Statutory taxes levied by the Central and State Government or any other competent authority from time to time, except PF & GST, will be borne by Contractor and the contract cost is inclusive of all tax liabilities except PF & GST. However, any subsequent increase in such statutory taxes after bid opening day will be borne by the

Company. Similarly if there is any decrease in such statutory taxes after bid opening, the Company shall recover the decreased amount of such taxes from the contractor.

17. The Contractor shall deploy local persons in all works.

18. The Contractor shall not engage minor labour below 18(eighteen) years of age under any circumstances.

19. The Contractor and his/her workmen shall strictly observe the rules and regulations as per Mines Act (Latest editions).

20. SPECIAL CONDITIONS:

a) The amount of retention money shall be released after 6 (six) months from the actual date of completion of work.

b) The contractor will be required to allow OIL Officials to inspect the work site and documents in respect of the workers' payment.

c) Contractor(s) whosoever is liable to be covered under the P.F. Act and contract cost is inclusive of P.F., must ensure strict compliance of provisions of Provident Fund and Miscellaneous Provisions Act, 1952 in addition to the various Acts mentioned elsewhere in this contract. Any contractor found violating these provisions will render themselves disqualified from any future tendering. As per terms of the contract, if applicable, the Contractor must deposit Provident Fund Contribution (covering Employee's & employer's share) with the competent authority monthly under their direct code. The Contractor shall be required to submit documentary evidence of deposit of P.F. Contribution to the Company. In case of failure to provide such documentary evidence, the Company reserves the right to withhold the amount equivalent to P.F. Contribution on wage component.

d) In case P.F. is not included in the contract cost and later on required to be deposited by the Contractor, the same will be reimbursed on production of documentary evidence of depositing the same to the authority concerned. 12% P.F. will be applicable on the wage component of the contract cost.

e) All safety precautions to be maintained by the Contractor at his own cost as per safety rules and regulations.

f) The Contractor shall use pump if needed for dewatering of pit while excavation for which no extra payment will be made.

g) The Contractor shall have to work during rainy seasons also.

h) Watch and ward, loss or damage to Company's property, theft and other incidental charges shall be Contractor's responsibility.

i) Efficient workmen to be engaged by the Contractor.

- j) The Contractor's representative should report to Engineer-in-charge on all working days at 7.00 A.M. and 3.00 P.M. for instructions.
- k) 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.
- l) The Company reserves the right to get the part or whole work complete at the risk and cost of the Contractor if he fails to complete the work within the stipulated time without any valid reason. The Company's decision shall be final and binding on the Contractor.
- m) The Contractor shall obtain labour clearance within 7(seven) days of signing the Contract.
- n) 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.
- o) The Contractor shall be in a position to execute 2(two) locations simultaneously.
- p) If required, the Contractor shall have to work in two shifts for which no extra payment will be admissible to him/them.
- q) If needed water and electricity will have to be arranged by the Contractor at his own cost.
- r) The Contractor and his workmen are to strictly observe the safety precautionary rules as per Mines Act (Latest edition) while executing the work.
- s) The Contractor shall have to provide temporary latrine facilities in the entire work site for use of their workmen during progress of work.
- t) The contractor himself (the signatory of the contract) must visit the site at least twice in a week as fixed for taking necessary instruction from the Engineer-in charge.
- u) The program of works to be submitted in the form of Bar Chart within 3 days of receipt of work order.
- v) The Contract cost is excluding P.F. & GST. Wage component of the Contract cost is **17.44 %**.

21. SPECIAL INSTRUCTION

The contractor must quote considering the prevailing minimum Labour wage rate for each day of work.

22. GOODS AND SERVICES TAX (GST) CLAUSES UNDER GCC**22.1 GENERAL REMARKS ON TAXES & DUTIES:**

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.

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

22.3 "**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.

22.4 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**. 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 filed under GST laws & rules should be timely filed by Supplier of Goods / Services (Service Provider) with requisite details.

22.5 Where 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 actuals 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 filed under GST laws & rules should be timely filed by supplier with requisite details.

22.6 Where 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 actuals against submission of Invoices as per format specified in rules/ regulation of **GST**.

- 22.7 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.
- 22.8 Contractor/vendor 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 / vendor fails to provide the invoice in the form and manner prescribed under the GST Act read with GST Invoicing Rules thereunder, OIL shall not be liable to make any payment on account of **GST** against such invoice.
- 22.9 **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/vendor, OIL shall withhold the payment of **GST**.
- 22.10 **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/vendor but will be directly deposited to the government by OIL.
- 22.11 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.
- 22.12 Notwithstanding anything contained anywhere in the Agreement, in the event that the input tax credit of the **GST** charged by the Contractor / Vendor is denied by the tax authorities to OIL for reasons attributable to Contractor / Vendor, OIL shall be entitled to recover such amount from the Contractor / Vendor 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.
- 22.13 TDS under GST, if applicable, shall be deducted from contractor's/vendor's bill at applicable rate and a certificate as per rules for tax so deducted shall be provided to the contractor/vendor.
- 22.14 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.
- 22.15 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.

- 22.16** 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 (in case the delay is attributable to the service provider), shall be to Service provider's account whereas any decrease in the rate of **GST** shall be passed on to the OIL.

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.

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.

- 22.17** 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.

22.18 Documentation requirement for GST

The vendor 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;
- 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

- i. The original copy being marked as ORIGINAL FOR RECIPIENT;

- ii. The duplicate copy being marked as DUPLICATE FOR TRANSPORTER and
- iii. The triplicate copy being marked as TRIPLICATE FOR SUPPLIER.

22.19 ANTI-PROFITEERING CLAUSE

In case the GST rating of vendor 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 vendor and shall also be entitled to deduct / recover such GST along with all penalties / interest, if any, incurred by OIL.

22.20 OIL will prefer to deal with registered bidder under GST. Therefore, bidders are requested to get themselves registered under GST, if not registered yet.

23. ARBITRATION:

Any dispute under this contract will be settled through Arbitration as per Indian Arbitration and Conciliation Act, 1996.

Place of Arbitration: Duliajan, Dibrugarh, Assam.

24. FORCE MAJEURE:

Force Majeure (exemption) Clause of the International Chamber of Commerce (ICC Publication No. 421) is hereby incorporated in this contract.

25. I.B. VERIFICATION REPORT AND SECURITY REVIEW:

Contractor will be required to submit the verification report to ascertain character and antecedents from the Civil Administration towards the persons engaged under this contract to the Head of the user Department before engagement.

26. 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.

27. SET OFF CLAUSE:

"Any sum of money due and payable to the contractor (including Security Deposit refundable to them) under this or any other contract may be appropriated by Oil India Limited and set off against any claim of Oil India Limited (or such other person or persons contracting through Oil India Limited) for payment of a sum of money arising out of this contract or under any other contract made by the contractor with Oil India Limited (or such other person or persons contracting through Oil India Limited)."

28. FURNISHING FRAUDULENT INFORMATION/DOCUMENT:

If it is found that a Bidder/Contractor has furnished fraudulent document/information, the Bid Security/ Performance Security shall be forfeited and the party shall be debarred as per the OIL's Banning Policy dated 6th Jan 2017 available at OIL's website.

29. LIQUIDATED DAMAGES FOR DELAY IN MOBILISATION AND/ OR COMPLETION OF WORKS AND SERVICES

In normal case of works /service contracts, liquidated damages will be applicable @ 0.5% of the contract value per week or part thereof, for delay in contract mobilization /completion date subject to a maximum ceiling of 7.5% of contract value .

IN WITNESS whereof the parties hereunto set their hands seals the day and year first written above:-

SIGNED & DELIVERED FOR AND
ON BEHALF OF

(Signature of Contractor or his legal Attorney)

By the hand of

(Full Name of Signatory)

It's Partner/Legal Attorney

(Seal of Contractor's Firm)

And in presence of

(Signature of witness)

Date: _____

(Full Name of Signatory)

Address:

(Signature of Acceptor)

SIGNED & DELIVERED FOR & ON
BEHALF OF OIL INDIA LIMITED

Designation _____

Date_____

Part II - SOQ

OIL INDIA LIMITED
 (A Govt. of India Enterprise)
Duliajan, Assam
WORKS CONTRACT
Tender No.: DCC7434L18

SL. No.	DESCRIPTION OF ITEMS	Quantity	UOM	CURR	RATE
	Group A section A				
10	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	53	M3	INR	137.71
20	Demolishing cement concrete manually / by mechanical means including disposal of material within 50 metres lead as per direction of Engineer-in - charge. 1:3:6 or richer mix	18.00	M3	INR	714.45
30	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	53.00	M3	INR	89.21
40	Collecting / excavating sand, soil, silt, ordinary earth from any source, load into lorries, transport it to distant place of work including procuring earth and laying in layer of 150mm thickness and dry ramming, profile properly made for taking measurement, including all measurable lead upto 30m and lift as required. (The contractor shall be responsible for all formalities of supply of earth such as purchase of land including royalties, monopoly / other statutory taxes as required from any distance.)	22.00	M3	INR	272.88
50	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:3:6 (1 Cement : 3 sand : 6 graded stone aggregate 20 mm nominal size)	5.00	M3	INR	3829.55
60	Providing and laying damp-proof course 40 mm thick with cement concrete 1:2:4 (1 cement : 2 sand : 4 graded stone aggregate 12.5 mm nominal size).	6.00	M2	INR	176.13
70	Centering and shuttering including strutting, propping etc. and removal of form for : Foundations, footings, bases of columns, etc. for mass concrete	42.00	M2	INR	177.69
80	Centering and shuttering including strutting, propping etc. and removal of form for : Suspended floors, roofs, landings, balconies and access platform	102.00	M2	INR	331.32
90	Centering and shuttering including strutting, propping etc. and removal of form for : Lintels, beams, plinth beams, girders, bressumers and cantilevers	65.00	M2	INR	279.21
100	Centering and shuttering including strutting, propping etc. and removal of form for : Columns, Pillars, Piers, Abutments, Posts and Struts	72.00	M2	INR	389.24
110	Centering and shuttering including strutting, propping etc. and removal of form for : Stairs, (excluding landings) except spiral-staircases	14.00	M2	INR	347.40
120	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all	4,700.00	KG	INR	66.27

	complete. Thermo-Mechanically Treated bars				
130	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level : 1:1.5:3 (1 cement : 1.5 sand : 3 graded stone aggregate 20 mm nominal size)	15.00	M3	INR	3770.00
140	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up to floor five level, excluding cost of centering, shuttering, finishing and reinforcement : 1:1.5:3 (1 cement : 1.5 sand : 3 graded stone aggregate 20 mm nominal size)	26	M3	INR	4452.34
150	Brick work with common burnt clay F.P.S. (non-modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:4 (1 cement : 4 sand)	10	M3	INR	6407.91
160	Providing and laying Brick Flat Soling (75mm thick) including grading the base and spreading 25mm thick sand bed at bottom and grouting soling with cement mortar (prop. 1:3) and carrying all materials from a distance of upto 30.00m.	49.0	M2	INR	434.08
170	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level. Cement mortar 1:4 (1 cement :4 sand)	85.0	M2	INR	792.12
180	12 mm cement plaster of mix :1:4 (1 cement : 4 sand)	410.0	M2	INR	99.62
190	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete..	17	M2	INR	699.53
200	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 sand), including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm	74	M2	INR	1334.77
210	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	220	M2	INR	80.97
220	Distempering with dry distemper of approved brand and manufacture (two or more coats) of required shade on new work, over and including water thinnable priming coat to give an even shade.	220.00	M2	INR	49.30
230	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm)	141	M2	INR	71.87
240	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	39.00	M2	INR	83.89

250	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & Kiln seasoned and chemically treated hollock wood	0.15	M3	INR	49634.10
260	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters :35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	8.000	M2	INR	1680.36
270	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	380	KG	INR	432.78
280	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item): With float glass panes of 4.0 mm thickness	38.00	M2	INR	772.26
290	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete : 150 x 10 mm	10.00	EA	INR	62.81
300	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete : 125 mm	10.00	EA	INR	66.54
310	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	4.00	EA	INR	78.15
320	Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete : 250x16 mm	3.00	EA	INR	179.87
330	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000	2.00	EA	INR	1045.24

	mm), with double speed adjustment with necessary accessories and screws etc. complete.				
340	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required : W.C. pan with ISI marked white solid plastic seat and lid	1.00	EA	INR	3071.66
350	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require : White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap	1.00	EA	INR	1734.28
360	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1.00	EA	INR	717.64
370	Providing and fixing toilet paper holder : C.P. brass	1.00	EA	INR	267.84
380	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour. 600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms	1.00	EA	INR	442.04
390	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	1.00	EA	INR	363.32
400	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	1	EA	INR	160.87
410	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	220	KG	INR	82.94
420	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.). complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	285.0	KG	INR	594.08
430	Supplying, fitting and fixing PVC pipes for Soil line (as per BIS approved) including joining,fitting and fixing with clamps etc as necessary complete at all levels. 110mm dia.	15.0	M	INR	300.46

440	Supplying, fitting and fixing 87.5 degree PVC bend of (supreme/prince) or other ISI approved including joining, fitting and fixing etc. as necessary complete as all levels including below GL as directed and specified. In exposed surfaces or trenches 110mm dia.	4.0	EA	INR	227.53
450	Providing and fixing brass stop cock of approved quality : 15 mm nominal bore	2	EA	INR	218.90
460	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 : 15 mm nominal bore	1	EA	INR	423.21
470	Providing and fixing PTMT grating of approved quality and colour.Circular type 100 mm nominal dia	2	EA	INR	45.99
480	Providing and fixing G.I. pipes complete with G.I. fittings and clamps,i/c cutting and making good the walls etc. Internal work - Exposed on wall 15 mm dia nominal bore	20.00	M	INR	172.05
490	Carriage of material by mechanical transport including loading unloading and stacking: Earth: Beyond 2KM and Upto 3KM	53	M3	INR	111.77
500	Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work) : 15 mm nominal bore	3.00	EA	INR	127.34
510	Cement plaster 1:3 (1 cement: 3 sand) finished with a floating coat of neat cement. 12 mm cement plaster	51.00	M2	INR	143.26
Group B section A					
10	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 3 nos Single core 1.5 sq.mm size FRLS PVC insulated copper cable in surface/recessed using medium grade ISI approved 25mm size PVC conduit & accessories, suitable GI box as required.(Colour codes – Phase –R/Y/B; Neutral –Black & Earth- Green)). Concealed Point wiring includes laying of PVC conduit in the roof/Wall also. Make of cable: Havells/Finolex/L&T/Polycab or any BIS approved make.; Make of PVC conduit: AKG/Presto Plast or any BIS approved make.	27.00	P	INR	1130.78
20	Wiring for light plug point with 3 nos Single core 1.5 sq.mm size FRLS PVC insulated copper cable in surface/recess using medium grade ISI approved 25mm size PVC conduit & accessories, etc as required.(Colour codes – Phase – R/Y/B; Neutral –Black & Earth- Green)).Concealed wiring includes laying of PVC conduit in the roof/Wall also.Make of cable: Havells/Finolex/L&T/Polycab or any BIS approved make; Make of PVC conduit: AKG/Presto Plast or or any BIS approved make.	65.00	M	INR	171.48
30	Wiring for circuit/ sub main from MCB DB to desired Switch Board with 3 nos Single core 2.5 sq.mm size FRLS PVC insulated copper cable in surface/recess using medium grade ISI approved 25mm size PVC conduit & accessories, (Colour codes : Phase –R/Y/B; Neutral –Black & Earth- Green)).Concealed circuit wiring includes laying of PVC conduit in the roof/Wall also.Make of cable :Havells/Finolex/L&T/Polycab or any BIS approved make,Make of PVC conduit : AKG/PLaza/Richa or or any BIS approved make.	195.00	M	INR	208.35
40	Wiring for circuit/ sub main/Power wiring from MCB DB to desired Switch Board/power point with 3 nos Single core 4 sq.mm size FRLS PVC insulated copper cable in surface/recess using medium grade ISI approved 25mm size PVC Conduit & accessories, (Colour codes : Phase – R/Y/B; Neutral –Black & Earth- Green). Concealed circuit wiring includes laying of PVC conduit in the roof/Wall also.Make of cable :Havells/Finolex/L&T/Polycab or any	60.00	M	INR	254.93

	BIS approved make ,Make of PVC conduit : AKG/PLaza/Richa or any BIS approved make.				
50	Wiring for circuit/ sub main wiring from Main panel to DB, DB to MCB DB with 3 nos Single core 10 sq.mm size FRLS PVC insulated copper cable in surface/recess using medium grade ISI approved 32mm size PVC conduit & accessories, (Colour codes: Phases - R/Y/B; Neutral –Black & 1 Nos Earth- Green)).Concealed sub main wiring includes laying of PVC conduit in the roof/Wall also. Make of cable :Havells/Finolex/L&T/Polycab or any BIS approved make, Make of PVC conduit : AKG/PLaza/Richa or any BIS approved make.	60.00	M	INR	542.24
60	Modular type Switch Board Box shall be made out of steel sheet of min 1.20 mm thickness and complete finished box should be duly pretreated, zinc coated & passivated or made of GI sheet of 1.2mm thickness to accommodate specified number of electrical accessories and suitable for indoor electrical installation with provision for earthing terminal. Modular type Frame Plate with matching Cover Plate suitable for above Switch Board Box suitable to accommodate specified number of electrical accessories. Frame Plate shall be made out of polycarbonate.The configurations for the relevant plate are defined as under: A- Number of Rows: 1. B- Number of openings:3. C- Size of opening.: 1M Internal connection of wire is included in the item.Make: Legrand/L&T/Scheider/Crabtree/Indo Asian(Elvira)."	9.00	NO	INR	239.31
70	Modular type Switch Board Box shall be made out of steel sheet of min 1.20 mm thickness and complete finished box should be duly pretreated, zinc coated & passivated or made of GI sheet of 1.2mm thickness to accommodate specified number of electrical accessories and suitable for indoor electrical installation with provision for earthing terminal. Frame Plate with matching Cover Plate suitable for above Switch Board Box suitable to accommodate specified number of electrical accessories. Frame Plate shall be made out of polycarbonate. The configurations for the relevant plate are defined as under: A-Number of Rows: 1 B- Number of openings:8 C- Size of opening.1M Make of Modular item: Legrand/ L&T/Scheider/ Crabtree/ Indo Asian(Elvira).	4.00	NO	INR	429.10
80	Supplying and fixing 3 module GI box with modular plate and cover in front on recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required. Modular type switch shall be ISI marked switch modular, unenclosed, push / piano type suitable for flush mounting with screw type terminals suitable for 250V, 50Hz. supply and conforming to IS: 3854/1997 Reaffirmed 2007. Modular socket outlet, flush type mounting, non-shuttered type for 250V,50Hz. supply and conforming to IS:1293/ 2005 with amendments No.1,2&3.The dimensions shall be as per annexure `A of IS: 1293/2005 with amendments No.1,2&3 Note:-Dimensions and withdrawal force values for 2-pin sockets and 5-pin sockets shall be as per IS:1293.Make of Modular item: Legrand / L&T / Scheider / Crabtree /Indo Asian (Elvira).	13.00	NO	INR	377.08

90	Supplying and fixing 4 module GI box with modular plate and cover in front on recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch, connection etc. as required. Modular type switch shall be ISI marked switch modular, unenclosed, push / piano type suitable for flush mounting with screw type terminals suitable for 250V, 50Hz. supply and conforming to IS: 3854/1997 Reaffirmed 2007. Modular socket outlet, flush type mounting, non-shuttered type for 250V, 50Hz. supply and conforming to IS: 1293/2005 with amendments No.1,2&3. The dimensions shall be as per annexure 'A' of IS: 1293/2005 with amendments No.1,2&3 Note:-Dimensions and withdrawal force values for 2-pin sockets and 5-pin sockets shall be as per IS:1293. Make of Modular item :: Legrand/L&T/Schneider/Crabtree/Indo Asian(Elvira).	3.00	NO	INR	515.01
100	Supplying and installation of recess type 20A metallic plug/socket DB complete with 20A Plug and Socket and 20 A DP RCBO, 30mA sensitivity for AC. Make: Legrand /Siemens /Havells/Indo Asian/Schneider .	1.00	NO	INR	5537.93
110	Supply, installation and fixing of 6 A Modular switch in the existing modular boxes. Modular type switch shall be ISI marked switch modular, unenclosed, push / piano type suitable for flush mounting with screw type terminals suitable for 250V, 50Hz. supply and conforming to IS: 3854/1997 Reaffirmed 2007 Make of Modular switch :Legrand/L&T/Schneider/Crabtree/Indo Asian(Elvira).	27.00	NO	INR	85.27
120	Supply, installation of Blank Plate Make: Legrand/L&T/Crabtree/Schneider.	28.00	NO	INR	59.89
130	Supplying and fixing 3 pin, 5 amp ceiling rose	1	NO	INR	62.10
140	Supply, installation and wiring of 2 Module step Fan Regulator 100W. Electronic Fan regulator step type (Capacitor Type) with minimum 4 steps(5 position) flush mounting type to IS:11037/1984(Reaffirm 2005) suitable for electric ceiling fan of voltage 230V, AC, 50 Hz having wattage up to 100 Watts Max. The capacitor used shall be of standard make. Make:Legrand/L&T/Crabtree/Schneider/Indo Asian(Elvira)	4	NO	INR	344.57
150	Supply ,Installation and commissioning of 1400 mm sweep ceiling fan without modular step regulator, including wiring the down rods of standard length (upto 30 cm). Fan shall have double bearing with minimum air delivery shall be 230 CMM and conforming to IS 374-1979 with latest amendments . Minimum Power input shall be 65 W .Make of fan: Havell/Crompton Greaves/Bajaj/Orient/Usha.	4.0	NO	INR	2697.91
160	Supply ,Installation and commissioning of 300 mm sweep, 900±10% PM heavy duty metallic exhaust fan in the existing opening, including making the hole to suit the size of the above fan, making good the damage, connection, testing, commissioning etc. as required. Minimum power input shall be 50 W. Pre-lubricated double ball bearing for maintenance free running and conforming to IS 2312-1967 with latest amendment. Make of fan: Havells/Crompton Greaves/Bajaj/Orient/Usha	1.0	NO	INR	4264.27

170	Supply, Installation, testing and commissioning of high performance suspended mounting, LM-79 certified luminaire & LM-80 certified LED with aluminium extruded channel & white powder coating. Fitting shall be with high translucent diffuser & white optics reflector for glare free light distribution with 40 +/-10% w system wattage, system efficacy >85 lm/W. THD <10% and PF is >0.9. Colour temperature shall be in between 5500 to 6500 K. The driver shall be external type and minimum burning hours shall be 40000 Hrs. The fitting shall be complete with all accessories etc., including supplying and fixing ball and socket arrangement, 2 no. down rods of 20 mm dia X 1.6 mm thick steel conduit upto 75 cm length, painting and wiring the down rods and connection with 1.5 sq. mm FR PVC insulated, copper conductor, three core cable and earthing etc. as required. Make: Philips/Crompton/GE/Bajaj/Havells	12.0	NO	INR	7504.55
180	Supply, Installation, testing and commissioning of surface mounting Powder coated, Aluminum extrusion housing, IP20 Diffused Acrylic glass fitted 4ft LED Batten LM-79 certified luminaire & LM-80 certified LED complete with all mounting accessories. The product should have an even light distribution with system lumen greater than 1800 Lumen with max.20 +/-10% w system wattage. and CCT 6500K, CRI >80 and system efficacy >90 lm/W. Lifetime should be at least 40000 hours. The product should have an Electronic constant current driver with Open & Short circuit protection, reverse polarity protection and surge protection, PF >0.9, THD <10%. Make: Philips/Crompton/GE/Bajaj/Havells.	9	NO	INR	1063.17
190	Supply, Installation, testing and commissioning of surface mounting Powder coated, Aluminum extrusion housing, IP20 Diffused Acrylic glass fitted 2ft LED Batten LM-79 certified luminaire & LM-80 certified LED complete with all mounting accessories. The product should have an even light distribution with system lumen greater than 1800 Lumen with max.20 +/-10% w system wattage. and CCT 6500K, CRI >80 and system efficacy >90 lm/W. Lifetime should be at least 40000 hours. The product should have an Electronic constant current driver with Open & Short circuit protection, reverse polarity protection and surge protection, PF >0.9, THD <10%. Make: Philips/Crompton/GE/Bajaj/Havells.	1	NO	INR	908.69
200	Supply, fixing and installation of 16 WAY double door SPN MCB DB. Description of DB: (i) 16 WAY double door SPN MCB DB with phosphatized and powder painted sheet steel enclosure. (ii) 100 A tinned 12 way copper busbar (iii) Voltage: 240 V (iv) 12 way neutral busbar (v) 12 way earth bar (vi) Din bar (vii) Detachable gland plate in top and bottom (viii) Interconnections, including earthing etc. as required. Incomer part: i) DB incomer: 63 A RCBO, C curve, sensitivity 100mA -1 nos. Outgoing part: ii) Outgoings : (a) 10 A MCB, C curve-6 nos,	2	NO	INR	11639.63

	(b) 20 A MCB,C curve- 6 nos. Make of RCBO, MCBs and box shall be of same make. Make: Schneider/ Siemens/Indo Asian/Legrand.				
210	<p>SHORT TEXT: 125 A, 8 W, VTPN MCCB DB</p> <p>Detailed description:</p> <p>Supply of 3 Phase, 8 WAY, vertical TPN MCCB DB, as per the following specifications:</p> <p>A. Incoming:</p> <p>a. 125 A Thermal adjustable MCCB: 1 no</p> <p>b. Rating: 4 pole, 125A, 25kA, 50Hz, 415VAC</p> <p>c. Protection: Thermal and Magnetic Protection</p> <p>d. Make & Model : Legrand, Cat no 4200 57 or equivalent</p> <p>B. Outgoing Feeders:</p> <p>a. 63 A TP C curve MCB: 4nos</p> <p>b. 63 A SP C curve MCB: 12 nos</p> <p>c. All outgoing MCBs shall be 'C' curve, 240v AC, 10kA breaking capacity, with DMC housing, suitable for class-II tropicalisation (as per IEC) & approved by ISI or IEC. MCBs shall have integrated label holder, biconnect upper & lower terminals & air channels for low temperature rise.</p> <p>C. Bus bar: 250 A, Tinned Copper</p> <p>D. Constructional details of DB:</p> <p>DB shall be as per IS-8623 with latest amendment. DB shall have external earth terminal & mounting holes. Cable ties & wire leads for wiring incomer MCCB to respective phase & neutral buses shall be supplied and wired with single core 35 sqmm stranded copper cable with tinned copper lugs. Enclosure shall be IP-43& IK-09 with double door. DB shall have detachable cable entry gland plate on top and bottom side for keeping spare length of cables. All wires inside DB shall have ferrules for identification of circuit number. All unused openings shall be fitted with Blanking Plates. The DB shall be provided with 250 amp tinned copper bus bar for phase & neutral. Neutral & Earth bar shall be 8 way each & suitable for termination of wires with pin type cable lugs</p> <p>(MAKE & Model No: Legrand, Cat no. 6079 14 or Equivalent Schneider/Siemens/Indo Asian/ABB/L&T)</p>	1.00	NO	INR	39823.80
220	Supplying and fixing metal box of 200 mm X 250 mm X 100 mm on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc as required.	3	NO	INR	277.30
230	Supplying and fixing metal box of 150 mm X 150 mm X 60 mm on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc as required.	13.00	NO	INR	180.37
240	Supplying and fixing of Mild steel hexagonal/Round fan box with 12mm Rod ,18G in the fan position. Make: Richa /Anchor/AKG	4.00	NO	INR	203.11
250	Earthing with G.I. earth pipe 3 metre long, 100 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required. Make of pipe: Jindal/Tata(DSR 5.2, 2014)	2.000	EA	INR	5106.77
260	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required.(Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	30	M	INR	71.49

270	<p>Supply of 3.5x70 mmsq PVCA 1100v grade, Heavy duty, PVC insulated, PVC sheathed, galvanised steel wire armoured cable with stranded,untinned copper conductor. All core insulations shall be colour coded with red, black and green colours. All insulated cores laid up together, covered with inner sheath of extruded black PVC compound, galvanised steel wire armour and black PVC outer sheath. Sufficient filler shall be used to give overall circular shape to the cable. The cable shall be approved by IS: 1554 with latest amendments.</p> <p>PVC insulation should be as per IS-5831. Armour should be as per IS-3975. Conductor should be as per IS-8130. Manufacturer's name, cable size, voltage grade, ISI mark should be marked on the cable outer sheath in permanent manner at regular interval. Sequential marking should be provided on the cable outer sheath at every one meter length for measurement during use.</p> <p>Make: "NICCO /ASIAN /CRYSTAL /UNIVERSAL /CCI/RPG /INCAB/POLYCAB/ANKUR/NECAB"</p> <p>Note:</p> <ol style="list-style-type: none"> 1. Cable shall be tested for routine tests as per IS at manufacturer's works before dispatch. Manufacturer's test certificate for routine test as per IS should be submitted with the cable. 2. Cable shall be guaranteed against manufacturing defects for one year after receipt by us. The guarantee certificate should be submitted with the cable. 	150.00	M	INR	601.24
280	<p>Supply of 1x25 mmsq PVC 1100v grade, Heavy duty, PVC insulated, PVC sheathed cable with stranded,untinned copper conductor. All core insulations shall be colour coded with red, black and green colours. All insulated cores laid up together, covered with inner sheath of extruded black PVC compound, black PVC outer sheath. Sufficient filler shall be used to give overall circular shape to the cable. The cable shall be approved by IS: 1554 with latest amendments. PVC insulation should be as per IS-5831. Armour should be as per IS-3975. Conductor should be as per IS-8130. Manufacturer's name, cable size, voltage grade, ISI mark should be marked on the cable outer sheath in permanent manner at regular interval. Sequential marking should be provided on the cable outer sheath at every one meter length for measurement during use.</p> <p>Make :</p> <p>"NICCO/ASIAN/CRYSTAL/UNIVERSAL/CCI/RPG/INCAB/ POLYCAB/ANKUR/NECAB"</p> <p>Note:</p> <ol style="list-style-type: none"> 1. Cable shall be tested for routine tests as per IS at manufacturer's works before dispatch. Manufacturer's test certificate for routine test as per IS should be submitted with the cable. 2. Cable shall be guaranteed against manufacturing defects for one year after receipt by us. The guarantee certificate should be submitted with the cable. 	150.00	M	INR	82.08

290	<p>Cable laying upto 4 x 120 sq. mm with brick and sand: Cutting trench / Pit and laying cable of size up to 4 core x 120 sq. mm and earth wires including supply of first class local bricks and sand and laying.</p> <p>a) The normal size of the trench will be 45 cms. wide and depth of 75 cms. for 1100 V cables. The size of the pit shall be 120 cms. to 150 cms. diameter with same depth that of the trench. The bottom of the trench must be leveled and properly dressed.</p> <p>b) After the trench is prepared, a 75mm. thick sand bed shall be spread at the bottom of the trench pit. Then the cable shall be unrolled/uncoiled and laid as per instruction and again covered with another 75 mm of sand over the cable. Sand bed should cover entire width of trench/pit.</p> <p>c) Bricks (brick size 230mm x 115mm) 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 as per instructions. There shall be at least ten bricks in every 1150 mm long normal trench and covering the entire cable/cables. The bricks should be placed close to each other without any gap. Broken bricks shall not be used.</p> <p>d) After the bricks have been laid the trench shall be filled back with earth (cut earth from the trench) and rammed properly in layers of 25 cms.</p> <p>e) Cable/Cables to be laid shall be pulled inside the trench only.</p>	150.00	M	INR	254.45
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Grand Total Contract Cost: ₹ 18,97,203.92

- Bidder must include all liabilities including statutory liabilities in their quoted rates (excluding PF and GST).

Note:

1. The Company's Internal Estimated Rates, as indicated in Part-II, are inclusive of all overheads, taxes, duties, levies etc. except P.F. & GST.

**OIL INDIA LIMITED
(A Govt. of India Enterprise)
Contracts Department
Duliajan, Assam**

WORKS CONTRACT

PARTICULAR SPECIFICATIONS AND INSTRUCTIONS:

Description of Work: Construction of Shift Engineer's room and Tool room inside Central Workshop, Industrial Area (Protected area) including electrification and supply of all materials except cement at Duliajan.

A. SCOPE OF CIVIL WORK

1. GENERAL:

All materials used in the work shall conform to the latest revision of the relevant Indian Standard Specifications to the extent practicable. Where no such specifications exist they shall be of the best quality available in the market. Wherever ISI certified materials and products are available these alone shall be used. All materials shall be stored at site in accordance with IS-4082-1996.

Unless specially provided for in the contract the tendered rates shall include the cost of carriage, transport, loading, unloading and stacking as directed for all materials required on the work. Where the tender provides a rate for transport of materials, it includes for all loading, unloading and stacking on the site in such position and manner as directed. Any materials found not conforming to specification must be removed from site within 48 hours.

2. SITE CLEARANCE, EXCAVATION AND DISPOSAL:

Before the earthwork is started, the area coming under cutting and/refilling shall be cleared of shrubs, vegetation, grass, uprooting of tree stumps and such others, and rubbish removed up to a distance of 50 meters outside the periphery of the area under clearance. The rate of such site clearance is included in the rate of earthwork.

All excavations shall be done to the minimum dimensions as required for safety and working facility. Prior approval of the Engineer shall be obtained by the Contractor, in each individual case, for the method he proposes to adopt for the excavations including dimension, side slopes, shoring, dewatering, disposal etc. This approval, however, shall not in any way make the Engineer responsible for any consequent loss or damage. The excavation must be carried out in the most expeditious and efficient manner.

The excavated spoils will be disposed off in any or all the following manners:

- a) By using it for backfilling straightway.
- b) By stacking it temporarily for use in backfilling at a later date during execution of the Contract.
- c) (i) By either spreading, or
(ii) Spreading and compacting at designated disposal areas.

3. STORAGE:

Materials shall be transported, handled and stored at site carefully to the approval of Engineer so as to prevent any damage of any kind to be kept at his own risk and cost.

Cement shall be stored in a weather proof shed, the floor of which shall be raised 300 mm clear from the ground and 600 mm away from the wall all round in order to protect from rain and moisture. Empty cement bag shall be returned to the Company in good condition.

4. DISMANTLING AND DEMOLISHING:

The demolition shall always be well planned before hand and shall generally be done in reverse order of the one in which the structure was constructed. Necessary propping, shoring and or under pinning shall be provided to ensure the safety of the adjoining work or property before dismantling and demolishing is taken up and the work shall be carried out in such a way that no damage is caused to the adjoining work or property. Wherever specified, temporary enclosures or partitions and necessary scaffolding with suitable double scaffolding and proper cloth covering shall also be provided, as directed by the Engineer-in-Charge. Necessary precautions shall be taken to keep noise and dust nuisance to the minimum. The demolition work shall be proceeded with in such a way that it causes the least damage and nuisance to the adjoining building and the public. Dismantling shall be done in a systematic manner. All materials which are likely to be damaged by dropping from a height or by demolishing roofs, masonry etc. shall be carefully removed first. Chisels and cutters may be used carefully as directed. The dismantled articles shall be removed manually or otherwise, lowered to the ground (and not thrown) and then properly stacked as directed by the Engineer-in-Charge. Where existing fixing is done by nails, screws, bolts, rivets, etc., dismantling shall be done by taking out the fixing with proper tools and not by tearing or ripping off. Any serviceable material, obtained during dismantling or demolition, shall be separated out and stacked properly as directed by the Engineer-in-Charge within a lead of 50 meters. All unserviceable materials, rubbish etc. shall be disposed off as directed by the Engineer-in-Charge.

5. CEMENT CONCRETE/REINFORCED CEMENT CONCRETE WORK:

All C.C. work in 1:3:6 proportions unless otherwise specified shall be done with 18 mm graded down broken stone. Broken stone shall be properly screened before use. All reinforced cement concrete work to be done in prop. 1:1.5:3 unless otherwise specified - 18 mm down to 12 mm graded down broken stone as per related drawings and instructions of site Engineer to be followed in case of any discrepancies. Proper vibration to be done as per IS recommendation. Floor paneling is to be done in the line of expansion joint as directed by Engineer-In-charge.

- a) Fine Aggregate: Fine aggregate shall be hard, durable, clean and free from adherent coating and organic matter. It shall not contain harmful impurities such as pyrites, coal, lignite, mica, shale or similar laminated material, clay, alkali, soft fragments, sea shells and organic impurities in such quality as to affect the strength or durability of the concrete. Fine aggregate to be used for reinforced concrete shall not contain any material liable to attack the steel reinforcement. Fine aggregate which is chemically reactive with alkalis of cement is harmful as cracking of concrete may take place.
- b) Coarse Aggregate: Coarse aggregate shall be obtained from natural sources such as stone, gravel etc. This shall consist of coarse material most of which is retained on 4.75 mm sieve. Aggregate shall be hard, strong, dense, durable, and clean and free from veins and adherent coatings. It shall be free from soft, feeble, thin, elongated or

laminated pieces and shall be roughly cubical in shape. It shall be clear and free from dirt and any other deleterious matter.

- c) Reinforcement bars: The following types of steel for reinforcement shall be used in reinforced concrete construction and these shall conform to Indian Standards or as revised from time to time mentioned against each
 - (i) Mild steel and medium tensile steel bars and hard drawn steel wire - IS: 432.
 - (ii) HYSD bars - IS: 1786.
- d) Bending & Placing steel reinforcement in position: Bending shall be carried out as per relevant IS specification and direction of the Engineer-in-charge. All reinforcement bars shall be accurately placed in position with spacing and cover as shown in the drawing or as specified and firmly held so during the placing and vibrating and setting of concrete. Bars shall be thoroughly cleared of rust, seals, grease, oil and any other foreign matter before placing them in position. The overlap jointing shall be staggered. The bars shall be fixed with 22 G binding wire. Precast cover blocks 1:2 (1 cement: 2 sand) cement mortar 40 mm square and necessary thickness shall be used to keep the reinforcement bars in proper position. For this block, no extra payment to be made. Wire required for binding shall not be measured separately. Tack welding shall also be permitted in lieu of building with steel wire.
- e) Proportioning of mix: Proportioning shall be done by volume. Boxes of suitable size shall be used for measuring sand and aggregates. The size of the boxes (internal) shall be 35 x 25cm and 40cm deep. The unit of measurement for cement, shall be a bag of cement weighting 50 Kg and this shall be taken as 0.035 cubic meter. While measuring the aggregate and sand the boxes shall be filled without shaking, ramming or hammering. The proportioning of sand shall be on the basis of its dry volume and in case of damp sand; allowances for bulkage shall be made.
- f) Mixing: Mixing of reinforced cement concrete shall, as a rule be done in a mechanical mixer. However, the Engineer-in-charge may permit hand mixing in specific cases where in his opinion it is not practicable to resort to mechanical mixing, either on account of the quality of cement concrete required is small or for any other reason. In such cases, it should be ensured that the inferior quality of concrete produced by hand mixing will not adversely affect the structure.
- g) Consistency: The quantity of water to be used for each batch containing 50 kg of cement, to give the required consistency shall not be more than 34 litres for 1:3:6, mix 32 litres for 1:2:4 mix, 30 litres for 1:1.5:3 mix and 27 litres for 1:1:2 mix. In case of vibrated concrete, the above quantity shall be suitably reduced. The quantity of water shall be regulated by carrying out regular Slump Test.
- h) Placing of concrete: Before placing the concrete the sub-base/ form work shall be cleared of all injurious or foreign matter, watered and well consolidated. Formwork shall be clean and free from all foreign material. It is necessary that the time between mixing and placing of concrete does not exceed the initial setting process. Mixed concrete that has been left standing shall not be used after the initial set has commenced the addition of water (or cement) to make such a mixture more workable shall not be allowed. In foundation trenches or such other situations, the entire concrete used in the work shall be laid gently (not thrown) in layers not exceeding 15 cm. The concrete so deposited shall be thoroughly vibrated by means of mechanical vibrators till dense concrete is obtained.
- i) Curing: Concrete shall be carefully protected during first stage of hardening from harmful effects or excessive heat, drying winds, rain or running water and shock. After the concrete has begun to harden i.e. about 1 to 2 hours after its laying it shall be protected from quick drying with moist gunny bags or any other material approved by

the Engineer-in-charge. After 24 hours of laying of concrete the surface shall be cured by flooding water up to 25mm depth or by covering with wet adsorbent materials. The curing shall be done for a minimum period of 7 days from the date of pouring of concrete, unless otherwise specified.

- j) Finishing: In case of roof slabs the top surface shall be finished even and smooth with wooden trowel, before the concrete begins to set. The surface of RCC slab on which the cement concrete or mosaic floor is to be laid shall be roughened with brushes while the concrete is green. This shall be done carefully without disturbing the concrete. Before laying the floor, the laitance shall be removed, the surface of slab hacked and a coat of cement slurry at 2.75 Kg of cement per square meter shall be applied, so as to get a good bond between RCC and concrete floor. The exposed surface which is to receive plaster or where it is to be joined with brick masonry wall shall be properly roughened immediately after the removal of form work, taking care to remove the laitance completely without disturbing the concrete. Before the surface is plastered, it shall be cleaned and wetted so as to give good bond between concrete and plaster.

6. FORM WORK:

The formwork shall be rigid and so corrected as to retain the shape and dimensions of the member being cast. Form work for concrete shall be seasoned timber or other approved materials as per directions of the Engineer. It shall be sufficiently tightened to prevent loss of cement slurry and all holes and joints shall be chaulked with putty. It shall have sufficient strength and rigidity to withstand the load of concrete, and vibrations, movement of men, materials and plants and any other incidental loads without excessive deflection beyond permissible limits. The formwork shall be so constructed as to be removable in sections by inscribing or otherwise loosening - them without hammering or levering with force. Only wedges, clamps bolts or screws etc shall be used in preference to nails or spikes. All side pieces shall be easily removable without disturbing the bottom pieces. Where however, use of nails and spikes become unavoidable, these shall be left projecting so that they can easily be withdrawn.

Surface treatment for shuttering: Forms shall be cleaned of all dust, wood shavings, dirt and other matter by washing with water. This process is facilitated by providing draining holes in the shuttering. The surface shall then be coated with soap solution applied before concreting is done. Soap solution for the purpose shall be prepared by dissolving yellow soap in water to get consistency of paint. Alternatively coats of raw linseed oil/refined pale paraffin mineral oil or form oil of approved manufacture may be applied. In case steel shuttering is used, soap solution or row linseed oil shall be applied after thoroughly cleaning the surface. Care shall be taken that such approved composition is kept out of contact with the reinforcement.

In normal circumstances and where ordinary Portland cement is used form may generally be removed after the expiry of the following periods.

- a) Walls, columns and vertical face of all structural members as may be decided by the Site Engineer - 24 to 48 hours.
- b) Slabs side (props left under) - 3 days
- c) Beam soffits (props. left under): 14 days
- d) Removal of props under slabs
 - (i) Spanning up to 4.5 m - 14 days
 - (ii) Spanning over 4.5 m - 21 days
- e) Removal of props under beams:

- (i) Spanning up to 6 m - 21 days
- (ii) Spanning above 6 m - 28 days

In no circumstances shall forms be struck until the concrete reaches strength of at least twice the stress to which concrete may be subjected at the time of removal of form work. All form works shall be removed without such shock or vibration as would damage the concrete. Form work for long span deep beams to be supported by MS props or Bhaluka Bamboo props as required based on the design for the formwork to take care the massive load of the green concrete.

7. BRICKWORK:

- a) All bricks shall be of 75 class designation quality locally available as approved by the Site Engineer.
- b) Bricks shall be of size as specified in the item of work or of nominal size where no particular size is mentioned.
- c) Bricks shall be well burnt, sound, hard with sharp edges of uniform size and shape free from cracks, stones or particles of lime and other defects, shall be kiln burnt and satisfy the following requirement:
 - (i) They shall give a clear metallic sound when struck
 - (ii) They shall be of uniform colour and size
 - (iii) They shall not be cracked, stratified or under or over burnt
 - (iv) The tolerance in dimensions shall be +/- 12mm in length, 6mm in width and 3mm in height.
 - (v) Keys or frogs shall be formed on one of the larger size, except in the case of machine extruded bricks where no frogs are required
 - (vi) The increase in weight when soaked in water for 24 hours shall not be more than 20% of the dry weight of the bricks.
- d) If required by the Site Engineer, necessary test shall be conducted at the contractor's expense to ensure quality. In general, the bricks shall be the best quality locally available.

Bricks used for masonry in cement mortar or composite mortar shall be thoroughly soaked in clean water for at least an hour immediately before use (the absence of bubbling when the soaked brick is immersed in water is the test for thorough soaking). The soaked bricks shall be kept on a platform free from dirt, mud or any foreign element. Bricks shall be laid in English bond unless otherwise specified. Care must be taken that the bricks are perfectly clean and free from lime, moss or dirt of any kind. If necessary they must be scrubbed before use. Half or cut bricks shall be not used except for closures which may be required to complete the bond. It shall be ensured that all horizontal and vertical joints are completely filled with mortars without any void in brickwork. Brickwork shall be raised truly plum (or true to required better where so specified). All courses shall be laid truly horizontal. Vertical joints shall be truly vertical and those in alternate courses shall be in the same vertical line. The thickness of brick courses shall be uniform. Great care must be taken to masonry in progress of construction damp. When work is left off for the day troughs shall be formed, by means of fillets of mortar 51 mm high all round the unfinished work and shall be kept filled with water. Vertical or inclined surfaces must be frequently watered from a rose headed can. Water should not be dashed with violence against new work as this washes out the mortar. Should the work be delayed owing to holidays or for other reason, the contractor

must make adequate arrangements for keeping the work wetted, and shall continue to do so for at least ten days or such longer time as directed, after the brickwork has been completed.

8. CEMENT MORTAR:

Must be freshly mixed: Cement mortar will only be mixed in such quantities as can be used up on the work within half an hour of mixing. Mortar which has been mixed longer or which has taken its initial set will on no account be used on the work or remixed with fresh mortar. It must be immediately removed from the site or work.

- a) Method of mixing: The cement and sand will be mixed dry in the specified proportions, by turning over at least three times on the mixing platform. Only sufficient water will then be added, thorough a rose of a watering can, to produce a workable mixture. The wet mortar will be thoroughly worked or mixed by repeatedly turning over, not less than three times on the mixing board.
- b) Size of mixing platform and precaution against list: All mixing of mortar must be done on platforms of angle size and workman bringing the material to and from the platform must not be permitted to walk about on it, thereby bringing mud or dirt to the place, where the mortar is being mixed. The platform must be clean and level and all joints closed or filled so that the cement is not washed out.
- c) Proportion of cement and sand: Where not otherwise specified, cement mortar for plaster will consist of one part of cement to two parts of sand. For mortar for brick or stone masonry work the proportion unless otherwise specified, will be one part of cement to three parts sand

9. WOOD WORK:

The work shall be carried out as per detailed drawings and/or as directed by the Engineer-in-charge. The wooden members of the frame shall be planed smooth and accurate to the full dimensions. Rebates, rounding, moldings etc. as shown in the drawing shall be done before the members are joined into frames. Timber will be 1st class seasoned as approved by the Engineer-in-charge.

Jointing: Jointing in timber frames must be made carefully and accurately. They shall be strong, neat and shall fit without wedging or filling. The joints shall be pinned with hard wood 10 to 15 mm dia after the members of the frame are pressed together in a suitable vice-mechanism.

Surface treatment: Woodwork shall be painted, oiled, polished or otherwise treated as specified. All portions of timber abutting against masonry or concrete portion of building shall be coated with boiling coat tar or other type of approved wood preservative or primer, before placing them in final position.

Hold fasts: Hold fasts used for fixing doors and window frame shall be made of 40 x 3mm flat iron long. It shall have a hole on one end for fixing to frame with 10 mm dia bolt, at the other end the flat iron shall be split and bent at right angles in the opposite direction. The hold fast shall be tightly fixed to the frame by means of bolts, the bolt hole in frame being plugged suitably and finished neat. The hole fast shall be embedded into masonry by concrete block as described in the item of work.

10. DOORS:

- (i) The flush door shutters (solid core type) decorative and non-decorative type shall conform to IS: 202 (Part I). The door should be fixed using 4 nos. of hinges 125 mm long ensuring that the hinges are not fixed less than 150mm from the edges with 8 nos. parallel sunk fully threaded screws 38 mm long, should be used for fixing the

hinges to the flush door after drilling a pilot hole 2.50 mm dia 40 mm long. Screws should not be hammered. Lock, tower bolts etc. necessary, if any to be paid separately.

- (ii) Door frame (Chowkhat) of doors, windows, other similar works wrought, framed and fixed in position in contact with C.C. or brick masonry walls including supplying, fitting and fixing with M.S. flat hold fast (40mm x 3mm x 250mm) as per design and embedded in cement concrete block in prop 1:2:4 and with two coats of kiricide oiling to the timber faces in contact with C.C. and masonry as directed and specified.

11. STEEL WORKS:

- a) Laying Out: A figure of the steel structure to be fabricated shall be drawn on a level platform to full scale. This may be done in full or in parts, as shown on drawings or as directed by the Engineer-in-Charge. Steel tape shall be used for measurements.

- b) Fabrication: Fabrication shall generally be done as specified in IS 800. Great accuracy shall be observed in the fabrication of various members, so that these can be assembled without being unduly packed, strained or forced into position and when built up, shall be true and free from twist, kinks, buckles or open joints. The steel section shall be straight or to be straightened or flattened by pressure unless required to be of curvilinear form and shall free from twists. These shall be cut square either by shearing or sawing to correct length and measured by steel tape. No tow pieces shall be welded or joined to make up for the required length of member.

During execution, the steel members shall be securely bolted or otherwise fastened when necessary temporarily braced to provide for all loads including those due to erection equipment's and its operation to be carried safely by structure during erection. The steel members shall be placed in proper position as per approved drawing, final riveting or permanent bolting shall be done only after proper alignment has been checked and confirmed.

Trusses shall be lifted only at nodes. The trusses above 10 m in span shall not be lifted by slinging at two mid points of rafters, which shall be temporary braced by a wooden member of a suitable section. After the trusses are placed in position, purlins and wind bracings shall be fixed as soon as possible.

- c) Welding: Welding shall generally be done by electric arc process as per IS 816 and IS 823. The electric arc method is usually adopted and is economical. Gas welding shall only by resorted to using oxyacetylene flame with specific approval of the Engineer-in-charge. Gas welding shall not be permitted for structural steel work. Gas welding requires heating of the members to be welded along with the welding rod and is likely to create temperature stresses in the welded members. Precautions shall therefore be taken to avoid distortion of the members due to these temperature stresses.

As far as possible every effort shall be made to limit the welding that must be done after the structure is erected so as to avoid the improper welding that is likely to be done due to heights and difficult positions on scaffolding etc. apart from the aspect of economy. The maximum dia of electrodes for welding work shall be as per IS 814. Joint surfaces which are to be welded together shall be free from loose mill scale, rust, paint, grease or other foreign matter, which adversely affect the quality of weld and workmanship.

12. PLASTER WORK:

- a) Preparation of surface: All putlog holes in brick work and junction between concrete and brick work shall be properly filled in advance. Joints in brick work shall be raked about 10mm and concrete surface hacked to provide grip to the plaster. Projecting burrs of mortar formed due to gaps at joints in shuttering shall be removed. The

surface shall be scrubbed clean with wire brush/coil brush to remove dirt, dust etc. and the surface thoroughly washed with clean water to remove efflorescence, grease and oil etc. and shall be kept wet for a minimum of six hours before application of plaster.

- b) Proportion: The cement plaster shall be in specified proportion of cement and sand.
- c) Mixing: The cement and sand should be thoroughly mixed in dry condition. After dry mixing, the materials shall be wetted with just sufficient water to bring the mortar to proper consistency of thick paste. Mortar should be used immediately after mixing and arrangements shall be made so that not more than 30 minutes elapse between the cement first coming in contact with the moisture and laying. In all exterior plaster works waterproofing compound to be added to the mortar as per the specification of the manufacturer, if not indicated in the item rate quoted should be inclusive of the same.
- d) Placing: Plaster shall be laid over the prepared surface in one coat to the specified thickness and rubbed with "PATAS" and trowel and shall be smooth, free from waviness and trowel marks.
- e) Sequence of operations: For external plaster, the plastering operations shall be started from the top floor and carried downwards. For internal plaster, the plastering operations may be started wherever the building frame and cladding work are ready and the temporary supports of the ceiling resting on the wall or the floor have been removed.
- f) Curing: Each coat shall be kept damp continuously till the next coat is applied or for a minimum period of 7 days. Moistening shall commence as soon as plaster is hardened sufficiently. Soaking of walls shall be avoided and only as much water as can be readily absorbed shall be used.

13. WASHABLE DISTEMPER/OIL BOUND DISTEMPER/ EMULSION PAINTING:

- a) Preparation of surfaces: The surface shall be thoroughly brushed free from dust, dirt, grease, mortar droppings and other foreign matter and sand papered smooth. Thereafter a smooth surface shall be prepared by applying putty, made of plaster of paris mixed with water on the entire surface including filling up the undulation and then sand papering the same after it is dry.
- b) Primer coat: The primer where used as on undecorated surfaces shall be alkali resistance primer or acrylic based cement primer as specified in the item. These shall be of the same manufacture as oil bound distemper/ plastic emulsion paint. If the wall surface plaster has not dried completely alkali resistance primer shall be applied before distempering the walls. But if the distempering is done after the wall surface is dried completely, cement primer shall be applied.
- c) Application of distemper/plastic paint coat: For undecorated surfaces, after the primer coat has dried for at least 48 hours, the surface shall be lightly sand papered to make it smooth for receiving the distemper/plastic paint taking care not to rub out the priming coat. All loose particles shall be dusted off after rubbing. Minimum two coats of distemper/plastic paint shall be applied with brushes in horizontal strokes followed immediately by vertical, which together shall constitute one coat. The subsequent coats shall be applied after a time interval of at least 24 hours between consecutive coats to permit of the proper drying of the preceding coat. For decorated surfaces, the distemper/plastic paint shall be applied in two coats or more over the prepared surface in the same manner as for undecorated surfaces.

14. EXTERIOR PAINTING:

- a) The paint shall be of approved brand and manufacture.
- b) This paint shall be brought to the site of work by the contractor in its original containers in sealed condition.
- c) For new work, the surface shall be thoroughly cleaned off all mortar dropping, dirt dust, algae, fungus or moth, grease and other foreign matter of brushing and washing, pitting in plaster shall make good surface imperfections such as cracks, holes etc. should be repaired using white cement.
- d) Before pouring into smaller containers for use, the paint shall be stirred thoroughly in its container, when applying also the paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform.
- e) Dilution ratio of paint with potable water can be altered taking into consideration the nature of surface climate and as per recommended dilution given by manufacturer.
- f) In all cases, the manufacturer's instructions & directions of the Engineer-in-charge shall be followed meticulously.
- g) The lids of paint drums shall be kept tightly closed when not in use as by exposure to atmosphere the paint may thicken and also be kept safe from dust.
- h) Paint shall be applied with a brush on the cleaned and smooth surface. Horizontal strokes shall be given first and vertical strokes shall be applied immediately afterwards.
- i) This entire operation will constitute one coat. The surface shall be finished as uniformly as possible leaving no brush marks.

15. SYNTHETIC ENAMEL PAINT:

Preparation of surface: The surfaces before painting shall be cleaned of all rust, scale, dirt and other foreign matter sticking to it with wire brushes, steel wool in case of steel surfaces and sand papering in case of wooden surfaces. Thereafter, one coat of approved primer paint will be applied on the surface. Synthetic enamel paint (Superior quality as approved) shall be applied - two or more coats to give an even shade.

16. TILE FLOORING:

- a) Tiles: The tiles shall be of approved make and shall generally conform to IS 15622. They shall be flat, and true to shape and free from blisters crazing, chips, welts, crawling or other imperfections detracting from their appearance. The top surface of the tiles shall be glazed. Glaze shall be either glossy or matt as specified. The underside of the tiles shall not have glaze on more than 5% of the area in order that the tile may adhere properly to the base. The edges of the tiles shall be preferably free from glaze. However, any glaze if unavoidable, shall be permissible on only up to 50 per cent of the surface area of the edges.
- b) Preparation of Surface and Laying: Base concrete or the RCC slab on which the tiles are to be laid shall be cleaned, wetted and mopped. The bedding for the tile shall be with cement mortar 1:4 (1 cement: 4 coarse sand) or as specified. The average thickness of the bedding shall be 20 mm or as specified while the thickness under any portion of the tiles shall not be less than 10 mm. Mortar shall be spread, tamped and corrected to proper levels and allowed to harden sufficiently to offer a fairly rigid cushion for the tiles to be set and to enable the mason to place wooden plank across and squat on it. Over this mortar bedding neat grey cement slurry of honey like consistency shall be spread at the rate of 3.3 kg of cement per square meter over an area up to one square meter. Tiles shall be soaked in water washed clean and shall be fixed in this grout one after another, each tile gently being tapped with a wooden

mallet till it is properly bedded and in level with the adjoining tiles. The joints shall be kept as thin as possible and in straight lines or to suit the required pattern. The surface of the flooring during laying shall be frequently checked with a straight edge about 2 m long, so as to obtain a true surface with the required slope. In bath, toilet W.C. kitchen and balcony/verandah flooring, suitable tile drop or as shown in drawing will be given in addition to required slope to avoid spread of water. Further tile drop will also be provided near floor trap. Where full size tiles cannot be fixed these shall be cut (sawn) to the required size, and their edge rubbed smooth to ensure straight and true joints. Tiles which are fixed in the floor adjoining the wall shall enter not less than 10 mm under the plaster, skirting or dado. After tiles have been laid surplus cement slurry shall be cleaned off.

- c) Pointing and Finishing: The joints shall be cleaned off the grey cement slurry with wire/coir brush or trowel to a depth of 2 mm to 3 mm and all dust and loose mortar removed. Joints shall then be flush pointed with white cement added with pigment if required to match the colour of tiles. Where spacer lug tiles are provided, the half the depth of joint shall be filled with polysulphide or as specified on top with under filling with cement grout without the lugs remaining exposed. The floor shall then be kept wet for 7 days. After curing, the surface shall be washed and finished clean. The finished floor shall not sound hollow when tapped with a wooden mallet.

17. SANITARY, PLUMBING WORKS AND WATER SUPPLY FITTINGS & FIXTURES:

All sanitary, plumbing and water supply fittings and fixtures shall conform to the specifications and particular make specified in the items of work and direction of Engineer-in-charge. All waste and soil pipes and fixtures shall conform to IS specifications and shall be jointed as specified.

- a) WC as per drawing & specification.
- b) Wash basin and urinal pan at toilet as per drawing & specification.
- c) Providing soap tray in the toilet.
- d) Rain water pipe as per drawing & specification
- e) Gully trap
- f) Inspection chambers, manholes, drainage pipes etc. as per drawings.

18. WATER SUPPLY:

For internal work the galvanized iron pipes and fittings shall run on the surface of the walls or ceiling (not in chase) unless otherwise specified. The fixing shall be done by means of standard pattern holder bat clamps, keeping the pipes about 1.5 cm clear of the wall. When it is found necessary to conceal the pipes, chasing may be adopted or pipes fixed in the ducts or recess etc., provided there is sufficient space to work on the pipes with the usual tools. The pipes shall not ordinarily be buried in walls or solid floors. Where unavoidable, pipes may be buried for short distances provided adequate protection is given against damage and where so required joints are not buried. Where directed by the Engineer-in-Charge, a M.S. tube sleeve shall be fixed at a place the pipe is passing through a wall or floor for reception of the pipe and to allow freedom for expansion and contraction and other movements. In case the pipe is embedded in walls or floors it should be painted with anticorrosive bitumastic paints of approved quality. The pipe shall not come in contact with lime mortar or lime concrete as the pipe is affected by time. Under the floors the pipes shall be laid in layer of sand filling as done under concrete floors. All pipes and fittings shall be fixed truly vertical and horizontal

unless unavoidable. The pipes shall be fixed to walls with standard pattern holder bat clamps of required shape and size so as to fit tightly on the pipes when tightened with screwed bolts, these clamps shall be embedded in brick work in cement mortar 1:3 (1 cement: 3 coarse sand).

The clamps shall be fixed at shorter lengths near the fittings as directed by the Engineer-in-Charge.

For G.I. pipes 15 mm diameter, the holes in the walls and floors shall be made by drilling with chisel or jumper and not by dismantling the brick work or concrete. However, for bigger dimension pipes the holes shall be carefully made of the smallest size as directed by the Engineer-in-Charge. After fixing the pipes the holes shall be made good with cement mortar 1:3 (1 cement: 3 coarse sand) and properly finished to match the adjacent surface.

Unions will be provided to facilitate connections additions and alterations as well as for maintenance and for change of pipes.

19. ANODISED ALUMINUM WORKS:

Aluminum sections used for fixed/open able windows, ventilators, partitions, frame work & doors etc. shall be suitable for use to meet architectural designs to relevant works and shall be subject to approval of the Engineer-in-Charge for technical, structural, functional and visual considerations. The aluminum extruded sections shall conform to IS 733 and IS 1285 for chemical composition and mechanical properties. The stainless steel screws shall be of grade AISI 304.

The permissible dimensional tolerances of the extruded sections shall be as per IS 6477 and shall be such as not to impair the proper and smooth functioning/operation and appearance of door and windows. Aluminum glazed doors, windows etc. shall be of sizes, sections and details as shown in the drawings. The details shown in the drawings may be varied slightly to suit the standards adopted by the manufacturers of the aluminum work, with the approval of Engineer-in-Charge.

Glazing: Glass used for glazing shall be sheet glass of best approved quality, free from flaws, specks, bubbles and shall be of specified thickness.

EPDM- Gaskets: The EPDM Gaskets shall be of size and profile as shown in drawings and as called for, to render the glazing, doors, windows, ventilators etc. air and water tight. Samples of gaskets shall be submitted for approval and the EPDM gasket approved by Engineer-in-Charge shall only be used.

Sealant: The sealants of approved grade and colour shall only be used. The silicone for perimeter joints (between Aluminum section and RCC/Stone masonry) shall be of make approved by the Engineer in Charge.

20. TEST REPORTS & CERTIFICATES:

The various mandatory tests shall be carried out by the contractor and no separate payment shall be made unless otherwise specified in the schedule of rates. Test reports/certificate to be produced by the contractor at his own cost.

- a) Test report of water for construction and curing should be produced (pH value should not be less than 6).
- b) Test report for quarry materials, M.S. rod, Tor steel etc. should be produced.
- c) Cube test for RCC to be done as per relevant IS code of practice and as directed by Engineer-in-Charge.
- d) Any other test reports/certificates to be produced as per the direction of Engineer-in-charge.

21. MEASUREMENT & PAYMENT:

Payment for all works done shall be made on the basis of actual work done as per the schedule of rates. For all extra work done on the advice of the Company's Engineer and which is not included in the schedule of rates, deviation order for the same shall be made on the rates as decided by the Company's Engineer.

22. SAFETY MEASURE:

Safety measure as per OIL regulations shall be strictly adhered to by the Contractor. Safety belts and other measure taken by the Contractors shall be borne by the Contractor. If any loss or damage caused to life during the erection and execution, the contractor shall be fully responsible for the loss.

23. RECORD KEEPING:

- a) A site order book will be maintained at site which will be in the custody of the Engineer-in-charge or his representative and all instructions given to the Contractor will be recorded in the site order book and the same has to be signed by the contractor to comply with the instruction given therein.
- b) A register to be maintained at site which will be in the custody of the Engineer-in-charge or his representative to maintain the records of cement the same has to be signed by the contractor.
- c) A separate register to be maintained at site by the contractor to record the works executed and remarks columns to be added in this to record the hindrance.

24. In case of any ambiguity/conflict among various documents the decision of Engineer-in-charge will be final and binding.

B. ELECTRICAL WORK:

This section is split into three parts for better legibility:

- 1. GENERAL
- 2. TECHNICAL
- 3. APPENDIX-A

1. GENERAL:

- a) Special conditions of contract shall be read in conjunction with the General Conditions of Contract, Bill of Quantities, specifications of work, drawings and any other document forming part of this contract wherever the context so requires.
- b) Notwithstanding the sub-division of the documents into these separate sections and volumes, every part of each shall be deemed to be supplementary of every other part and shall be read with and into the contract so far as it may be practicable to do so.
- c) Where any portion of the General Conditions of Contract is repugnant to or at variance with any provisions of the Special Conditions of Contract, then unless different intention appears, the provisions of the Special Conditions of Contract shall be deemed to override the provision(s) of General Conditions of Contract only to the extent that such repugnance or variance cannot be reconciled with the tender conditions of contract and shall be to the extent of such repugnance of variations, prevail; it being understood that the provisions of General Conditions of Contract shall otherwise prevail.

- d) Wherever it is stated anywhere in this tender document that such and such a supply is to be effected or such and such a work is to be carried out, it shall be understood that the same shall be effected/carried out by the contractor at his own cost, unless a different intention is specifically and expressly stated herein or otherwise explicit from the context.
- e) The materials, design and workmanship shall satisfy the relevant Indian Standards, the job specifications contained herein & codes referred to. Where the job specifications stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied. In the absence of any Standard/Specifications/Codes of practice for detailed specifications covering any part of the work covered in this tender, the instructions/directions of Company will be binding on the Contractor.
- f) The items given under Bill of Quantity shall be read in conjunction with scope of work, scope of supply (by Contractor) and job specifications and in case of any irreconcilable conflict between them the provision in the item under "Bill of Quantity" will override the corresponding provision only if the scope of work, scope of supply and job specifications, which cannot be reconciled in such cases the decision of Company shall be final and binding on the contractor.
- g) In case of contradiction between Indian Standards, General Conditions of Contract, Special Conditions of contract, Specifications Drawings, Bill of Quantity, the following shall prevail in order of precedence.
 - (i) Letter of intent/ Detailed Letter of intent along with statement of Agreed Variations and its enclosures.
 - (ii) Bill of Quantity.
 - (iii) Special Conditions of Contract
 - (iv) Job specifications
 - (v) Drawings
 - (vi) General Conditions of contract
 - (vii) Indian Standard/Technical/Material Specifications.

2. LOCATION OF SITE AND SITE PARTICULARS:

- a) Operational areas of OIL INDIA LIMITED in Assam and Arunachal Pradesh.
- b) The intending bidder shall be deemed to have visited the site and familiarized himself thoroughly with the site conditions and job details before submitting the tender. Non familiarity with the site conditions will not be considered a reason either for extra claims or for not carrying out the work in strict conformity with the drawings and specifications.

3. STATUTORY REQUIREMENT FOR WORK:

- a) The contractor should have valid Electrical Contractor License issued or recognized/endorsed by State Licensing Board, Govt. of Assam. In case license expires during contract period the same shall be renewed by the contractor. The contract may be terminated if the license is not renewed.
- b) Contractor shall employ work persons with valid wireman permit (covering relevant portions), issued/recognized by State Licensing Board, Govt. of Assam to carry out all electrical jobs and shall deploy one supervisor holding valid Electrical supervisor's competency certificate (covering relevant portions), issued/recognized/endorsed by State Licensing Board, Govt. of Assam for supervision of electrical jobs.

- c) Validity of all certificates/permits/licenses mentioned above shall be reckoned as on the bid closing date (BCD).
- d) Quality of jobs carried out by the Contractor shall be of high standard and should be as per the norms of BIS, NEC, CEA Regulations and other electrical standards recognized by the company.

4. POWER:

Electricity required for wiring purpose shall be arranged by the contractor. However, electricity may be provided by the Company at its discretion to use drill machine or any other portable tools required for wiring purposes if available at nearest point. The Contractor shall have to arrange for required switch board with proper safety device like RCBO/ELCB/RCCB to draw power and use safely from the existing source.

5. SCOPE OF SUPPLY:

Company does not envisage supplying any material for this work & contractor has to arrange all materials of his own & the rates quoted shall be deemed to include the same.

6. SCOPE OF WORK:

Brief details of work to be carried out by the contractor are as described below. This will include supply, storage, laying, installation, jointing and testing, obtaining approvals, testing and commissioning and completion of different works. The work shall be carried out as described in Bill of Quantities (BOQ), specifications, and drawings, BIS/ NEC guidelines and as per the instructions by Engineer-in-charge (electrical) of the Company. The scope of work shall cover electrification works of any office building/Industrial house/ Residential area or as specified by concerned Engineer in charge.

The broad items/activities covered under "electrical works" shall include the Supply, Installation, testing and commissioning of any or all of the following:

- a) Point wiring of light points, call bell points, Ceiling fan points, and exhaust fan points.
- b) Plug points, general power points, metal clad plug & socket outlet points etc. including light and power accessories etc., complete in all respects.
- c) All Surface/concealed wiring through BIS marked Medium/heavy duty PVC Casing capping/conduit, on or through wall, roof, floor beams, false ceiling, floors etc.
- d) Cables from Main Distribution Board to Sub Distribution Board, sub main wiring from main/sub distribution boards to various final distribution boards.
- e) Main Distribution Boards, Sub-Main Distribution Boards and Sub Distribution Boards.
- f) Light fixtures, and ceiling, wall & exhaust fans.
- g) Earthing of all Main CFS, Main DBs and SUB DBs etc. complete in all respects.

7. BILL OF QUANTITIES/RATE:

- a) The quantities shown against the various items are only approximate and may vary to any extent individually subject to relevant clause of General Conditions of Contract. Any increase or decrease in the quantities shall not form the basis for alteration of rates quoted and accepted including where low/high rates have been quoted by the successful bidder.
- b) The Engineer in charge reserves the rights to interpolate or extrapolate the rate for any new item of work not finding a place in the Bill of Quantity, for similar items of lower and/or higher magnitude available in the Bill of Quantity.

- c) In case any activity though specifically not covered in Bill of Quantity description but covered under scope of work/spec./drawing etc., contractor has to carry out the same without any extra claim.
- d) The words "Bill of Quantity", "BOQ" and "Schedule of Quantity", "SOQ" appearing in this document carry the same meaning.

8. PRICE VARIATION:

OIL requires "FIRM PRICES" as indicated in General Conditions or Contract during Contract period and no material or labour escalation shall be admissible on any account whatsoever.

9. MEASUREMENTS, BILLING & PAYMENT:

- a) All works shall be measured in metric system based on actual work done as per the terms and conditions of the Tender documents.
- b) Running Accounts bills based on Bill of Quantity shall be prepared and submitted based on joint measurements (OIL and contractor). Contractor shall ensure that bills are submitted promptly and timely.
- c) Contractor must ensure that payments have been made to his personnel (engaged under this contract) in time for smooth functioning of the Contract which shall not be less than the minimum wages.

10. DEDUCTIONS FOR INCORRECT WORK:

If, the Engineer-in-charge(Electrical) deems it expedient to correct work damaged or not done in accordance with the contract, an equitable deduction from the contract price shall be made thereof and the decision of the Engineer shall be final.

11. CONTRACT DRAWINGS:

Contractor has to prepare all working drawings mentioned below and obtain approval from the Engineer-in-charge (Electrical) before starting the Civil work so that piping works for wiring job does not suffer due to non-approval of the working drawings:

- a) Layout diagram of complete conduit job for concealed wiring showing route for wiring from DB to sub-DB, sub-DB to Switch Board, Light and ceiling positions etc.
- b) Schematic diagram for complete electrical work.
- c) The contractor shall keep at least one copy each of drawings, conditions of contract, specifications, instructions and schedule of quantities at the site of works available for reference provided by any authorized representative or Engineer-in-charge (Electrical), at all times during the progress of the works.

TECHNICAL:**12. SCOPE:**

This section covers the general technical requirements and measurement system of the various components in Internal Electrical Installation works.

13. TERMINOLOGY:

The definition of terms shall be in accordance with IS:732-1989 (Indian Standard Code of Practice for Electrical Wiring), except for the definitions of "point", "circuit", and "sub-main wiring", which are defined hereunder.

a) Point Wiring

- (i) Point wiring: A point wiring (other than socket outlet point wiring) –

- Shall extend from the controlling switch/ MCB/ controller to the corresponding point/ device (lamps/ luminaire/ Fan/ Exhaust fan/ call bell etc.). Point/device refers to either single devices (like lamps, fans, etc) or multiple devices controlled from one single switch/ MCB/ controller (like chandeliers, group of decorative lamps etc.).
- Includes supply & fixing of all items as specified in BOQ, like device holders, wires, Conduit/Casing-capping, accessories like screws, rawl plug, Outlet boxes, junction boxes, pull-through boxes-etc, including metal boxes if any, provided with switch boards for loose wires/conduit terminations, Bushed conduit or porcelain tubing where wiring cables pass through wall etc.
- Shall be measured in terms of number of "points" only. There shall be no linear measurement for point wiring, or for the number and size of wires used.

(ii) Socket outlet point wiring: A Socket ("plug point") outlet point wiring –

- Shall extend from the switchboard to the corresponding wall socket outlet. Sockets may include a single socket or multiple sockets (of same rating) in one module.
- Includes plug points (6A), Power point 6/16A, 20A metallic socket and other similar wall outlets. The power point outlet may be 6A/16 A six pin socket outlet, where so specified in the BOQ.
- Shall be reckoned as total length of wiring and shall be measured on linear basis along the run of wiring depending on the actual number and sizes of wires run.

b) Circuit Wiring: A Circuit wiring -

- Shall extend from the distribution board up to the switch board/box.
- Include all wiring accessories.
- Shall be reckoned as total length of wiring and measured on linear basis along the run of wiring depending on the actual number and sizes of wires run

c) Sub-Main Wiring: Sub-main wiring –

- Shall from one main/distribution switchboard to another.
- Shall be reckoned as total length of wiring and measured on linear basis along the run of wiring depending on the actual number and sizes of wires run.
- Includes all wiring accessories.

14. OTHER WIRING WORKS:

Except as specified above for point wiring, circuit wiring and sub-main wiring, other types of wiring shall be measured separately on linear basis along the run of wiring depending on the actual number and sizes of wires run.

15. SYSTEM OF DISTRIBUTION AND WIRING:

- a) Control at the point of entry of supply: There shall be a circuit breaker on each live conductor of the supply mains at the point of entry.
- b) Distribution: The wiring shall be done on a distribution system through main and/or branch (sub-main) distribution boards. The system design as well as the locations of boards shall be as indicated in BOQ/drawings or as specified by the OIL Engineer-in-charge. Main distribution board shall be controlled by a circuit breaker. Each outgoing circuit shall also be controlled by a circuit breaker. The branch distribution board shall be controlled by a circuit breaker. Each outgoing circuit shall be provided with a miniature circuit breaker (MCB) of specified rating on the phase or live conductor. The

loads of the circuits shall be divided, as far as possible, evenly between the numbers of ways of the distribution boards, leaving at least one spare circuit for future extension. The neutral conductors (incoming and outgoing) shall be connected to a common link (multilayer connector) in the distribution board and be capable of being disconnected individually for testing purposes.

'Power' wiring shall be kept separate and distinct from 'Lighting' wiring beyond the branch distribution boards.

c) Balancing of Circuits: The balancing of circuits in three wire or poly phase installations shall be arranged beforehand to the satisfaction of the OIL Engineer-in-charge.

d) Wiring System:

- Wiring shall be measured only as per "point wiring" or "linear basis ", as explained above.
- Lights, fans and call bells shall be wired in the 'lighting' circuits.
- 6/16A combined socket outlets and other power outlets shall be wired in the 'Power' circuits.
- 5A/6A Socket outlet shall be wired in the light plug point circuit.
- The wiring throughout the system shall be such that there is no break in the neutral wire except in the form of linked MCCB's, MCB's, RCBO's etc.

e) Run of Wiring:

The wiring shall be in surface casing-capping and/or concealed conduit. Due consideration shall be given for neatness, good appearance and safety.

16. JOINTS IN WIRING:

No bare conductor in phase and / or neutral or twisted joints in phase, neutral, and / or protective conductors in wiring shall be permitted. There shall be no joints in the through-runs of wires.

17. RATINGS OF OUTLETS:

MCBs / switches / controllers for devices like Exhaust fan, fluorescent tubes, compact fluorescent tubes, shall be rated according to the corresponding device capacity.

RCCBs for household circuits and similar installations should be rated for 30mA tripping current.

Socket Outlets shall be rated according to their intended use only.

18. CAPACITY OF CIRCUITS:

'Lighting' circuit shall not have more than a total of 10 points of light, fan and socket outlets, or a total connected load of 800 W per circuit, whichever is less. 'Power' circuit shall have only one outlet per circuit.

19. CONFORMITY TO CEA REGULATIONS, 2010 AND STANDARDS:

All electrical works shall be carried out in accordance with the provisions of CEA (Measures relating to safety and electric supply) Regulations 2010, National Electric code and National Building Code. The works shall also conform to relevant Indian Standards. In all electrical installation works, relevant safety codes of practice shall be followed.

20. TESTING OF WIRING / INSTALLATION:

Wherever required by OIL's engineer-in-charge, capping shall not be fixed on the casing till the work has been inspected with the wires in position and approved. Inspection will be done in stages, as work progresses.

On completion of an electrical installation (or extension thereof) OIL's engineer-in-charge may require a test certificate for the installation/wiring job before energizing the circuits. In such instances, contractor shall issue a test certificate, countersigned by certified supervisor under whose supervision the job was carried out.

The following tests should be carried out:

- (i) Insulation resistance test
- (ii) Earth continuity test
- (iii) Earth electrode resistance test

All necessary test instruments shall be arranged by the contractor.

21. GENERAL REQUIREMENTS OF COMPONENTS:

- a) Quality of materials: All materials shall be of such design, size and material as to satisfactorily function under the rated conditions of operation.
- b) Ratings of components: All components in a wiring installation, conductors, switches and accessories shall be of appropriate ratings of voltage, current, and frequency, as indicated in BOQ.
- c) Conformity to Standards: All components shall conform to relevant Indian Standard Specification, including amendments or revisions thereof up to the date of tender acceptance.
- d) General Notes:
 - Items shall be procured from the manufacturer or their authorized dealers only.
 - All the items shall be brand new and shall bear BIS monogram, wherever specified.
 - Item shall be guaranteed for a period of one year from the date of installation of materials against any manufacturing defect or workmanship.

22. WIRES AND CABLES:

- a) Wiring: Conductors of wiring cables shall be of copper. The smallest size of conductor for various circuits including earthing shall be not less than as follows:
 - 'Lighting': 1.5 sq mm
 - 'Power': 4 sq mm
 - Sub-Main: 6 sq mm
 - Main: 10 or 16 sq.mm, depending on the installed load.

All wiring cables shall be FRLS, single core, multi-strand, PVC insulated, unsheathed, 1100V grade, BIS marked & FIA & TAC approved, with flexible conductor.

- b) Cables: Cables shall be armoured, PVC insulated and PVC sheathed power cables of 1100 V grade. They shall be fitted on wall surface/ Tray/False ceiling/False floor as required; clamping shall be with 1 mm thick saddle, wherever required.

23. PVC CASING AND CAPPING:

- a) PVC casing and capping shall be BIS marked.
- b) Providing and fixing of PVC casing and capping include bends, elbows, tees, inside and outside corners, round blocks and painting. PVC casing and capping should be strong and properly fitted so as to hold wires laid in it up to 70% to its full capacity for all areas. It should be rigidly screwed at 150mm interval crosswise with suitable woodscrews of 25mm length turned in PVC sleeve inserted in neatly drilled holes of proper size and depth with cup washer to give proper grip over more surface area. It can be run whether in horizontal or vertical position as required.

- c) Providing earth continuity wires: The earth continuity wire shall be provided in the casing throughout the length of wiring. The size of earth continuity wire shall be same size with the main wire for circuits. All metallic parts, switchboards, light fittings and power sockets shall be connected to the earth wires and the connection shall be electrically and mechanically sound.

24. PVC CONDUITS:

- a) All rigid conduit pipes shall be of medium duty PVC conduit of good quality and be BIS marked.
- b) The conduit wiring system shall be complete in all respects, including their accessories. Where a large number of control switches and/or fan regulators are required to be installed at one place, these shall be installed in more than one outlet box adjacent to each other for ease of maintenance.
- c) Bunching of cables: Cables shall always be bunched so that the outgoing and return cables are drawn into the same conduit. Where the distribution is for three phase loads only, conductors for all the three phases and neutral wire shall be drawn in one conduit.

25. WIRING ACCESSORIES:

- a) Control switches for points: Control switches (single pole switches) carrying not more than 16A shall be modular type complete with plate, as specified, and the switch shall be "ON" when the knob is down. Control switch shall be placed only in the live conductor of the circuit. No single pole switch or fuse shall be inserted in the protective (earth) conductor, or earthed neutral conductor of the circuit.
- b) Socket outlets: 6/16 pin Socket outlets shall be of shutter type modular complete with plate. These shall be rated either for 6A, or 16A. Combined 6 pin (6A/16A) pin socket outlet shall be provided in 'power' circuits wherever specified. 6A Socket outlets shall only be of 5 pin type; the earth pin shall be connected to earth through protective (loop earthing) conductor. The control switches for 6A and 16A socket outlets shall be kept along with the socket outlets. Generally socket outlet shall be installed at a height of above 30 cm but below 130 cm from the floor level.
The layout of wiring shall be as approved by Engineer in Charge.
- c) Switch box covers: These shall be modular type of suitable size.
- d) Ceiling rose: Only one flexible cord shall be connected per ceiling rose. For multiple pendants, each pendant shall have its own rose, or a specially designed rose shall be used.

26. FITTINGS:

Indoor type fittings specification: Suspension mount LED Tube light luminaire with all accessories and lamps, ready for installation as per the following description:

- (i) Optical system should provide all round glare and beam control.
- (ii) Luminaire shall be supplied with:
- (a) 1/2x28 Watt or nearest equivalent LED tube light.
- (b) 1/3/4 x14 Watt or nearest equivalent LED tube light.
- (iii) Luminaires shall be pre-wired up to the terminal block and fitted with High Performance driver/ electronic ballast (THD<10%) as standard, PF> 0.95; ballast to conform to IS/IEC for safety/ performance.
- (iv) Luminaires shall be supplied with all standard accessories (including chains etc.) for suspension mounting.

Power supply: 230/240v, 50 Hz, single phase.
The type of fittings shall be as specified in BOQ.

27. PRE-WIRED MCB DISTRIBUTION BOARDS:

Pre wired MCB DB's shall be provided only where specified.

The complete board shall be factory fabricated and shall be duly pre-wired, ready for installation at site.

The board shall be of wall mounted, cubicle type construction, fabricated out of 1.6mm thick sheet steel, with stove enameled paint finish. The board shall also be provided with a loose wire box as a compartment for the complete width and, depth of the board, and of minimum height of 125mm in case of TPN DB's, and 100mm in case of SPN DB's. The board shall be provided with a hinged cover of 1.6mm thick sheet steel in the front. Only the knobs of the MCB's shall protrude out of the front covers through openings neatly machine made for the purpose. Knock out holes at the bottom, and detachable plate with knock out holes at the top of the board shall be provided. Each distribution board shall be provided with a circuit list giving details of each circuit which it controls and the current rating of the circuit, and the size of the MCB. The board shall be complete with the following accessories:

- (a) 100 A copper bus bar(s) for MCB DBs.
- (b) 250 A copper bus bar for MCCB DB
- (c) Neutral link.
- (d) Common earth bar.
- (e) DIN bar for mounting MCB's
- (f) Screw type terminal connectors suitable for incoming and outgoing cables.
- (g) Earthing stud(s)

The board shall be fully prewired with single core PVC insulated copper conductors/insulated solid copper links, and terminated on to extended type terminal connectors, suitable for connections to the sizes of the respective conductors. All incoming and outgoing wiring to the pre wired MCB DB's shall be terminated only in extended terminal connectors to be provided within the DB. The terminal connectors shall, therefore, be so provided as to facilitate easy cable connections and subsequent maintenance. Connectors (Terminal blocks) are to be provided. A common, copper earth bar shall be provided within the loose wire box. The common neutral bar as well as the terminal connectors, however, shall be provided within the main compartment just below the loose wire box.

28. MINIATURE CIRCUIT BREAKERS (MCB's):

'C' series MCB's shall be invariably used for all loads. Ratings (A), number of poles, type as MCB or isolator, etc. shall be as specified in the BOQ. The MCB's shall be of minimum 10KA rupturing capacity.

29. SWITCH BOARD LOCATIONS:

Switch boards shall be located as indicated on the drawings or as instructed by OIL's engineer. Switchboards should not be installed in places likely to be exposed to the weather. However exact location will be as per suitable available spaces.

Unless otherwise specified, a switch board shall be installed so that its bottom is 1.30 m from the floor level. Switchboards shall be well clear of door openings and with an open (unimpeded) space in front of the switchboard for easy access.

Where it is required to terminate a number of casing capping or conduits on a board, it may be convenient to provide a suitable PVC adapter box for the purpose. Such boxes shall be provided with the prior approval of the Engineer-in-charge (Electrical) and this will not be paid for separately. No apparatus shall project beyond any edge of the panel.

30. FANS, REGULATORS AND CLAMPS:

Fan Regulators: Electronic modular type fan regulator shall be of approved makes. The fans, regulators etc., are to be procured from authorized dealer to ensure genuineness of the material.

31. EARTHING:

Whenever earth electrode is to be supplied and installed, only readymade, maintenance free, CPRI approved chemical earthing electrodes with the proper dimensions (as per BOQ) shall be used. This shall be complete with backfill compound minerals, excavation of earth pit and construction of brick earth chamber to proper specifications as in BOQ or as per BOQ of the contract.

GI Earth strap shall be supplied with the earth electrode for connecting the earth electrode to the equipment. Earth strap shall be terminated in the electrode/equipment with proper size of zinc coated nuts and bolts.

32. WORKMANSHIP:

Good workmanship is an essential requirement to be complied with. The entire work of manufacture/fabrication, assembly and installation shall conform to sound Engineering practice. The work shall be carried out under the direct supervision of a person holding a valid supervisor's certificate of competency issued by the State Govt. for the type of work involved, employed by the contractor, who shall rectify then and there the defects pointed out by the Engineer-in-charge (Electrical) during the progress of work.

33. COMMISSIONING ON COMPLETION:

After the entire wiring is completed, a joint inspection shall be carried out. The contractor shall rectify the defects pointed out by OIL during inspection. The works shall be tested by the contractor and contractor shall submit the test certificates duly signed by the competent persons. The system shall be energized only after OIL approves the work done and submission of test certificate.

- a) Layout of all equipment, switch boards, DB's etc.
- b) Manufacturers test report & data sheets for equipment's if any.
- c) Single line diagram
- d) Cable schedule, DB Charts if any.

34. APPENDIX-A

Sl. No.	Description of Item	Item no. in SOQ	Approved Makes
1	Single core BIS marked, copper, FRLS PVC insulated stranded flexible 1100 v grade cable (as per IS 694 of size/rating as specified in SOQ	10, 20, 30, 40, 50	FINOLEX/HAVELLS/L&T/POLYCAB/RR KABEL
2	Earth Wire of size as	10, 20, 30,	Havells/Finolex/L&T/Polycab/RR,

	specified in SOQ		40,50	
3	Copper lugs			DOWELL/3D-BILLET / JAINEX/ SCHNEIDER (MERLIN GERIN)
4	PVC conduit		10,20,30,40, 50	Richa/Vidyut Mitra/Plaza/AKG
5	Metal clad switch-socket unit- 20/25 Amps.		100	LEGRAND/SCHNEIDER (MERLIN GERIN)/SIEMENS/HAVELLS/INDO-ASIAN
6	Ceiling fan, 1400 mm Sweep, White in Colour.		150	HAVELLS (Pacer)/BAJAJ (Kassels)/ORIENT (PSPO)/USHA (Striker/Sonata Hi-Speed)/Crompton Greaves
7	LIGHT FITTINGS (including Driver)	LED Batten, 2 feet	190	Philips /Crompton/GE/Bajaj/Havells
		LED Batten, 4 feet	180	Philips/Crompton/GE/Bajaj/Havells
		LED 1x4 suspended	170	Philips/Crompton/GE/Bajaj/Havells
8	MCCB		210	Indo Asian / Legrand / SCHNEIDER/SIEMENS / ABB / L&T
9	MCB'S (10KA, C- curve)		200,210	SCHNEIDER/SIEMENS/LEGRANDS/ABB/INDO-ASIAN/L&T
10	RCBO		200,210	Make of RCBO, MCBs and box shall be of same make and shall be Schneider/ Siemens/Indo Asian/Legrand/L&T
11	MCB DB		200,210	Schneider/ Siemens/Indo Asian/Legrand/L&T. <i>Note: MCB DB and MCBs/RCBO fitted therein have to be of same make.</i>
12	VTPN DB		200,210	Schneider/ Siemens/Indo Asian/Legrand/L&T. <i>Note: VTPN DB and all components fitted therein have to be of same make.</i>
13	Modular switches/Socket/Box		60,70,80,90, 110,120	LEGRAND/ SCHNEIDER / CRABTREE / IndoAsian Elvira / Havells/ MK
14	Modular Fan regulator 100W		100	LEGRAND/ SCHNEIDER / CRABTREE / Indo Asian-Elvira/MK
15	Metal GI Box		220,230	LEGRAND/ SCHNEIDER / CRABTREE / Indo Asian-Elvira/MK
16	Metal enclosure for MCB		100	Legrand/Schneider/ Siemens/Indo Asian/L&T.
17	Exhaust fan		160	Usha/Havells/Crompton/Bajaj

Note 1: Contractor should restrict to the makes specified in Table 1 above. In case of urgency, operational exigencies, difficulty in procuring or obsolescence, other equivalent makes may be approved. Such equivalents however, may be used only with the prior written approval of OIL's engineer. Contractor shall apply for such approval, in writing to OIL's engineer-in-charge, furnishing proper justification and relevant specifications (to prove equivalence) of the proposed item/items.

Note 2: For items not appearing in Table 1 above, the makes shall be decided by OIL's Engineer-in-charge.

Note 3: Certain items shall be installed as one integral unit, as per specification in SOQ (like MCB, RCBO and MCB DB; or MCB and metal box, or VTPN). In such cases, the make shall be the same for all items within that integral unit.

Note 4: Wherever BEE Star marked devices (lamps, fans, etc) are available, they shall be preferred. However, makes shall be restricted to the above only.

- C.** This tender is floated with rates based on the existing OIL's SOR i.e. with old labour wages. The Labour Escalation as per minimum labour wages effective as on the original Bid Closing date shall be reimbursed to the bidder who is awarded the contract, for all the labour items, against which, the bidder's quoted rates are lower than the rates calculated (*to be calculated later on for payment of escalation*) on the basis of minimum labour wages as on the original bid closing date.
- D.** The Contractor shall deposit the PAN and GST registration number (if applicable, as per Statutory GST Regulations) as and when required by the Company. If the above are not available with the bidder, the bidder must apply for the same after signing of the Contract and submit the same within 45 days of signing the contract (or as and when advised by the Company, after 45 days of signing the contract). Moreover, the statutory guidelines of Goods and Service Tax (GST) shall be adhered to by the bidder.
- E.** The bidder must provide the following minimum numbers of equipment in operational condition capable of providing uninterrupted services under the contract as and when required.

LIST OF MATERIALS & EQUIPMENTS TO BE SUPPLIED BY CONTRACTOR:

- | | |
|-----------------------------|--------|
| • Concrete mixer machine - | 1 no. |
| • Welding and cutting set - | 1 no. |
| • Tiles/ concrete cutter - | 1 no. |
| • Vibrator - | 2 nos. |
| • Cube mould - | 6 nos. |

- F.** Company reserves the right to initiate actions against the bidder / contractor during processing of tender and / or during continuation of the contract as per OIL's Banning Policy dated 6th Jan 2017 available at OIL's website.
- G.** Defect liability period shall be 6 months beyond the date of completion of works as certified by Engineer-In-Charge. During defect liability period, all corrective works shall be carried out entirely at Contractor's own expenses. If such corrective works are not carried out within a reasonable time, the Company, at its discretion, may have such remedial works carried out by other agencies and charge the cost thereof to the Contractor. This amount shall be deducted from contractor's bill/ Retention money/ Performance security.

Part-IV

OIL INDIA LIMITED
(A Govt. of India Enterprise)
Contracts Department, Duliajan

WORKS CONTRACT

SCHEDULE OF COMPANY'S PLANTS, MATERIALS AND EQUIPMENTS

Tender No. DCC7434L18

A. SCHEDULE OF MATERIALS AVAILABLE AT THE COMPANY'S STORES/STOCK PILES for permanent incorporation in works and

B. SCHEDULE OF COMPANY'S PLANTS AND EQUIPMENTS for use in the execution of work.

1) MATERIALS: Cement (Will be issued from Company's go-down at Duliajan or other go-downs).

2) PLANTS AND EQUIPMENT: Nil

NOTE:

1. All empty cement bags must be returned to Materials Go-down Duliajan failing which ₹ 8.00 (Rupees Eight only) per bag for empty cement bags will be recovered from the Contractor's bill.
2. The Contractor is to arrange transport of the above materials to site of work and for safety thereof for which no extra payment will be made.
3. If the materials listed above are not available, suitable substitute will be provided by the Company and Contractor shall incorporate the same in the works without extra cost.
4. Containers must be returned to Company in good condition.
5. Plants and equipment if issued to Contractor must be under proper watch so that no part is pilfered. These must be handled only by Company's operators. Contractor shall be responsible for any loss or damage to these plants and equipment while these are under his/their custody.
6. Materials issued to Contractor must be under proper watch & ward so that no part is pilfered. If any pilferation takes place the matter will be referred to appropriate Govt. authorities for legal action as well as realization of the materials issued.
7. Cement issued to Contractor by the Company is meant only for the specific Company work relating to the Contract. However, if any quantity of Cement is left over from the quantities issued for any reason whatsoever, on the completion/ cancellation/ termination of the Contract the same shall have to be returned to the Company in full within one week of completion/cancellation of the work failing which the matter will be referred to appropriate Govt. authorities for legal action as well as realization of the Cement.
8. All other materials issue to the Contractor by the Company if subsequently found to be in excess of the actual requirement will have to be returned by the Contractor within two weeks of completion of the work failing which the cost of all such materials will be recovered from the Contractor at double the value of materials without any reference to him from any bill/ amount due to the contractor.

Tender No: DCC7434L18

SAFETY MEASURES

To,
CGM-CONTRACTS
OIL INDIA LIMITED
DULIAJAN-786602

SUB: SAFETY MEASURES

DESCRIPTION OF WORK/SERVICE: Construction of Shift Engineer's room and Tool room inside Central Workshop, Industrial Area (Protected area) including electrification and supply of all materials except cement at Duliajan.

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, 2017 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.

Tender No: DCC7434L18

g) We shall abide by the following HSE (Health Safety & Environment) points:

GENERAL HEALTH, SAFETY & ENVIRONMENT (HSE) POINTS:

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 of that 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 all HSE laws by the sub or sub-sub contractors.
2. Every person deployed by the contractor in a mine 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. Safety appliances like protective footwear, Safety Helmet and Full Body harness has to be DGMS approved. Necessary supportive document shall have to be submitted as proof. If the Contractor fails to provide the safety items as mentioned above to the working personnel, the Contractor may apply to the Company (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 in the mines 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.
3. 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 mining operation / operations to be done by the contractor and how it is to be managed.
4. The contractor shall provide a copy of the SOP to the person designated by the mine owner who shall be supervising the contractor's work.
5. Keep an up to date SOP and provide a copy of changes to a person designated by the Mine Owner /Agent /Manager.
6. 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 Contractor 1 Company SCC safe manner. For work of a specified scope/nature, he should develop and provide to the mine owner a site specific code of practice in line.
7. All persons deployed by the contractor for working in a mine must undergo Mines Vocational Training, initial medical examination, PME. They should be issued cards

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stating the name of the contractor and the work and its validity period, indicating status of MVT, IME & PME.

8. The contractor shall submit to DGMS returns indicating - Name of his firm, Registration number, name and address of person heading the firm, nature of work, type of deployment of work persons, number of work persons deployed, how many work persons hold MVT Certificate, how many work persons undergone IME and type of medical coverage given to the work persons.

9. The return shall be submitted quarterly (by 10th of April, July, October & January) for contracts of more than one year. However, for contracts of less than one year, returns shall be submitted monthly.

10. 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.

11. 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.

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

13. The contractor shall have to report all incidents including near miss to Installation Manager / departmental representative of the concerned department of OIL.

14. 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.

15. 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.

16. The health check up of contractor's personnel is to be done by the contractor in authorized Health Centers as per OIL's requirement & proof of such test(s) is to be submitted to OIL. The frequency of periodic medical examinations should be every five years for the employees below 45 years of age and every three years for employees of 45 years of age and above.

17. To arrange daily tool box meeting and regular site safety meetings and maintain records.

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18. Records of daily attendance, accident report etc. are to be maintained in Form B, E, J (as per Mines Rules 1955) by the contractor.

19. 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.

20. A contractor employee must, while at work, cooperate with his or her employer or other persons so 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.

21. Contractor's arrangements for health and safety management shall be consistent with those for the mine owner.

22. 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.

23. 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.

24. The contractor should prevent the frequent change of his contractual employees as far as practicable.

25. The contractor should frame a mutually agreed bridging document between OIL & the contractor with roles and responsibilities clearly defined.

26. 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.

(Seal)

Yours Faithfully

Date_____

M/s_____

FOR & ON BEHALF OF CONTRACTOR

TENDER NO. DCC7434L18

STANDARD FORMAT OF PERFORMANCE SECURITY (BANK GUARANTEE) **(TO BE FURNISHED BY THE CONTRACTOR IN CASE OF** **SUBMITTING PERFORMANCE SECURITY IN THE FORM OF BANK** **GUARANTEE AFTER ISSUE OF LOI)**

To,
M/s. OIL INDIA LIMITED,
CONTRACTS DEPARTMENT
DULIAJAN, ASSAM, INDIA, PIN - 786 602.

WHEREAS _____ (Name and address of Contractor) (hereinafter called "Contractor") had undertaken, in pursuance of Contract 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 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 argument, 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 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:

Contd.... P/2

SIGNATURE AND SEAL OF THE GUARANTORS _____

Designation _____

Name of Bank _____

Address _____

Witness _____

Address _____

Date

Place _____

Note 1: 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 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 by the BG issuing bank branch to Axis Bank, Duliajan Branch, IFS Code – UTIB0001129, Branch Address – AXIS Bank Ltd, Duliajan Branch, Daily Bazar, Jyotinagar, Duliajan, District - Dibrugarh, PIN 786602.

Note 2: Bank details of Oil India Limited may be required by Bank for issuance of Bank Guarantee (BG):

	Bank Details of Beneficiary	
a	Bank Name	STATE BANK OF INDIA
b	Branch Name	Duliajan
c	Branch Address	Duliajan, Dist.-Dibrugarh
d	Banker Account No.	10494832599
e	Type of Account	Current Account
f	IFSC Code	SBIN0002053
g	MICR Code	786002302
h	SWIFT Code	SBININBB479
i	Contact No.	9435554859
j	Contact Person Name	Mr. K. L. K. Banik, AGM
k	Fax No.	0374-2802729
l	Email Id	sbi.02053@sbi.co.in