



**NATIONAL INSTITUTE OF TECHNOLOGY  
ROURKELA-769008 (ODISHA)**

**CORRIGENDUM**

With reference to Tender Notice No: **ET-36/2012-13** published in Sambad, New Indian Express and Pravart Khabar on 11.01.2013 for construction of **33 KV OH Line on Lattice/poles structure from Chhend 132/33 KV Grid to NIT 33 KV Grid and 33 KV bay at NIT, Rourkela** is amended as follows.

**Closing Date & Time** : **22.02.2013 by 3.00 PM**  
**Open on** : **22.02.2013 at 3.30 PM**  
For details, visit : [www.nitrkl.ac.in/tender.asp](http://www.nitrkl.ac.in/tender.asp)  
Contact : Prof. S. Mohanty, PIC (ET)  
Phone No : 0661-2462405  
Email : s.mohanty@nitrkl.ac.in

S/d  
Registrar

*An Institute where everyone strives to attain his Potential*



**NATIONAL INSTITUTE OF TECHNOLOGY  
ROURKELA-769008 (ODISHA)**

**Tender Notice No: ET-36/2012-13.**

Sealed proposals are invited for construction of **33 KV OH Line on Lattice/poles structure From Chhend 132/33 KV Grid to NIT 33 KV Grid and 33 KV bay at NIT,Rourkela.**

Issue of tender(Website) : **07.01.2013 to 28 .01.2013**

Closing Date & Time : **31.01.2013 by 3.00 p.m**

**Open on 31.01.2013 at 3.30 PM**

for details, visit [www.nitrkl.ac.in/tender.asp](http://www.nitrkl.ac.in/tender.asp)

**Contact:** Prof. S.Mohanty, PIC (Electrical Construction).

**Phone no:** 0661-2462405,

**Email :** s.mohanty@nitrkl.ac.in

**S/d  
Registrar**

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**NATIONAL INSTITUTE OF TECHNOLOGY  
ROURKELA-769008, ODISHA**

**(TENDER NOTICE NO:ET-36/2012-13)(CONSTRUCTION OF 33 KV OH line from OPTCL  
132/33 KV Chhend Grid to NIT 33 KV MRSS Grid (CIVIL and ELECTRICAL) IN  
NIT, ROURKELA)**

Sealed tenders are invited from reputed Contractors of Class-I/Special Class having valid registration with PWD (Orissa State) / CPWD / PSUs and Valid Electrical License with State of Orissa having sound financial status, machinery, resources and experience in execution of similar works.

<u>Name of Work</u>	<u>Estimated Cost(Approx)</u>	<u>Earnest Money Deposit</u>	<u>Time of Completion</u>
<b>33 KV OH Line on Lattice/poles structure From Chhend 132/33 KV Grid to NIT 33 KV Grid and 33 KV bay at NIT,Rourkela</b>	<b>Rs. 1.90 Cr</b>	<b>Rs 1,90,000.00</b>	<b>6 months</b>

1. The contractors who fulfill the following requirements shall be eligible to apply. Joint ventures are not accepted.
    - i) Should have successfully completed similar works during the last seven years ending 31<sup>st</sup> March 2012, as a prime contractor satisfying either of the following:-
      - a) Three similar completed works each costing not less than Rs. 75 Lakhs
      - or**
      - b) Two similar completed works each costing not less than Rs. 95 Lakhs
      - or**
      - c) One similar completed work costing not less than Rs. 150 Lakhs
  - Similar work shall mean Electrical work of 33 KV OH Electrical distribution line. Preference will be given to firms who have done similar works in govt/state Electricity board/Private organization of repute eg WESCO.
  - ii) Should have had average annual financial turnover(out of work of similar nature)of Rs. 100 Lakhs on construction works of similar nature during last 3 years, ending 31 March 2012 (Copy of Certificate from CA to be submitted)
  - iii) Should not have incurred any loss in more than two years during the last five years. Solvency Certificate from bankers to be submitted.
  - iv) A duly constituted committee based on the information to be submitted by agency, will assess the capacity of the construction agency to take up the new project under consideration to complete in time.
2. Sealed tenders on overall cost plus/minus percentage basis, are invited in the prescribed form for execution of the electrical work.

- (a) The Earnest Money may be deposited in the form of Demand Draft of a Nationalized Bank (Payable at Rourkela in favour of Director, National Institute of Technology, Rourkela) along with bank guarantee of any nationalized bank wherever applicable.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, Rs. 2Lakhs will have to be deposited in the shape of Demand Draft and balance in shape of Bank Guarantee of any Nationalised bank having branch at Rourkela. The intending bidder has to fill all the details such as Banker's name, Demand Draft, Bank Guarantee number, amount and date. The Bank Guarantee submitted as a part of Earnest Money shall be valid for a period of six months or more from the date of submission of the tender.

- (b) **Validity of Tender** :-90 days (from the date of tender opening)  
(c) **Date of downloading of Tender:-** From 07-01-2013 to 28-01-2013.  
(d) **Pre-bid Conference** :- 28.01.2013 at 10-30 A.M in Board Room.  
(e) **Last date of Submission** :- 31-01-2013 up to 03.00 PM  
(f) **Date & Time Opening of Tender:-** 31-01-2013 at 3.30 P.M

3. Questionnaire to tenders is given in the Annexure-I
4. A Pre-bid conference will be held in the Board Room, NIT, Rourkela as per Schedule given above for clarifying issues and clearing doubts, if any, about the specification & other allied technical details. The prospective bidders may attend the pre-bid conference at the appointed date, time and place.
5. The tender papers may be downloaded from NIT website (i.e. [www.nitrkl.ac.in](http://www.nitrkl.ac.in)).  
[BOQ/ Price](#) Bid may be collected from the office of PIC(ElecConstn) .
6. The submission of bids by the tenderer should be addressed to the Registrar, National Institute of Technology, Rourkela in three separate sealed Envelopes enclosed in one cover envelope superscribing on the top of the envelope:

**Electrical Work of 33 KV OH line from Chhend to NIT  
IN NIT, ROURKELA  
(TENDER NOTICE NO- ET-36/2012-13)  
DUE DATE: 31-01-2013 UP TO 3.00 PM**

**Envelope No-I:** - To contain Bank Drafts and Bank Guarantee towards: (i) Earnest Money deposit.(Note : Exemption claimed if any, against valid registration for similar work in National Small Scale Industries Corporation should be supported with proper and complete documents to qualify for the tender, or else no claim for EMD exemption will be permissible )

**Envelope No-II:**-To contain techno commercial bids including reply to Questionnaire/additional information.

**Envelope No-III:**-To contain the price bid in the prescribed form with overall percentage (in Figures and words) over the total estimated cost which will be applicable to individual schedule

rates for all the electricalwork etc. of each work, signed and stamped on all pages of Tender documents.

**NOTE:**

- a) Tenderers are advised not to make any alteration /modification in the Tender documents, item of work or any respect whatsoever. Violation of this requirement will make the tender liable for rejection.
- b) In case schedule date becomes a holiday of NIT Rourkela, the next working date shall be the schedule date.
- c) **Envelope-I** : Consisting of EMD & Tender Document Price will be opened first on the due date of opening.
- d) **Envelope-II** : Will be opened subsequently on fulfillment of submission of EMD and Tender Document Price on the same day.
- e) **Envelope No.- III:** On satisfying the eligibility criteria and that the tender who have confirmed the acceptance of NIT terms and conditions (both technical and commercial), the Envelope No-III(i.e. Price Bid) will be opened.

7.The tenderer must use only the tender forms issued for the purpose.

8.Overwriting of figures is not permitted. Failure to comply with either of these conditions will render the tender invalid and it will be discretion of National Institute of Technology, Rourkela to accept or reject the tender. No request of any change in rate or condition after opening of tender will be entertained.

9. Each page of the tender documents ( after taking out a print ) should be signed by the authorized person or persons submitting the tender as token of his/their having acquainted himself/themselves with the general and special condition of contract, specifications etc as laid down. Any tender with any of the documents not so signed will be subjected to rejection.

10. The tender submitted on behalf of the firm shall be signed by all the partners of the firm or by a partner who has necessary authority on behalf of the firm to enter into the proposed contract,otherwise the tender may be rejected.

11. No consideration will be given to a tender received after the time stipulated above and no extension will be allowed for submission of tender.

12.The NIT-Rourkela shall have the right to reject any tender not conforming to prescribed procedure (or all tenders) without assigning any reason.

13.The time allowed for completion of the work is 6 months or less (including monsoon period) in closed coordination with ongoing civil work for construction and the date of commencement of the work is reckoned from the date of Letter of Intent/Work Order. Time shall be considered the essence of the contract.

14. The rate quoted shall be firm throughout the tenure of the contract(including extension of time, if any, granted on request of the contractor) and will not be subject to any fluctuation due to increase in cost of materials,labour,sales tax,octroi etc,unless specifically provided in the documents variation clause enclosed in the tender.
15. Water and electricity required for the completion of the construction shall be provided by the institute free of cost within NIT campus. However, the contractor will have to make arrangement of pipe line for water and electric poles, wires, cable etc .for electricity.
16. The Earnest Money will be retained in case of the successful tenderer as a part of the security for due fulfillment of the Contract. No interest shall be paid on this deposit. Failure to enter into the contract agreement within the stipulated time of 20days from the date of letter of Intent shall entail the forfeiture of the Earnest Money Deposit. The Earnest Money of unsuccessful tenderers will be released after issue of work order, without any interest.
17. The tenderer shall submit his tender after carefully examining the whole of the tender document and the terms and conditions of contract, the drawing and specifications, the schedule of quantities etc. and also after examining the site and conditions prevailing in and around site.
- 18.This notice inviting tenders, the conditions of tender and the duly completed form of tender etc. will form part of the Agreement to be executed by the successful tenderer with the Owner.
19. The competent authority on behalf of National Institute of Technology, Rourkela does not bind himself to accept the lowest or any other tender, and reserves to himself the authority to reject any or all of the tenders received without the assignment of a reason. All tenders, in which any of the prescribed conditions is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer, shall be summarily rejected.
20. Tenders shall remain valid for a period of 90 days from the date of opening of the tender which period may be extended by mutual agreement and the tenderer shall not cancel or withdraw the tender during the initial validity period 90 days .
21. Tenderers must include in their rates, sales tax including VAT, excise duty, octroi, and sales tax on works contract and any other tax & duty or other levy by the central and state government or any other tax & duty or other levy or to be levied in future by the central government or state government or local authority if applicable **except Service tax**. No claim in respect of sales tax, excise duty,**service tax**,octroi, turn-over tax, sales tax on works contract or other tax, duty or levy etc. shall be accepted by the Owner, if found later on to be additionally payable. Deductions in respect of sales tax or turnover levied as per government notification and /or guidelines shall be made from the contractor's interim and final bills, and deposited with the relevant authority by the Owner, on his behalf. Any shortfall in deposit thereof shall be made up by the contractor, before submitting his final bill.
22. The Contractor has to pay building and other construction workers welfare cess @ 1% on the cost incurred on the construction work under BOCW (RE & CS) Act 1996.

23. The Contractor shall conform in all respects with the provision of any such Statute, Ordinance or Law as aforesaid and the rules, Regulations or Bye-Laws of any local or other duly constituted authority which may be applicable to the Works.
24. The Contractor shall comply with all rules framed from time to time by Government (Central or State) or other local authority and legislations governing labour for the protection or health, sanitary arrangements, wages, welfare (including EPF, ESI etc.) and safety of workers.
25. This contract shall be an item rate contract. The contractor shall be paid for actual quantity of work done, as measured at site including any deviation plus or minus. The rate of any non-schedule items (i.e. extra item) shall be derived as per conditions of this contract.
26. The tender drawings exhibited/enclosed are preliminary drawings intended for the guidance of the Contractor only. They may be subject to revision and alteration without vitiating any of the terms of the contract and the contractor shall be bound to execute the works as shown on the final drawings without claiming any extra payment.
27. No correspondence will be entertained in respect of this tender other than any clarification strictly pertaining to this tender.
28. All the correspondence and documents shall be in English only.
29. The tender price quoted by a tenderer shall be kept strictly confidential by them and shall not be divulged to any other party even approximately before the time limit for delivery of tender. The only exception be for obtaining an insurance quotation, you may give your insurance company or agent any essential information they ask for, so long as it is done in strict confidence. No information about others tender price should be obtained and no arrangement with anyone else should be made whether or not he submitted the tender.
30. For electrical works, tenderer must possess or obtain necessary license from the competent authority valid in Rourkela, wherever applicable.
31. List of approved Makes / Brands / Agencies is enclosed. However the final choice of brand will be as per the decision of the engineer incharge.
32. **The work shall be executed under the supervision of WESCO Engineers and contractors must abide by all the standards of WESCO for similar work ie 33 KV Oh distribution line.**
33. **The Right of passage permission for the portion of Land falling under SAIL Rourkela Steel Plant has been obtained from RSP Authority. For the portion of land falling under the private persons, Right of passage has to arranged during the construction and has to be dealt by the contractor .The contractor should negotiate and settle at their Level for any damages caused due to erection / drawing of OH Lines.The cost of such settlement and damages rectification if any should be borne by contractor and NIT will not entertain any claim in this respect.**

36. Any clarification required by tenderer may be informed positively by 28.01.2013 which will be clarified during Prebid meeting.
37. Tenderers are requested to be present at the time of pre bid and at the time of opening of the bids for discussions, if any.
38. Details including our prescribed format for prequalification, BOQ, General Conditions and Special Conditions of Contracts etc. are available in our website at <http://www.nitrkl.ac.in/tender.asp>.

**REGISTRAR**

**National Institute of Technology**

**Rourkela-769008 (Orissa)**

**Fax: 0661-2472022**

**Ph No: 0661-2472021**

**Copy to:** 1. Director } For kind information  
2. Dean (PD) }  
3. Prof S, MOHANTY, PIC (ET)  
4. Prof. B.ChittiBabu, PIC (EM)  
5. Prof. Y. K..SAHU, VP (Elec)  
6. Sri S.P.Mahapatra, Executive Engineer (Estate)  
7. Er D.BEHERA, Engineer (ELec), Estate  
8. Executive Engineer ,WESCO Rkl

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**NAME OF WORK: ELECTRICAL WORK OF 33KV OH Line in NIT, ROURKELA**

**QUESTIONNAIRE / INFORMATION TO BE SUBMITTED BY THE PROSPERITY BIDDERS**

Brief work plan (PERT/Bar Chart) for execution of the work within 6 months to be submitted.

1. What should be your site organization including engineers to be deployed at site?
2. The work comprises of three parts viz 33 KV Oh line from Chhend to Koel Nagar, 33 KV OH Line from Koelnagar to NIT and Bay at NIT. The 33 KV line from KOELNAGAR TO NIT shall be constructed and completed at first, and there after other two parts of the work shall be taken up to complete the entire work.
3. Brief details of similar works executed by your firms during last 5 years. This should include cost, time of actual start/completion, analysis schedule, specifications adopted etc.

**REGISTRAR**

**National Institute of Technology**

**Rourkela-769008 (Orissa)**

**Fax: 0661-2472022**

**Ph No: 0661-2472021**

# **CHECK LIST FOR PRE-QUALIFICATION**

Forms to be filled in properly.

1. Form-A: This form (check list)
2. Form-B: Letter of Transmit
3. Form-C
4. Form-D
5. Photocopy of documents to be attached.
  - a) Valid license, Should include valid Electrical license of State of ODISHA.
  - b) Work orders executed of last 5 years.
  - c) Vat Clearance Certificate & PAN Card.
  - d) Solvency Certificate from bankers to be submitted.
  - e) Performance report from authority/officer having rank not below Executive Engineer for Govt./PSUs and General Manager for private firms with specific mention about the project components, scheduled and actual time of completion, final project value etc. to be submitted.
  - e) List of equipments in possession.

**(Signature of the Agency)**

## PRE-QUALIFICATION INFORMATION

### LETTER OF TRANSMITTAL

(To be typed on the Agency's Letterhead)

**To**

**THE REGISTRAR  
NATIONAL INSTITUTE OF TECHNOLOGY  
ROURKELA - 769008**

**SUB: Electrical work of 33 KV OH Line from Chhend to NIT IN NIT,  
ROURKELA.**

Sir,

Having examined the details of pre-qualification document, I hereby submit the pre-qualification documents and other relevant information.

1. I hereby certify that all the statements made and information supplied in the enclosed forms A to D and accompanying statements are true and correct to the best of my knowledge. I understand that if any information found incorrect, the application is liable to be cancelled.
2. I have furnished all information and details necessary for pre-qualification and have no further pertinent information to supply.
3. I certify that my firm is not **blacklisted/banned** from business by any organization.
4. I hereby accept the rules and procedures of the Institute for pre-qualification of Contractor and agree that the Institute has the right to accept or reject any application without assigning a reason thereto.

**(Signature of the Agency)**

**NATIONAL INSTITUTE OF TECHNOLOGY,**  
**ROURKELA**

**APPLICATION FOR PRE-QUALIFICATION**

1. NAME OF AGENCY/FIRM: - \_\_\_\_\_
2. ADDRESS: - \_\_\_\_\_
3. FAX/TELEPHONE NUMBER: - \_\_\_\_\_
4. DETAILS OF REGISTRATION \_\_\_\_\_
  
5. ORGANISATION &SPECIAL QUALIFICATION FOR TECHNICAL PERSONS
  
6. PAN CARD, VAT CLEARANCE CERTIFICATE
  
7. VOLUME OF BUSINESS IN LAST THREE FINANCIAL YEARS  
2009-10Rs \_\_\_\_\_  
2010-11 Rs \_\_\_\_\_  
2011-12 Rs \_\_\_\_\_
  
8. FIELD OF SPECIALIZATION
  
9. IMPORTANT JOBS EXECUTED IN GOVT./PSU INCLUDING SPECIFICATIONS, MATERIALS USED ETC.
  
10. IMPORTANT JOBS IN HAND AND THEIR STATUS
  
11. ANY OTHER INFORMATION REGARDING TECHNICAL CAPABILITY

**(Signature of the Agency)**

Annexure to application for pre-qualification

**WORKS COMPLETED AND IN PROGRESS DURING THE LAST 5 YEARS (INCLUDING ALL WORKS AWARDED)**

{ADD ADDITIONAL SHEETS, IF NECESSARY}

Sl. No.	Name of Work & Agreement No	Date of start	Date of Completion		Tendered Cost	Complete address of the Authority for whom the Work was done
			<i>Stipulated</i>	<i>Actual</i>		

# **PRICE BID**

**(To be submitted in the Letter Pad of firm)**

To  
The Registrar  
National Institute of Technology  
Rourkela – 769008.

**SUB:ELECTRICAL WORK OF 33KV OH LINE FROM CHHEND TO NIT IN NIT,  
ROURKELA.**

Dear Sir,

We are hereby submitting the price bid for the above mentioned work.

**Our quoted price is as given below from the schedule provided by NIT for the above mentioned work.**

_____ % <b>(In figure)</b>	{ _____ <b>(In words)</b>	} <b><u>BELOW</u></b>
	<b>OR</b>	
_____ % <b>(In figure)</b>	{ _____ <b>(In words)</b>	} <b><u>ABOVE</u></b>

The same percentage will be applicable to all the items.

Signed in the capacity of duly authorized to sign tenders for and behalf of

\_\_\_\_\_  
**Name of Firm**

\_\_\_\_\_  
**Signature**

Name & Address .....

Telephone No. ....

.....Mobile

No. ....

Date: .....

**NOTICE FOR INVITING TENDER**

To

M/s \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Dear Sir,

**Sub :TENDER FOR PROPOSED ELECTRICAL WORK OF 33 KV OH LINE FROM CHHEND to NIT  
 IN NIT ROURKELA (ORISSA)**

Sealed item rate tenders are invited in the prescribed form from prequalified contractors for execution of electrical work for the proposed 33 KV OH Line from Chhemd to NIT **AT NIT ROURKELA (ORISSA)** as per following details.

- |    |                                      |   |                                   |
|----|--------------------------------------|---|-----------------------------------|
| a) | NAME OF THE WORK                     | : |                                   |
| b) | ESTIMATED COST OF THE WORK           | : | .....                             |
| c) | EARNEST MONEY DEPOSIT                | : | .....                             |
| d) | PERIOD OF COMPLETION                 | : | 6 Calendar Months                 |
| e) | VALIDITY OF TENDER                   | : | 90 Days                           |
| f) | DATE OF ISSUE OF TENDER              | : | From...07.01.13 ..upto...28.01.13 |
|    | .during office hours                 |   |                                   |
| g) | PRE-BID MEETING WITH CONTRACTOR      | : | ...28.01.13.....at 10.30 A.M.     |
| h) | LAST DATE OF SUBMISSION              | : | 31.01.13.....Upto3 P.M.           |
| i) | DATE & TIME OF OPENING OF THE TENDER | : | 31.01.13.....at 3.30 P.M.         |

- 1) The clarification, if any, regarding this tender should be got clarified from the Registrar/Professor in charge( ElecConstn) . A prebid conference shall be arranged on 28.01.13..... in the office of Director, National Institute of Technology, Rourkela - 769008(Orissa) to discuss the relevant points/clarification if any. "So that tenderers are well acquainted" with the details of the End.
- 2) Tender documents including all Bill of Quantities is available in Web site and can be down loaded by interested contractors.
- 3) The submission of bids by the Tenderer and opening of the same by REGISTRAR, NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA -769008(ORISSA) will be done as per procedure enumerated below:

- |                |  |
|----------------|--|
| ENVELOPE NO. 1 | To contain Bank Draft toward (i) Earnest Money deposit.  |
| ENVELOPE NO. 2 | To Contain techno commercial bids including reply to Questionnaires/ additional information.   |
| ENVELOPE NO. 3 | To contain the price bid in the prescribed form with overall percentage (in figures and word) over the total estimated cost which will be applicable to individual schedule rates for all items of work etc. of each work, signed and stamped on all pages of Tender Documents |

**NOTE:**

- a) Tenderers are advised not to make any alteration /modification in the Tender documents, item of work or any respect whatsoever. Violation of this requirement will make the tender liable for rejection.
- b) Envelope-I : Consisting of EMD.will be opened first on the due date of opening.
- c) Envelope-II : Will be opened subsequently on fulfillment of submission of EMD.on the same day.
- d) Envelope No.- III : On satisfying the eligibility criteria and that the tender who have confirmed the acceptance of NIT terms and conditions (both technical and commercial), the Envelope No-III (i.e. Price Bid) will be opened.

- 4 Tenders are to be submitted in one sealed envelope cover enclosing therein the Envelope No. 1, Envelope No.2 and Envelope No. 3.
- 5 The tenderer must use only the tender forms issued for the purpose to fill in the rates.
- 6 Rates should be quoted both in figures and words in columns specified. All erasures and alterations made while initials of the tenderer must attest filling the tender. Overwriting of figures is not permitted. Failure to comply with either of these conditions will render the tender invalid and it will be the discretion of DIRECTOR, NATIONAL INSTITUTE OF TECHNOLOGY ,ROURKELA -769008(ORISSA) to accept or reject the tender. No request of any change in rate or conditions after opening of the tender will be entertained.
- 7 In the case of figures, the word `Rs.' should be written before the figures of rupees and the word `P' written after the decimal figures e.g. Rs. 3.25 P. In the case of words, the word Rupee should similarly precede and the words "Paise only" should be written at the end, closely following each the percentage rate. The word "only" should not be written in the next line unless the rate quoted is in whole Rupees closely followed by the word "only": The amount should invariably be upto two decimal places.
- 8 Errors in the bill of quantities shall be dealt with in the following manner.
  - a. In the event of any discrepancy between the rates quoted in words and the rates in figures the former shall prevail.
  - b. In the event of an error occurring in the amount column of the bills of quantities as a result of the wrong extension of the unit rate and the quantity, the unit rate shall be regarded, as firm and extension shall be amended on the basis of the rates.
  - c. All the errors in totaling in the amount column and in carrying forward the totals shall be corrected.
- 9 Each of the tender documents should be signed by the person or persons submitting the tender in token of his/their having acquainted himself/themselves with the General and Special Conditions of Contract, Specifications etc., as laid down. Any tender with any of the documents not so signed will be subjected to rejection.
- 10 The tender submitted on behalf of a firm shall be signed by all the partners of the firm or by a partner who has the necessary authority on behalf of the firm to enter into the proposed contract. Otherwise the tender may be rejected by DIRECTOR, NATIONAL INSTITUTE OF TECHNOLOGY ,ROURKELA -769008(ORISSA).
- 11 No consideration will be given to a tender received after the time stipulated above and no extension will be allowed for submission of the tender. The Director shall have the right to reject any tender not conforming to prescribed procedure (or all tenders) without assigning any reason.
- 12 The time allowed for completion of works is 24 Calendars months (including monsoon period) for construction and the date of commencement of the work is reckoned from the fourteenth day from the date of Letter of Intent. Time shall be considered the essence of contract.
- 13 Water and electricity required for the completion of the construction shall be provided by the institute. However contractor will have to make arrangement of pipe line for water and electric poles wires cable etc. for electricity.
- 14 Every tender shall be accompanied by earnest money of Rs.....(1% of the estimated cost). By way of Demand Draft/Pay order favouring NATIONAL INSTITUTE OF TECHNOLOGY AT ROURKELA – 769008 (ORISSA). Tender Submitting without earnest money shall be summarily rejected.
- 15 The Earnest Money will be retained in the case of the successful tenderer as part of the security for due fulfillment of the Contract. No interest shall be paid on this deposit. Failure to enter into the contract agreement within the stipulated time of 20 days from the date of letter of Intent shall entail the forfeiture of the Earnest Money Deposit. The Earnest Money of unsuccessful tenderers will be released after issue of work order, without any interest.
- 16 The tenderer shall submit his tender after carefully examining the whole of the tender document and the terms and conditions of contract, the drawings and specifications, the schedule of quantities etc., and also after examining the site and conditions prevailing in and around site.
- 17 This notice inviting tenders, the conditions of tender and the duly completed form of tender etc., will form part of the Agreement to be executed by the successful tenderer with the Owner.
- 18 The Owner does not bind himself to accept the lowest or any tender and reserve to themselves the right of accepting the whole or any part of the tender and tenderer is bound to perform the same at the rates quoted. The owner will not be bound to accept the lowest tender and reserves the right to accept or reject any or all the tender without assigning any reasons whatsoever.

- 19 Tenders shall remain valid for a period of 120 days from the date of opening of the tender which period may be extended by mutual agreement and the tenderer shall not cancel or withdraw the tender during the initial validity period of 120 days.
- 20 The successful tenderer shall be bound to implement the Contract and mobilise and sign specified agreements within 20 days from the date of Letter of Intent/ Work Order.
- 21 Tenderers must include in their rates, sales tax (both CST & LST), cess excise duty, octroi, sales tax on works contract and any other tax & duty or other levy by the central and state government or any other tax & duty or other levy or to be levied in future by the central government or state government or local authority if applicable. No claim in respect of sales tax, excise duty, octroi, turn-over tax, sales tax on works contract or other tax, duty or levy etc., shall be accepted by the Owner, if found later on to be additionally payable. Deductions in respect of sales tax or turnover levied as per government notification and/or guidelines shall be made from the Contractor's interim and final bills, and deposited with the relevant authority by the Owner, on his behalf. Any shortfall in deposit thereof shall be made up by the contractor, before submitting his final bill.
- 22 This contract shall be an item rate contract. The Contractor shall be paid for actual quantity of work done, as measured at site including any deviation plus or minus. The rate of any non-schedule items of work shall be derived as per conditions of this contract.
- 23 The tender drawings exhibited/enclosed are preliminary drawings intended for the guidance of the Contractor only. They may be subject to revision and alteration without vitiating any of the terms of the contract and the Contractor shall be bound to execute the works as shown on the final drawings without claiming any extra payment.
- 24 No correspondence will be entertained in respect of this tender other than any clarifications strictly pertaining to this tender.
- 25 All the correspondence and documents shall be in English only.
- 26 The tender price quoted by a tenderer shall be kept strictly confidential and shall not be divulged to any other party even approximately before the time limit for delivery of tender. The only exception be for obtaining an insurance quotation, you may give your insurance company or agent any essential information they ask for, so long as it is done in strict confidence. No information about other's tender price should be obtained and no arrangement with any one else should be made whether or not he submit the tender.
- 27 For electrical, sanitary, water supply and drainage works, tenderers must possess respective licenses from the competent authority valid in Rourkela (Orissa), wherever applicable.
- 28 Contractor should sign at the end of every page prior to submitting the tender.

Director,  
National institute of Technology  
Rourkela -769008(Orissa)

## TENDER FORM

### NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769008 (ORISSA)

To be returned by \_\_\_\_\_ hours on \_\_\_\_\_. And to be opened at \_\_\_\_\_ hours on \_\_\_\_\_

To,

Registrar,  
National Institute of Technology ,  
Rourkela – 769008(Orissa)

### **TENDER FOR :PROPOSED ELECTRICAL WORK OF 33 KV OH Line from Chhend to NIT AT NIT ROURKELA (ORISSA)**

Sir,

1. We have read and examined the following documents as received by us :
  - a) Notice Inviting Tender
  - b) Instructions to Tenderers
  - c) Conditions of Contract.
  - d) Supplementary Conditions.
  - e) Specifications
  - f) Drawings
  - g) Schedule of Quantities.
  
2. We are well aware and are familiar with CPWD Schedule of Rates and their specifications, BIS publication and National Building code which shall apply to this contract to supplement any missing details in this contract in order of preference.

Further to the above, we have visited and examined the site of the proposed works and have acquired the requisite information relating thereto as affecting the tender invited by you.
  
3. We agree that any other terms or conditions of contract or any general reservation which may be printed on any correspondence emanating from us in connection with this tender or with any contract resulting from this tender shall not be applicable to this tender or to the contract.
  
4. We have obeyed the rules about confidentiality of tenders and will continue to do so as long as they apply.
  
5. We are enclosing along with our tender an earnest money being Rs. (1% of the estimated cost) in the form of Crossed Demand Draft on Nationalised Rourkela Bank. We hereby agree that this sum shall be forfeited by DIRECTOR, NATIONAL INSTITUTE OF TECHNOLOGY ,ROURKELA -769008(ORISSA) in the event of our tender being accepted and if we fail to execute the contract when called upon to do so. We note that Earnest Money Remittance in form other than Crossed Demand Draft on Rourkela Bank shall not be accepted.
  
6. Subject to and in accordance with paragraphs 3 & 4 above and the terms and conditions contained or referred to in the documents listed in paragraph 1, we agree and offer to execute all the Works referred to in the said documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered to be valued as per the conditions of contract.
  
7. We undertake to complete and deliver the whole of the works within a period as specified in the contract and further confirm that the time allowed for completion is adequate. Time allowed for completion of entire job or part job assigned shall be reckoned from the tenth day of the date of letter of intent. We shall be under the obligation to pay the sum as stated in the contract for every day that the works shall remain incomplete, damages as compensation subject to the conditions of contract relating to extension of time.

8. We hereby also agree that unless & until a formal agreement is prepared & executed in accordance with the Articles of agreement, this tender together with your acceptance thereof, shall constitute a binding contract between us.
9. The person/persons whose tender may be accepted (hereinafter called the tenderer) shall pay initial deposit of 2% (including Earnest Money) by way of Demand Draft in favour of NATIONAL INSTITUTE OF TECHNOLOGY, payable at Rourkela. This amount shall be released after virtual completion of work. We further agree for a deduction of 8% from the running bill as retention money.
10. Validity of the tender shall be 90 days from the date of opening of tender or it may be beyond 90 days if mutually accepted.
11. The Owner is at liberty to accept or reject any tender, without assigning any reasons whatsoever.
12. Work may be split up in the first instance. But it may be split up in more parts or parts combined if so desired by the Owner without assigning any reasons whatsoever.
13. Adherence to the PERT chart shall be ensured by the contractor as the project is to be executed in a very strict time frame.
14. In the event of our selection of award of work we agree to submit a PERT/BAR Chart based on the drawings along with the tender documents before the issue of work order. And this will form a part of the agreement.

Signed in the capacity of duly authorised to sign tenders for and on behalf of

Address .....

.....

.....

.....

Telephone No.....

Telex No.

Fax No.

Date :

## INSTRUCTIONS WITH REGARD TO SUBMISSION OF TENDERS

**NOTE:** Tenderers are requested to note that non-compliance of the following instructions is liable to render their tenders unacceptable.

- 1) Address at which the tender is to be submitted : REGISTRAR, NATIONAL INSTITUTE OF TECHNOLOGY , ROURKELA –  
769008(ORISSA)
  
- 2) a. Prebid conference date \_\_\_\_\_  
b. Last date for receipt of tender \_\_\_\_\_  
c. Date of opening of tender \_\_\_\_\_
  
- 3) The different Schedules should be filled as follows:
  - (a) The "Rate" Column wherever applicable to be legibly filled in ink in both figures and words.
  - (b) The "Amount" Column also to be legibly filled in ink in both figures and words.
  - (c) All corrections to be initialed.
  - (d) No over writing is allowed.
  - (e) The figure of percentage of rate shall be legibly filled in ink in both figure and words.
  
- 4) Bank Guarantee or cheques shall not be accepted for the Earnest Money Deposit. “The Earnest Money Deposit should be in strict compliance of requirement as specified in the tender documents.
  
- 5) The tender shall be signed and dated at all places provided therein. Also all pages, drawings and corrections/alterations shall be initialed. The tender submitted on behalf of a firm shall be signed by all the partners of the firm or by a partner who has the necessary authority on behalf of the firm to enter into the proposed contract.
  
- 6) **CONDITIONAL OFFER:** Any tenderer who proposes alterations to any of the conditions/specifications laid down in the tender documents or proposes any new conditions, whatsoever shall be summarily rejected.
  
- 7) **PROCEDURE FOR SUBMISSION AND OPENING OF TENDERS :**
  - a) Tenders must be submitted on the tender documents issued by the Accepting Officer. Intimation of tender quoted by a letter, telegram or telex will not be accepted.
  
  - b) Tenderers are expected not to propose any alterations to any of the conditions laid down in the tender. Stipulated conditions embodied in the tender shall be binding on the tenderers.
  
  - c) In view of the postal and other delays the tenders should be posted sufficiently in advance of the last date and time fixed for receipt of tenders or be sent by a special messenger. Tender received late shall be rejected.
  
  - d) The procedure for submission and opening of tenders has been set out in details in tender documents.
  
- 8) Drawings must be returned along with the tender documents duly stamped and signed. These Drawings are for reference only.

### **VALIDITY OF TENDERS**

- 9) Tenderers should note that their tenders should remain open for consideration for a minimum period of 90 days from the last date fixed for the receipt of tenders. The validity period may, however be extended by mutual agreement. The tenderer shall not be allowed to cancel or withdraw the tender during the initial validity period of 90 days.
  
- 10) For Sewerage, Electrical, Water supply and Surface drainage works, Tenderers must possess respective licenses from the respective authorities valid in Rourkela for doing such works.

## **SUPPLEMENTARY CONDITION**

### **INDEMNITY BOND**

On the acceptance of his tender, the contractor will be required to execute an Indemnity Bond with-in 10 days of issue of work order in favor of the Owners against third party claims, civil or criminal complaints, site mishaps and other accidents or disputes, against any damages, loss or expenses due to or resulting from any negligence or breach of duty on the part of the contractor, his subcontractors or his employees and agents etc., as per the appropriate Indemnity Bond attached.

It will also be covered by labour laws of the Govt. of Orissa.

Any other conditions suggested by the Institute may be added subsequently.

**INDEMNITY BOND**

(On Non-Judicial Stamp Paper of Rs. 10/-)

KNOW all men by these presents that I/We \_\_\_\_\_ do hereby execute Indemnity Bond in favour of The Director, National Institute of Technology, Rourkela -769008(Orissa). On this \_\_\_\_\_ day of \_\_\_\_\_

WHEREAS The Director, National Institute of Technology, Rourkela -769008(Orissa), have appointed \_\_\_\_\_ as the Contractors for their Proposed in National Institute of Technology, Rourkela \_\_\_\_\_

THIS DEED WITNESS AS FOLLOWS :

I/We \_\_\_\_\_ hereby do Indemnify and save harmless The Director, National Institute of Technology, Rourkela -769008(Orissa).

Any third party claims, civil or criminal complaints/liabilities, site mishaps and other accidents or disputes and/or damages occurring or arising out of any mishaps at the site due to faulty work, negligence, faulty construction and/or for violating any law, rules and regulations in force, for the time being while executing/executed works by me/us.

Any damages, loss or expenses due to or resulting from any negligence or breach of duty on the part of me/us or my sub contractor's if any, servants or agents.

Any claim by an employee of mine/ours or of sub contractors if any, under the Workmen's Compensation Act and Owners Liability Act, 1939 or any other law, rules and regulations in force for the time being and any Acts replacing and/or amending the same or any of the same as may be in force at the time and under any law in respect of injuries to persons or property arising out of and in the course of the execution of the contract work and/or arising out of and in the course of employment of any workman/employee.

Any act or omission of mine/ours of sub-contractor's if any, our/their servants or agents which may involve any loss, damage, liability, civil or criminal action.

IN WITNESS WHEREOF THE \_\_\_\_\_ has set his/their hand on this day of \_\_\_\_\_.

SIGNED AND DELIVERED BY THE                      NAME AND ADDRESS

AFORESAID \_\_\_\_\_                      (Contractor)

IN THE PRESENCE OF WITNESSES:

1.

2.

**ARTICLES OF AGREEMENT**

ARTICLES OF AGREEMENT made the ..... date of .....  
..... between ..... having its offices at Rourkela  
(hereinafter called “the owner” of the One Part and .....  
.....  
..... (hereinafter called “The Contractor” of the other Part.)

Where the Employer is desirous of ..... and has caused drawings and specification describing the works to be done to be prepared by Arch-En Design, it’s Architect.

And whereas the said Drawings numbered ..... to ..... inclusive, the specifications and the schedule of Quantities with rates have been signed by or on behalf of the parties hereto.

And whereas the Contractor has agreed to execute upon and subject to the conditions set forth herein and to the conditions set forth herein in the Special conditions and in the Schedule of quantities and conditions of Contract (all of which are collectively hereinafter referred to as “the said Drawings and/or described in the said specifications and included in the Schedule of quantities at the respective rates therein set forth amounting to the sum as therein arrived at or such other sum as shall become payable there under (hereinafter referred to as “the said contract Amount”).

NOW IT IS HEREBY AGREED AS FOLLOWS:

In consideration of the said contract amount to be paid at the items and in the manner set forth in the said conditions, the contractor shall upon and subject to the said conditions executed complete the work shown upon the said Drawings and described in the said specifications and the priced schedule of quantities.

The Employer shall pay to the contractor the said contract amount, or such other sum as shall become payable, at the times and in the manner specified in the said conditions.

The term “the Architects” in the said conditions shall mean the said Arch-En Design, or in the event of their ceasing to be the Architects for the purpose of this contract for whatever reason, such other person or persons as shall be nominated for that purpose by the Employer, not being a person to whom the contractor shall object for reasons considered to be sufficient by the Employer, **Provided Always** that no person or persons subsequently appointed to be Architects under this contract shall be entitled to disregard or overrule any previous decisions or approval or direction given or expressed in writing by the outgoing Architects for the time being.

The said conditions and Appendix thereto shall be read and construed as forming part of this Agreement, and the parties hereto shall respectively abide by, submit themselves to the said conditions and perform the Agreements on their part respectively in the said conditions contained.

The plans, agreements and documents mentioned here in should form the basis of this Contract.

This Contract is neither a fixed lump-sum contract nor a piece work contract but a contract to carry out the work in respect of the building complex, to be paid for according to actual measured quantities at the rates contained in the Schedule of Quantities and Rates or as provided in the said Conditions.

The contractor shall afford every reasonable facility for the carrying out of all works relating to civil works, installation of telephone, electrical installations, fittings, and other ancillary works in the manner laid down in the said conditions, and shall make good any damages done to walls, floors, etc. after the completion of his work.

The employer reserves to itself the right of altering the drawings and nature of the work by adding to or omitting any items of work or having portions of the same carried out without prejudice to this contract.

Time shall be considered as the essence of this contract and the contractor hereby agrees to commence the work soon after the site is handed over to him or from 14<sup>th</sup> day after the date of issue of formal works order as provided for in the said conditions whichever is later and to complete the entire work within twenty four calendar months, subject to nevertheless to the provisions for extension of time.

All payments by the Employer under this contract will be made only at Rourkela.

All disputes arising out of or in any way connected with this agreement shall be deemed to have arisen at Rourkela and only the courts in Rourkela shall have jurisdiction to determine the same.

1. That the several parts of this contract have been read by the contractor and fully understood by the contractor.

IN WITNESS WHEREOF THE EMPLOYER and the contractor have set their respective hands to these presents and two duplicates hereof the day and year first hereinabove written.

**SIGNATURE CLAUSE**

SIGNED AND DELIVERED by the

\_\_\_\_\_ by name  
(Employer)

hand of Shri \_\_\_\_\_

\_\_\_\_\_  
(Name and Designation)

(Signature of Employer)

In the presence of:

Shri / Smt. \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(Witness)

(Signature of witness)

SIGNED AND DELIEVERED by the

\_\_\_\_\_  
(Contractors)

(Signature of Contractors)

In the presence of:

Shri/Smt. \_\_\_\_\_

(Signature of witness)

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(Witness)

## GENERAL INSTRUCTIONS TO CONTRACTORS

### AND SPECIAL CONDITIONS

- 1) Sealed Tenders should be addressed to The Registrar, National Institute of Technology,Rourkela -769008(Orissa).
- 2) No Tender will be received after the due date under any circumstances whatsoever.
- 3) The contractors are not expected to include any conditions contrary to tender provisions. However, if it is necessary to include certain conditions, the same should be submitted in a separate sealed cover. To facilitate the processing of offers, two separate sealed covers, and one containing, priced tender and second containing Earnest Money Deposit should be submitted. The covers should be suitably subscribed indicating the contents.
- 4) **(a)** The envelope one shall contain earnest money deposit, terms and conditions, if any, imposed by the contractor for the subject tender shall be opened first in the Office of The Registrar, National Institute of Technology,Rourkela -769008(Orissa) in the presence of the Architects and the authorized representative of the tenderers.  
**(b)** The covers received as indicated in 4 (a) above, shall be opened first the second cover containing the priced Tender on item-rate basis will be opened after finding the tenders eligible for the same.  
**(c)** Priced Tenders shall remain open to acceptance by the Owners for a period of four months, from the date of opening of the second cover containing the Tender, which period may be extended by mutual agreement and the Tenderer shall not cancel or withdraw the Tender during this period.  
**(d)** The tenderer must use only the Forms issued by the Registrar, National Institute of Technology,Rourkela -769008(Orissa) to fill in the rates.
- 5) **(a)** The Tender Form must be filled in English and all entries must be made by the hand and written in ink, If any of the documents is missing, or unsigned, the Tender may be considered invalid by the owners in its discretion.  
**(b)** Each of the Tender documents should be signed by the person or persons submitting the Tender in token of his/ their having acquainted himself/themselves within the General condition of Contract, specifications, special conditions, etc., as laid down. Any Tender with any of the documents not so signed will be rejected.  
**(c)** The Tender submitted on behalf of a Firm shall be signed by all partners of the Firm or by a partner who has the necessary authority on behalf of the Firm to enter into the proposed contract. Otherwise the Owners may reject the Tender.
- 6) The owners do not bind themselves to accept the lowest or any tender and reserve to themselves the right to accept or reject any or all the Tenders, either in whole or in part, without assigning any reasons for doing so.
- 7) Intending Tenderers shall pay as Earnest Money deposit shall be Rs. 1% of the total estimated cost by Bank Draft drawn in favour of National Institute of Technology, payable at Rourkela. A Tender which is not accompanied by such an Earnest Money will not be considered. The Earnest Money will be returned to the Tenderer if his tender is not accepted, but without any interest.
- 8) The successful Tenderer shall within fifteen days of the receipt of the advice of acceptance of the Tender by Registered A.D.Post, deposit as further security, a sum balance of Rs.2% of contract amount after deducting Earnest money deposit paid by him when he submits his Tender shall be held by Registrar, National Institute of Technology,Rourkela -769008(Orissa), as initial security for the execution of the due fulfillment of the contract.
- 9) On receipt of intimation from the Owner of the acceptance of his/their Tender, the successful Tenderer shall be bound to implement the Contract and within Twenty days thereof, the successful Tenderer shall sign an Agreement in accordance with the successful Tenderer shall sign up Agreement in accordance with the draft Agreement and the schedule of conditions, but the written acceptance by Director, National Institute of Technology,Rourkela -769008(Orissa) of a Tender will constitute a binding Contract between Director, National Institute of Technology,Rourkela -769008(Orissa) and the person so tendering, whether such formal agreement is or is not subsequently executed.
- 10) 50% of retention money and total of initial security deposit will be returned after virtual completion of the work. Balance 50% of retention money shall be released to the contractor after satisfactory completion of defect liability period (this amount will be kept in fixed Deposit with the Institute after the work is virtually completed and the same will be returned along with interest after satisfactory completion of defect liability period).
- 11) The total security deposit shall comprise of EMD+ Initial Security Deposit + Retention Money.

The amount of initial security deposit shall be 2% of the accepted value of the tender including the EMD. The amount of initial security deposit shall be paid within 14 days of intimation of the acceptance of this tender.

In addition to the initial Security Deposit, 8% of the running bill amount will be deducted as retention money till total security deposit amount is achieved.

- 12) The contractor shall not assign the contract. He shall not subject any portion of the contract except with the written consent of the Employer subcontracting to Electrical Partner having a valid electrical license. In case of breach of these conditions, the Employer may cause the Architect to serve a notice in writing on the contractor rescinding the contract whereupon the Security Deposit shall stand forfeited to the Employer, without prejudice to his other remedies against the contractor.
- 13) The contractor shall carry out all the work strictly in accordance with Drawings, details and instructions of the Architect, Consultant and the Employer. If in the opinion of the Architect, consultant or the Employer, changes have to be made in the design and with the prior approval in writing of the Employer, they desire the contractor to carry out the same, the contractors shall carry out the same without any extra charge. The Architect's/ The Director, National Institute of Technology, Rourkela - 769008(Orissa) decision in such cases shall be final and shall not be open to arbitration.
- 14) A Schedule of probable quantities in respect of each work and specifications accompany these special conditions. The Schedule of probable quantities is liable to alteration by omission, deductions or additions at the discretion of the Architect/ The Director, National Institute of Technology, Rourkela -769008(Orissa).
- 15) The Tenderer must obtain for himself on his own responsibility and at his own expenses all the information which may be necessary for the purpose of making a Tender and for entering into a contract and must examine the drawings and must inspect the site of the work and acquaint himself with all local conditions, means of access to the work, nature of the work and all matters pertaining thereto.
- 16) The rates quoted in the Tender shall be inclusive of all charges for clearing of site before commencement as well as after completion, water, electrical consumption, meters, double-scaffolding, centering, boxing, staging, planking, timbering and pumping out water, including bailing, fencing, , hoarding, plant and equipment, storage sheds, watching and lighting by night as well as day, including Sundays and Holidays, temporary plumbing and electric supply, protection of the public and safety of adjacent roads, streets, cellars, vaults, open pavements, walls, houses, buildings and all other erections, matters or things and the contractor shall take down and remove any or all such centering, scaffolding, staging, planking, timbering, strutting, shoring, etc. as occasion shall require or when ordered so to do, and fully reinstate and make good all matters and things disturbed during the execution of the work and to the satisfaction of the Architect. No claim in respect of Sales Tax on work contract, Service Tax, Excise Duty, Octroi or other Tax, Cess, Duty or Levy whether existing or future shall be entertained by the Employer.
- 17) Time allowed for carrying out the work as mentioned in the Memorandum shall be strictly observed by the contractor and its shall be reckoned from the 10 days after written order to commence the work is issued or the date of handing over the site to the contractor whichever is later. The work shall throughout the stipulated period of the contract be proceeded with all due diligence and if the contractor fails to complete the work within the specified period, he shall be liable to pay compensation as defined in the conditions of contract: “ The Conditions Herein before Referred To”. The Tenderer shall before commencement of the work, prepare a detailed work programme which shall be approved by the Architect and the Employer.
- 18) The contractor shall not be entitled to any compensation for any loss suffered by him on account of delays in commencing or executing the work, whatever the case of delays may be, including delays arising out of modifications to the work entrusted to him or in any sub-contract connected therewith or delays in awarding contracts for other trades if the project or in commencement or completion of such works or in procuring government controlled or other building materials or in obtaining water and power connections for construction purposes or for the other reasons whatsoever and the Employer shall not be liable for any claim in respect thereof. The Employer does not accept liability for any sum besides the Tender amount, subject to such variations as are provided for herein.
- 19) The successful Tenderer is bound to carry out any items of work necessary for the completion of the job even though such items are not included in the quantities and rates. Schedule of instructions in respect of such additional items and their quantities will be issued in writing by the Architect with the prior consent in writing of the Employer.
- 20) The successful Tenderer must co-operate with the other contractors appointed by the Employer so that the work shall proceed smoothly with the least possible delay and to the satisfaction of the Architects.
- 21) The contractor must bear in mind that all the work shall be carried out strictly in accordance with the specifications made by the Architects and also in compliance of the requirements of the Authorities concerned and no deviation on any account will be permitted.
- 22) Water Supply
  - a. Raw water for works and drinking water shall be supplied free of cost by the employer to the contractor at suitable points within 300 meters of each section of the work. The contractor cannot claim compensation for any failure in water supply

caused due to any reason whatsoever.

- b. The contractor shall be responsible to store water in sufficient quantities to meet his requirements in well built storage tanks with covered top to prevent entry of foreign material, dust, smoke etc.
- c. Potable water for domestic use for contractor's colonies shall be supplied free of cost by the employer at central tank in the labour camps provided that these camps of the contractors are located in the areas developed by the employer for the purpose.
- d. The contractor is responsible to ensure that there is no wastage of water raw or domestic. He will also be responsible for maintaining the tank, pipe lines etc. in proper condition.

#### Electric Power for Construction Purposes

- a. The employer will install and operate a power station of adequate capacity to supply and demand for the construction equipment and for lighting 5 K.W. 440/3-phase AC Supply will be made available to the contractor in bulk of the distribution centres within 100 meters of lead mentioned in works areas free of charges. The contractor will have to make his own arrangements to lay and maintain the necessary distribution lines and wiring for the works at his cost. Within 14 days of acceptance of contract by letter, the contractor should give his firm demand of power at various points. In tendering, an approximate indication of this should be given.
- b. Contractor may, subject to the approval of the Engineer, his labour camps in areas other than those laid out by the employer. In that event the contractor shall make his own arrangement for water and electricity.
- c. The contractor shall ensure that the electrical equipment deployed by him will be such that the aggregate power factor not fall below 0.5 at the owner's terminal points.
- d. The installation of fixed construction machinery and the points for tapping of electric supply connection from pipe lines of different kinds, and location of temporary building including labour camps and storages for materials, should be approved in advance by the engineer.
- e. The source of power to be made available for the contractor would be within 100 meters from the site of work..
- f. The contractor will supply and install switch, fuse units of suitable rated and capacity separately for power and lighting on a frame preferably of steel and provide rain water protection on the switches. The installation will be made as relevant I.S. rules and site location to be made in consultation with engineer- in-charge of the site.
- g. The contractor will get his installation inspected by the Asstt. Electrical Inspector, Govt. of Orissa Deputy Director, Central Electricity authority Ministry of Power, Government of India and obtain a certificate for energisation of the installation.
- h. The contractor will supply and install all distribution cables, wires and switches etc. of rated capacity for the work starting from the source of power at his own cost. He will employ Electricians possessing Electrical contract Licence (copy to be submitted) for carrying out the installation as well as the maintenance works.
- i. The contractor will provide proper facilities to the Engineer-in-charge concerned or his authorised representative for inspecting his temporary electrical installation as and when required. He will immediately attend to the defects so pointed out during this inspection including replacement of faulty cables, switches etc.
- j. The contractor shall not effect any changes in the temporary installation unless permission is obtained from concerned engineer (Elect.) or his authorised representative.

23) The Contractor shall strictly comply with provision of safety code annexed hereto.

24) The contractors shall fulfill the requirements of the Employees State Insurance Act,1948 applicable to all States, towards their employees and keep all the required record regarding the same for inspection by the Authorities concerned at any time. The contractor shall indemnify Registrar, National Institute of Technology, Rourkela-769008 (Orissa), against any claim or legal action arising out of the said Act due to the failure of non-compliance of the provisions of the said Act and the penalty or any other amount levied by the authorities, shall be recoverable from the payments due to the contractors.

25) The Contractor shall comply with the provision of the Apprentices Act,1961, and the Rules and Orders issued there under from time to time. Failure to do so will be in a breach of the contract and the Architects and the Owners may in their discretion cancel the contract. The contractor shall also be liable for any pecuniary or other liabilities arising on account of any violation by him of the provisions of the Act.

26) The Security Deposit of the successful Tender will be forfeited if he fails to comply with any of the conditions of the contract.

27) The contractor shall be responsible for the observance of all Central Rules and Regulation framed by the Central Government under the Contract Labour (Regulation and Abolition) Act,1970and Indian Electricity Rules & Regulations and safetyofthepersons and Electrical installations. The Owners shall be entitled to deduct all damages, which it might suffer on account of non-observance of these rules by the Contractor, from the amount payable to the Contractor.

#### **Mobilisation Advance**

Mobilisation Advance can be given at the discretion of the owner against bank guarantee.at an interest 12% Mobilisation Advance upto 10% of contracted value payable in two equal installments. The first installment shall be paid after Mobilisation has started and next installments shall be paid after satisfactory utilization of earlier advance (s).

The recovery of the Mobilisation Advance shall start when 15% of the work is executed and recovery of total advance should be complete by the time 80% of the original contract price is executed.

**Advance against materials brought at Site:**

**Secured Advance on Materials**

Contractor may be allowed Secured advance on security for materials brought to site for execution on contracted item of work upto the extent of 75% of the value of the materials assessed to by the Engineer-in-charge provided that the materials of the imperishable nature and that of the formal agreement drawn up with the contractor under which employer secures a lien on the materials and is safeguarded against losses due to the contractor postponing execution of the work or to the storage or misuse the materials and against the expenses entitled for their proper watch and safe custody. Recoveries of advances so made would not be possessed until the whole of the work entrusted to the contract is completed. They should be adjusted from his bills for work done as the materials are used with the necessary deductions being made. The secured advance may be given against the following materials brought to the site and stored properly.

- a. Cement
- b. Steel
- c. Wood
- d. Flooring/ Wall tiles
- e. Aluminium/ Wooden window and door frame
- f. Plumbing / Sanitary / Fixtures and Fittings
- g. Electrical Items (One time only)

75% of the total cost of materials purchased and brought at site.

Advance against the materials at Site will be paid only after verifying the quantity of materials received at the Site of work.

The Contractors will have to submit the bills for the materials purchased, in triplicate, to verify the cost of the materials purchased and brought at Site.

No advances against perishable materials purchased and brought at Site will be made.

The Contractors will have to keep the materials at Site under their safe custody and at their risk and cost.

The Owner is not responsible for damages and losses of such materials brought a Site.

- 28) Contractors are not allowed to remove materials brought at Site against which advances have been paid.
- 29) The Contractor is to provide at all times during the progress of the works and the maintenance period proper means of access, with ladders, gangways, etc., and the necessary attendance to move and adopt as directed for the inspection or measurement of the works by the Architects or their representatives.
- 30) Materials shall be of approved quality and the best of their kind available and shall generally conform to I.S. Specifications. The Contractor shall order all the materials required for the execution of work as early as necessary and ensure that such materials are on site well ahead or requirement for use in the work. The work involved calls for approved standard of workmanship combined with speed and to the entire satisfaction of the Architects.
- 31) The Contractors shall after completion of the work clear the Site of all debris and left over materials at his own expenses to the entire satisfaction of the Architects and Municipal or other public authorities.
- 32) The proposed work under this tender during its progress and after completion can be examined/inspected by the Chief Tech. Examiner/Tech. Examiner of CVC or any other Vigilance Authority appointed by the department. Any correction/ redoing of the work/deduction in the payment suggested by such Authority will be binding on the contractor.
- 33) The rates for variated/deviated/ or non schedule items to be worked out on the rates quoted in the tender for the similar items. Wherever it is not possible to base the rates for variated/deviated/non schedule extra items on the tender quoted rates then the rate analysis is to be submitted by the contractors as under and get the same approved before execution of the work by the command Architect.

Actual cost of materials	..... Rs.
Add for Labour charges	..... Rs.
Add for Taxes, Transportation, If any.	..... Rs.
Add for Wastage of Materials (Upper Limit 5% wherever applicable).	..... Rs.
Add for water and electricity Charges if any required, upper limit 2% of basic cost of materials.	.....Rs.
Add for 15% towards contractor's overheads and profit.	.....Rs.

Rs.....

Final rate arrived.

Rs.....

- 34) Contractors are requested to note that no extra item or deviated item of work to be executed without taking prior permission, the institute shall not be responsible for the payment of such works executed. Contractors will have to submit all the particulars including purchase bills/price list for the materials along with the rate analysis for verification of item rates.
- 35) The rates quoted in the tender should be inclusive of contract Sales Tax, Turn over Tax. It is contractor's responsibility to pay the taxes to the Authorities concerned and produce documentary evidence of the taxes paid, to the Owners on demand.
- 36) If it is observed the existing compound wall, gates railings are damaged then the contractors will have to make good the same at their own cost.
- 37) If contractors fail to pay the taxes/royalties to the Authorities concerned, the Owners reserve their rights to recover the said amount from the amount payable to the contractor and pay the same to the Authorities concerned.
- 38) Work is to be executed & measurements are to be paid as per the detail specification & description of item given in the Standard Specification Book except for the items which are specifically mentioned in the tender for which the details of item and mode of measurements to be followed as indicated separately in the conditions of contractors, Part-I.
- 39) For Sanitary plumbing work and storm water drain, wherever it is indicated C.P.W.D. details for these items to be followed as per the description/ specification given in the Book published by Central Public Works Department.
- 40) Employer's decision in this regard shall be final and binding.
- 41) After awarding the work, contractor shall get registered with the office of the Labour commissioner and inform Employer accordingly.  
Contractors shall follow all rules and regulations stipulated by the Labour Commissioner strictly.
- 42) Contractors shall quote consistent rates for the items of similar nature or analogous in specifications for the sections in schedule of quantities. If it is observed that the rates quoted for similar nature of items or analogous in specification under different sections, are inconsistent, then the Employer reserves his right to consider the lowest of rates for all such items and work out the final amount for payment, unless the competent authority finds that there is justifications for such inconsistent rates.

I/We hereby declare that I/We have read and understood the above instructions for the guidance of Tenders.

Witnesses :

Signature of Tenders.

Date :

Address :

**THE CONDITIONS HEREINBEFORE REFFERED TO**

- 1. In construction these conditions, the specification schedule of quantities and contract agreement, the following words shall have the meanings herein assigned to them expect where the subject or context otherwise requires.
  - (a) **“Employer”** shall mean “Director, National Institute of Technology, Rourkela -769008(Orissa).
  - (b) **“Contractors”** shall mean.....and shall include his (their) legal representative assigns or successors.
  - (c) **“Site”** shall mean “Work Place located at Rourkela include any building and erections any building and erections thereon and any other land (inclusively), as aforesaid, allotted by the employer for the contractor's use.
  - (d) **“This Contract”** shall mean Articles of Agreement, the special conditions, the conditions, the appendix, the schedule of quantities and specifications, attached hereto and duly signed.
  - (e) **“Notice in writing”** or written notice shall mean a notice in written, typed or printed characters sent (unless delivered personally or otherwise proved to have been received), by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have been received when in the ordinary course of post, it would have been delivered.

- (f) **“Act of Insolvency”** shall mean any Act of Insolvency as defined by the Presidency Towns Insolvency Act, or the Provincial Insolvency Act or any amending such original.
- (g) **“Net Prices”** If in arriving at the contract amount, the contractor shall have added to or deducted from the total of the items in the Tender any sum either as a percentage or otherwise, then the net price of any item in the Tender shall be the sum arrived at by adding to or deducting from the actual figure appearing in the Tender as the price of that item a similar percentage or proportion of the sum so added or deducted of the sum so added or deducted by the contractor the amount of any Prime Cost items and provisional sums of money shall be deducted from the total amount of the Tender. The expression “net rates” or “net prices” when used with reference to the contract or accounts shall be held to mean rates or prices so arrived at.

Words importing persons include firms and corporations. Words importing the singular only also include the plural and vice versa where the context requires.

2. The Contractor shall carry out and complete the said work in every respect in accordance with this contract and of with the directions of and to the satisfaction of Architect/Employer. The Architect may in his absolute written instructions, details directions and to as Architect/Employer. The Architect may in his absolute discretion and in consultation with the employer (with prior approval from the Director) and from time to time issue further drawings and/or written instruction, details directions and explanations which are hereafter collectively referred to as “Architect’s/Employer’s Instruction”.

In regard to :-

- (a) The variations or modifications of the design, quality or quantity of works or the additions or omission or substitution of any work.
- (b) Any discrepancy in the drawings or between the schedule of quantities and/or drawings and or drawings and or specification.
- (c) The removal from the site of any materials brought thereon by the contractor and the substitution of any other materials therefore.
- (d) The removal and/or re-execution of any works executed by the contractor.
- (e) The dismissal from the works of any person employed thereupon.
- (f) The opening up for inspections of any work covered up.
- (g) The amending and making good of any defects under clauses 19 hereon.

The contractor shall forthwith comply with and duly execute and work comprised in such Architect’s/Employer instructions, provided always that the verbal instruction, directions, and explanations given to the contractor or his representative upon the works by the Architect/Employer shall, if involving a variation, be confirmed in writing by the contractor within seven days, and if not dissented from in writing within a further seven days by the architect, such shall be deemed to be Architect’s/Employer instructions within the scope of the Contract.

3. The work shall be carried out strictly in accordance with particular specifications and drawings. The drawings, specifications BOQ etc. shall be taken complementary and also supplementary to each other and shall form part this contract. Any work or material shown on drawings and not specifically included in BOQ/specification or vice versa shall be executed and deemed to be included in the scope of work .
4. Incase there are no specifications for items shown on the drawings or where items are not exhaustively described, the general specifications of CPWD shall be followed for which nothing extra shall be paid. In case, no details are available even in CPWD specifications, then decision of Institute is final & binding on the contractor.
5. The scope of work for buildings under this contract includes for full & final and entire completion of all works including all internal and external services in all respects described in particular specification as shown on drawings forming part of the contract.
6. Although all the details of construction have been by an large covered in these documents, any item or details of construction not specifically covered but obviously implied and essential to consider Civil Works and all internal and external services complete and functional, shall be deemed to have been covered in the contract. The cost of external development works pertaining to a particular contract shall also be carried out on a final lump sum price based on the rates quoted for each item. The tenderer may however, consider a minimum level of specifications conforming to IS code or National Building Code to cover any missing details.

## 7. Variations to be approved by the Employer/Architect.

Notwithstanding anything herein contained, the Architect or his representative shall not, without prior concurrence in writing of the Employer, issue any instructions, verbal or in writing, the Architect can get the work done upto an amount of

Rs. 25,000/- (Rupees Twenty Five Thousand) and all instruction issued to the contractor should forth with brought to notice of the Employer. The contractor shall submit through the Architect, a statement of variations giving quantity any rates duly scrutiny and final acceptance by the Employer shall form a supplementary tender the Employer shall not be liable for payment of such variations until these statements are sanctioned by him.

#### **Drawings and Schedule of quantities and agreement.**

8. The contract shall be executed in triplicate, the cost incurred to the same shall be reimbursed by the contractors to the Architect and the Architects, the Employer and the contractor shall be entitled to one executed copy each for his use. The Contractor on the signing hereof shall be furnished by the Architects, the Employer and the contractor shall be entitled to one executed copy each for his use. The contractor on the signing hereof shall be furnished by the Architects free the specifications and one copy of all further Drawings issued during the progress of the works. Any further copies of such drawings required by the contractor shall be paid by him. The contractor shall keep one copy of all drawings on the works and the Architects/Employers or their representatives shall at all reasonable times have access to the same. Before the issue of the final certificate to the contractor, he shall forthwith return to the Architect all Drawings and Specifications.
9. The contractor shall provide everything necessary for the proper execution of the works according to the intent and meaning of the Drawings, Schedule of quantities and Specification taken together whether the same may or may not be particularly shown or described therein provided that the same can be reasonably be inferred there from, and if the contractor finds any discrepancies therein, he shall immediately and in writings, refer the same to the Employer /Architect whose decision shall be final and binding. The contractor shall provide himself for ground and fresh water for carrying out of the works at his own cost. The Employer shall on account be responsible for the expenses incurred by the contractor for hired ground or fresh water obtained from elsewhere.

The rates quoted against individual items will be inclusive of everything necessary to complete the said items work within the contemplation of the contract, and beyond the unit price no extra payment will be allowed for incidental or contingent work, labour and /or materials inclusive of all taxes and duties whatsoever except for specific items, if any, stipulated in the tender documents.

The contractor shall supply, fix and maintain at his own cost, for the execution of any work, all tools, tackles, machineries and equipments and all the necessary centering, scaffolding, staging, planking, timbering, strutting, shoring, pumping, fencing, boarding, watching and lighting by night as well as by day required not only for the proper execution and protection of the said work but also for the protection of the public and safety of any adjacent roads, streets, walls, houses, buildings, all other erections, matters and things and the contractor shall take down and remove any or all such centering, scaffolding, plumbing, timbering, strutting, shoring etc., as occasion shall be required or when ordered so to do, and shall fully reinstate and make good all matters and things disturbed during the execution or when ordered so to do, and shall fully reinstate and make good all matters and things disturbed during the execution of works to the satisfaction of the Employer / Architects.

The Contractor shall also provide such temporary load on the site as may be necessary for the proper performance of the contract, and for his own convenience but not otherwise. Upon completion, such roads shall be broken up and leveled where so required by the drawings unless the Employer shall otherwise direct.

The contractor shall at all times give access to workers employed by the Employer or any men employed on the buildings and to provide such parties with proper sufficient and if required, special scaffolding, hoists and ladders and provide them with water and lighting and leave or make any holes, grooves etc., in any work, where directed by the employer as any be required to enable such workman to lay or fix pipes, electrical wiring, special fittings etc. The quoted rates of the tenderers shall accordingly include all these above-mentioned contingent works.

#### **Authorities notices and patents.**

10. The contractor shall confirm to the provisions of any Act of the legislature relating to the works, and to regulations and bye-laws of any authority, and of any water electric supply and other companies and /or authorities with and whose the systems the structures is proposed to be connected, and shall, before making any variations from the drawing or specifications that may be necessitated by so confirming, give to the Architect written notice, specifying the variations proposed to be made and the reason for making it and apply for instructions thereon. In case the contractor shall not within ten days receive such instructions he shall proceed with the work confirming to the provisions, regulations, or

bye-laws in questions, and variations so necessitated shall be dealt with under clause 13 hereof.

The contractor shall bring to the attention of the Architect all notices required by the said Acts, regulations or bye-law to be given to any authority and pay to such authority, or to any public office, all fees that may be properly chargeable in respect of the said work, and lodge the receipt with the Architect.

### **Setting out of work.**

11. The contractor shall set out the works and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, dimensions, and the alignment of all the parts thereof. If at any time any error in this respect shall appear during the progress of the work or within the period of one year from the completion of the works, the contractor shall, if required at his own expenses rectify such error to the satisfaction of the Architect / Employer.
12. All the works specified and provided for in the specifications or which may be required to be done in order to perform and complete any part thereof shall be executed in the best and most workman like manner with materials of the best and approved quality of the respective kinds in accordance with the particulars contained in and implied by the specifications and represented by the drawings or according to such other additional particulars and instructions as may from time to time be given by the Employer / Architects during the execution of the work, and to his entire satisfaction.

If required by the Employer / Architect the contractor shall have to carry out test on materials and workmanship in approved materials testing laboratories or as prescribed by the Employer/ Architects at own cost to proved the materials etc., under test confirm to the relevant I.S. Standard or as specified in the specifications. The necessary charges for preparation of mould (in case of concrete cube) transporting testing etc. shall have to borne by the contractors. No extra payment on this account should in any case be entertained.

All the materials (except where otherwise described) store and equipment required for the full performance of the work under the contract must be provided through normal channels and must include charges for import duties, sales tax, octroi and other charges and must be the best of their kind available and the contractors/must be entirely responsible for the proper and efficient carrying out the work. The work must be done in the best workman like manner. Samples of all materials to be used must be submitted to the Employer / Architect when so directed by the Engineer/Architect and written approval from Employer / Architect must be obtained prior to placement of order.

During the inclement weather the contractor shall suspend concreting and plastering for such time as the Employer / Architect may direct and shall protect from injury all work when in course of execution. Any damage (during construction) to any part of the work for reasons due to rain, storm, or neglect of contractor shall be rectified by the contractor in an approved manner at no extra cost.

Should the work be suspended by reason of rain, strike, lock-outs or any other new work and supply all temporary / doors, protection to windows, and any other requisite protection to windows, and other requisite protection for the execution of the work whether by himself or special for the execution of the work whether by himself or special tradesmen or sub-contractor at his own expenses.

### **Contractor superintend & representative on the works.**

13. The contractor shall give all the necessary personal superintendence during the execution of the works, and as long thereafter as the Employer/Architect may consider necessary until the expiration of the defects liability period stated in the Appendix hereto. The contractor shall also during the whole time the works are in progress employ a competent representative who shall be in constantly attendance at work while the men are at work. Any directions, explanations, instructions, or notices given by the Employer/Architect to such representative shall be held to be given to the contractor.

For day to day site supervision contractor has to provide 10 years experienced qualified Graduate Civil Engineer at site as representative of the contractor and shall be available through out the day during work is under progress. For non-compliance an amount of Rs.25,000/- pm shall be deducted from the contractor for the period of work carried out without the supervision of such Engineer. However, deduction of payment shall not exonerate contractor for his responsibility for executing quality work.

### **Dismissal of workmen.**

14. The contractor shall at the request of the Employer/Architect immediately dismiss from the works, any person employed thereon by him who may in the opinion of the Employer/Architect incompetent or misconduct himself and such person shall not be again Employer/Architect to such representative shall be held to be given to the contractor.

### **Access to work.**

15. The Employer, the Architect and their responsible representative shall at all reasonable times have free access to the works and/or to the workshops, factories or other places where materials are being prepared or constructed for the work and also to any place where the materials are lying from which they are being obtained the contractor shall give every facility to the Employer, the Architect and their representative necessary for inspection and examination and test of the materials and the workmanship. No. persons not authorised by the Employer or the Architect except the representatives of Public Authorities shall be allowed on the works at any time.

### **Asst. Engineer/Site/Engineer/Construction Manager**

16. The term Site Engineer/Construction Manager shall mean the person appointed and paid by the Employer and acting under the orders of the Employer / Architect to inspect the works in the absence of the Employer / Architect to inspect the works in the absence of the Architect, the contractor shall afford the Assistant Engineer/Site Engineer/Construction Manager every facility and assistance for inspecting the works and materials and checking and measuring time and materials item and materials. Neither Assistant Engineer/Site Engineer/Construction Manager nor any representatives or the Architect shall have power to set out works or to revoke, alter, enlarge or relax any requirements of the contract, or to sanction any day work, additions, alterations, deviation or omission, or any extra work whatever except in so far as such authority may be specially conferred by a written order of the Architect with the prior concurrence in writing of the Employer.

Technical staff should be specified and penalty should be imposed for non availability of technical staff.

The Assistant Engineer/Site Engineer/Construction Manager or any representative of the Architect, or the Employer shall have power to give notice to the contractor or to his representative, of non-approval of any work or materials and such work shall be suspended or the use of such materials shall be discontinued until the decision of the Architect is obtained. The work will be from time to time be examined by the Architect, the Employer's Engineer or the Architects representative, but such examination shall not in any way exonerate the contractor from the obligations to remedy any defects which may be found to exist at any stage of the works or after the same is complete. Subject to the limitations of this clause, the contractor shall take instructions only from the Architect / Employer.

17. The whole of the works include in the contract shall be executed by the contractor and the contractor shall not directly or indirectly transfer, assign, or under-let the contract or any part share there of or any interest therein without the prior written consent of the Employer and no undertaking shall relieve the contractor of the full and entire responsibility of the contract or from active superintendence of works during their progress.
18. No alterations, omissions or variations shall vitiate this contract, but in case the Architect thinks proper at any time during the progress of the works to make any alterations in, or additions to or omissions from, the work or any alteration in the kind or quality of materials to be use therein and shall give notice thereof in writing under his hand to the contractor, the contractor shall alter, add to, or omit from, as the case may be, in accordance with such notice, but the contractor shall not do any work extra to or make any alterations or additions to or omissions from the works or any deviations from any of the provisions of the contract, stipulation specifications or contract drawings without the previous consent in writing of the Architect and the values of such extras, alternations, additions or omissions shall in all cases be determine by the Architect with the prior approval in writing of the Employer in accordance with the provision of the contract and the same shall be added to, or deducted from the contract amount, as the case may be accordingly.
19. The Schedule of quantities, unless otherwise stated shall be deemed to have been prepared in accordance with the standard method of quantity measurement.

Any error in description or in quantity or in omission of items from the Schedule of quantities shall not vitiate this contract but shall rectified and the value thereof, as ascertained under clauses 17 hereof, shall be added to or deducted, from the contract amount (as the case may be), provided that no rectification of errors, if any, shall be allowed in the contractor's Schedule of rates.

20. The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of this tender for the works and the prices stated in the Schedule or quantities and or the schedule of rates and prices which rates and prices shall cover all his obligations under the contract, and all matters and things necessary for the proper completion of works.
21. The Architect may from time to time intimate to the contractor and the Employer that he requires works to be measured, and the contractor shall forth with attend or send a qualified agent to assist the Architect's or the representative or the Assistant Engineer/Site Engineer/Construction Manager in taking such measurements and calculations and to furnish all the particulars or to give all assistance required by any of them.

Should the contractor not attend or neglect or omit to send such agent then the measurement taken by the Architect or a person approved by him shall be final and binding on the contractors. Such measurements detailed in the specifications.

The contractor or his representative also supply without charge the requisite number of persons with means and materials necessary for the purpose of measurements or examinations at any time and from time to time of the work or counting weighting of the materials of the materials etc.

All authorized extra works, omissions and all variations made without the Architect's knowledge, if subsequently sanctioned by him in writing (with the prior approval in writing of the Employer) shall be included in such measurement.

Site Engineer/Construction Manager will take measurement of the work jointly with the contractor and enter the same in measurement books. Based on these measurements the contractor will raise the bill as per the prescribed format. Architect to verify the bill/measurement and issue certificate stating that the work completed is as per the specifications and the measurement claimed for the works, are actually executed at site. This certificate shall be issued within 15 days after bill submission by the Contractor. Institute/Registrar upon receipt of the bill alongwith certificate of project architect shall release 75% bill amount within 10 days and balance 25% within 30 days. Please refer Annexure – A & B.

#### **Duties of Site Engineer/ Construction Manager**

- i. To make a thorough study of contract documents, Architectural/Structural drawings and other details so as to bring out ambiguities/discrepancies between them and to obtain clarification from the Competent Authority well in time to avoid delays.
- ii. To render a certificate to the Competent Authority to the effect that he has studied the contract documents, drawings and specifications.
- iii. To approve the center-line layout of building pegged out on site by the contractor and the benches for ground floor and other levels.
- iv. To take charge of objects of value and antiquity found on site or in excavations, immediately, after their discovery, to hold them in safe custody and to hand them over to the Competent Authority of the institute for further action.
- v. To approve the foundation strata when the appropriate depth of excavation is reached in consultation with the architects.
- vi. To ensure that the quality of materials and workmanship as laid down in the contract is maintained and the accuracy of dimension shown on drawings is attained in the construction.
- vii. To watch the validity of the building permission issued by the Local Authority and to ensure that the revalidation, if necessary, is obtained well in time.
- viii. To arrange periodical reconciliation of cement and steel account and ensure that proper recoveries are effected from contractor's running account bills.
- ix. To maintain the undernoted records at the site of work, in addition to normal routine requirements of an office:
  - a. Daily Progress Record
  - b. Work Site Order Book.
  - c. Instruction by the institute authorities.
  - d. Cement Statement (Receipt/Consumption/Balance).
  - e. Steel Register/any other costly Material Register.
  - f. Contract Pour Reports including Slump Test Record including electrical items.
  - g. Concrete Cube Test Register.
  - h. Test Registers of other materials/fittings, fixtures, equipments as stipulated in the tender.
  - i. Register of Drawings and Working Details.
  - j. Log Book of Defects.
  - k. The Site Engineer/Construction Manager should maintain in a Hindrance Register giving details of commencement and removal of each hindrance.
  - l. Dismantled Materials Account Register.

- m. Supply and consumption register of scarce/costly materials like bitumen, lead, laminates, special paints etc.
- n. Record of cement used/ received: Day to day record of cement used/received shall be entered in the register) and signed by the Site Engineer/Construction Manager of the institute/Architect as well as contractors representative at site.
- o. Record of reinforcement bars received at site: Necessary entry for reinforcement bars of each category shall be made in the register for steel and signed by the Site Engineer/Construction manager of the institute/Architect and the contractor daily.
- x. To study the quality of approved coarse and fine aggregate and get the design of the concrete mix in accordance with modern practice. The Site Engineer/Construction Manager shall ensure that the mix design for RCC work shall be carried out by the Architect/Structural Consultant, if applicable.
- xi. To record measurements of completed work jointly with the Contractor and to process them in running account bills.
- xii. To receive running account bills from the contractor and to forward them after checking, to the Competent Authority with his comments and recommendations and accompanied by all supporting documents.
- xiii. To submit to the Competent Authority the Progress Report fortnightly.
- xiv. To watch that the concerned contract does not lapse for want of extension of time. Therefore, to keep it alive and in operation from point of consideration that "Time is the essence of contract".
- xv. To ensure that progress on every contract is in accordance with the appropriate stage of its Time and Progress Chart.
- xvi. To prevent contractor from proceeding with any work on which the contractor has got intentions of raising claims of extra/deviated items, until the Competent Authority approves the work to continue.
- xvii. To receive the Final Bill from the contractor, to check it, and forward it with his comments and recommendations to the Competent Authority with all the supporting documents duly attached.
- xviii. To submit the final summary of costs for the project to the Competent Authority.
- xix. To submit the Competent Authority authentic information on and the undernoted records pertaining to the completed work in order to enable the Competent Authority to finalise them in the due course:
  - a) Record i.e. as completed drawings.
  - b) Record of Standard Measurements for periodical services.
  - c) Inventory of fittings and fixtures.

To hand over to the Competent Authority a "first draft" of "A Note of Comprehensive Information to the User" containing detailed instructions on how to use and maintain the completed building to the best advantage of the institute.

### **Procedure for measurement and billing of work in progress:**

#### **1. Measurement:**

Measurements shall be recorded as per IS 1200 mode measurement and in metric system. Measurement shall be recorded in jointly in measurement sheets to be supplied by the contractor. Such measurement shall be recorded by the Engineer-in-charge or Institute authorities and not by contractor. Recorded Measurement Sheets shall be kept in the custody of the Registrar's official procedure for bill would be as under.

Site engineer/Construction Manager from the institute or appointed by the Project Architects shall act as from clients side who will record all measurement and prepare bills. After finalisation of all quantities and amount, contractors would be furnished details for preparing bills on his letter pad. Such bills along with measurement sheets in soft as well as hard copy will be submitted to Project Architects office for issuing payment certificate. This exercise has to be done at site on regular basis right from the submission of Ist R/A Bill. Based on this payment certificate Registrar will honour the bill by releasing 75% of the payment within 15 days after issuing of payment certificate by Project Architects. Balance 25% payment shall be released after thorough checking of the bills by the institute within 30 days.

The minimum value of the bill shall be Rs.50.00 lakhs (Rupees Fifty Lakhs only per month).

#### **2. Running Account Payments to be regarded as Advances:**

All running account payments shall be regarded as payments by way of part payment/running against the final payment only and not as payments for work actually done and completed and accepted and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or reerected or be considered as an admission of the due performance of the contract, or any part thereof, in this respect, or the accruing of any claim, nor shall it conclude, determine or effect in any way the powers of the owner under these conditions or any of them as to the powers of the owner under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise, or in any other way vary/affect the contract. The final bill shall be submitted by the contractor within two months of the date fixed for completion of the work, other wise the Architect/Engineer-in-charge's certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on all parties.

From each running bill 8% value of the work certified shall be as retention amount. 50% of the retention amount will be released to the contractor on issuing completion certificate and the balance 50% fourteen days after the end of defects liability period.

### **3. Completion Certificate**

#### **Application for completion certificate:**

The Architect/Engineer-In-Charge shall normally issue to the contractor the completion certificate within one month after receiving, an application thereof from the contractor and after verifying from the completion documents and satisfying himself that the work has been completed in accordance with and as set out in the construction and erection drawing and contract documents.

The contractor, after obtaining the completion certificate, is eligible to present the final bill for the work executed by him under the terms of contract.

#### **Completion Certificate**

Within one month of the completion of the work in all respects, the Contractor shall be furnished with a certificate by the Architect/Engineer-In-Charge of such completion but no certificate shall be given nor shall the work be deemed to have been completed until all scaffolding, surplus materials and rubbish is cleared of the site completely. The work will not be considered as complete and taken over by the employer, until all the temporary works, labour and staff colonies etc., constructed, are removed and the works site cleared to the satisfaction of the Architect/Engineer-In-Charge.

If the Contractor shall fail to comply with the requirements of this clause on or before the date fixed for the completion of the work, the Architect/Engineer-In-Charge may at the expenses of the contractor remove such scaffolding, surplus materials and rubbish and dispose off the same as he thinks fit and clean up the site and the contractor shall for the with pay the employer for all expenses so incurred and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except of any sum actually realized by the sale thereof.

#### **Incentives**

For an early completion of the contract before the stipulated date of completion or such later dated authorized by the owner, incentive shall be payable to the contractor @ 0.5% of the contract value per week of early completion, subject to a maximum of 05% of contract price.

**CERTIFICATE**

It is certified that various items of works claimed in the ..... RA Bill by Contractor ..... have been completed in accordance with and fully confirming to the standard and/or prescribed specifications. As net amount of Rs..... (Rupees .....) is recommended to be paid to the contractor making the total upto            date            payment            of            Rs..... (Rs. ....)

Quality and rates verified. The material supplied and work done confirm with the tender specifications.

**SITE ENGINEER**

**ON LETTER HEAD OF CONTRACTOR**

..... Running Bill No. ....		
Tender Amount		Rs. ....
Value of work done		Rs. ....
Less rebate	( - )	Rs. .... _____
Net Value of work done		Rs. ....
Extra variation items after settlement @100%		Rs. ....
Extra variation items without settlement @75%		Rs. .... _____
	Total	Rs. .... _____
Add : Cost of material on site @ 75%		Rs. .... _____
	Total payable	Rs. ....
<b><u>Deductions</u></b>		
1. Retention money	Rs. ....	
2. Recovery of advance if any	Rs. ....	
3. Income-tax	Rs. ....	
4. Total bill paid till last bill	Rs. .... _____	_____
Total deductions	Rs. ....	Rs. .... _____
	Net payable	Rs. .... _____
Amount certified for payment		Rs. ....

**Note :** This page shall be signed and stamped by the Site Engineer, Contractor and Project Architect.

**ACCOUNT OF SECURED ADVANCE IF ADMISSIBLE ON  
MATERIALS HELD AT SITE BY THE CONTRACTOR**

Sno.	Name	Quantity	Unit	Amount	Remarks
1	2	3	4	5	6
Face value of Materials at site					
Secured Advance ..... % of above value.					

Date .....

.....  
Signature of Site Engineer  
Preparing the bill.

Date .....

Signature of Owner's representative

**Date .....**

**Signature of the Contractor**

**PROFORMA OF RUNNING BILL**

I	Name of the Contractor / Agency	:						
II	Name of the Work	:						
III	Sr.No. of the Bill	:						
IV	Sr.No. of the Previous Bill	:						
V	Reference to Agreement No.	:						
VI	Date of written order to commence	:						
VII	Date of Completion as per Agreement	:						
VIII	Date of Measurements	:						
XI	Present status of work	:						
SNo	Items of Description	Unit	Rate	As per Qty.	Tender Amount Rs.	UPTO Qty.	R.A. Bills Amount Rs.	

**Note :**

1. If part rate is allowed for any item, it should be indicate with reasons for the allowing such a rate.
  2. If adhoc payment is made, it should be mentioned specially.
  3. Consumption of Cement/Steel statement material consumption statement to be submitted with each R.A. Bills.
  4. Electrical R/A Bills to be supported with a certificate from the electrical supervisor for the electrical portion of work for safety and charging of the installations.
22. The contractor may, when authorized, and shall, when directed in written by the Architects with the approval of the Employer, add to, omit from, or vary the works shown upon the drawings, or included in the schedule of quantities, but contractor shall make no addition, omission or variation without such authorisation or direction. A verbal authority or direction by the Architect shall, if confirmed by them in written within seven days, be deemed to have been given in writing.
- (a) (i) The net rates or prices in the original tender shall determine the valuations of the extra tender shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced therein.
- (ii) Rates for all items, wherever possible, should be derived out of the rates given in the priced Schedule of quantities.
- (b) The net prices of the original tender shall determine the value of the items omitted, provided if omissions vary the conditions under which only remaining items of works are carried out, the prices for the same shall be valued.
- (c) Where the extra works are not of similar character and /or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items of works are carried out or if the amount of the whole of the contract works or to any part thereof shall be such that in the opinion of the Architect the net rate or price contained in the

priced schedule of quantities or tender or for any item of the works involves loss or expense beyond that reasonably contemplated by the contractor or is by reason unreasonable or inapplicable, the Architect shall fix such other rate or price as in the circumstances he shall feel reasonable and proper, with the prior approval in writing of the employer.

(d) Where extra work cannot be properly measured or valued the contractor shall be allowed days work prices as the priced schedule of quantities or, if not so stated, then in accordance with the local day work rates and wages for the district; provided that in either case vouchers specifying the daily time (and if required by the Architect, the workman's name) and materials employed to be delivered for verification to the Architect, or his representative at to the Architect or his representative at or before the end of the week following that in which the work has been executed.

The measurement and valuation in respect of the contract shall be complete within the "period of final measurements" stated in the tender document.

**Unfixed materials when taken into account to be the property of the Employer.**

23. Where in any certificate (of which the contractor has received payment), the Architect has included the value of any unfixed materials intended for and /or placed on adjacent to the works, such materials shall become the property of the Employer and they shall not be removed except for use upon the works, without the written authority of the Architect/Employer. The contractor shall be liable for any loss of or damages to such materials.

**Removal of improper works.**

24. The Architect/Employer shall, during the progress of the works, have power to order in writing from time the removal from the work within such reasonable time or times as may be specified in order, of any materials which in the opinion of the Architect/Employer are not in accordance with the specifications or the instructions, the substitution of proper materials, the removal and proper re-execution of any work executed with materials or workmanship not in accordance with the drawings and specification instruction and the contractor shall forthwith carry out such order at his own cost. In case of default on the part of the contractor to carry such order, the Employer shall have the power to employ and pay other persons to carry out the same and all expenses consequent thereon, or incidental thereto, shall be deducted by the Employer from any money due or that may become due, to the contractor.  
No certificate, which may have been issued by the Architect, shall relieve the contractor from his liability in respect of unsound work of bad materials.

**Defects after completion.**

25. The contractor shall make good at his own cost and to the satisfactions of the employer all defects, shrinkage, settlements or other faults, which may appear within 12 months after completion of the work. In default the Employer may employ and pay other persons to amend and make good such damages, losses and expenses consequent thereon or incidental there to shall be made good and borne by the contractor and such damages, loss and expenses shall be recoverable from him by the Employer or may be deducted by the employer, in lieu of such amending and making good by the contractor, deduct from any cost of amending such work and in the event of the amount retained being insufficient, recover that from the contractor from the amount retained under General Instructions and special conditions together with any expenses the Employer may have incurred in connection therewith.

**Certificate of virtual completion & defects liability period.**

26. The work shall not be considered as completed until the architect has certified in writing that they have been virtually completed. The defects Liability Period shall commence from the date indicated in the virtual completion certificate issued by the Architect.

**Nominated Sub-Contractors**

27. All specialist, Merchants, Tradesmen and others executing any work of supplying and fixing any goods for which prime cost prices or provisional sums are included in the Schedule of Quantities and/or Specifications who may be nominated or selected by the Architect/Owner and hereby declared to be Sub-Contractors employed by the Contractors and are herein referred to as nominated Sub-Contractors.

No nominated Sub-Contractor shall be employed on or in connection with the works against whom the Contractor shall make reasonable objection or (save where the Architect and Contractor shall otherwise agree) who will not enter into a Contract providing:-

27.1 That the nominated Sub-Contractor shall indemnify the Contractor against the same obligations in respect of the Sub-Contract as the Contractor is under in respect of this contract.

27.2 That the nominated Sub-Contractor shall indemnify the Contractor against claims in respect of any negligence by the Sub-Contractor, his servants or agents or any misuse by him or them or any scaffolding or other plant, the property of the Contractor or under any workmen's Compensation Act in force.

28. The contractor is not authorized to submit or assign the job or part thereof on back to back transfer basis. In case of breach of these conditions, the Employer may serve a notice in writing on the contractor rescinding the contract whereupon the Security Deposit shall stand forfeited to the employer, without prejudice to his other remedies against the contractor. Central Govt./ State Govt. organization will not be allowed to sublet the work on back to back basis.

### **Other persons engaged by the Employer**

29. The employer reserves the right to execute any part of the work included in this contract by other agency or persons and contractor shall allow all reasonable facilities and use of his scaffolding for the execution of such work. The main contractor shall extend all co-operations in this regard.

### **Insurance in respect of damage to persons and property.**

30. The contractor shall be responsible for all injury to persons, animals or things, and for all structural and decorative damage to property which may arise from the operation or neglect of himself or of any nominated sub-contractor or any employee of either, whether such damage injury arises from carelessness, accident or any other cause whatever in any way connected in the carrying out of this contract. This clause shall be held to include inter alia, any damage to buildings, whether immediately adjacent or otherwise, and any damage to the roads, streets, foot-paths, bridge or ways as well as all damage caused to the building or ways as well as damage caused to the buildings and works indemnify the Employer and hold it harmless in respect of all and any expense arising from such injury or damage to persons or property as aforesaid and also in respect of any claim made in respect of injury and damage under any Act of any Legislature or otherwise and also in respect of any award of compensation or damage consequent upon such claims.

The contractor shall reinstate all damage of every sort mentioned in this clause, so as to deliver up the whole of the contract works complete and respect in every respect and so as to make good or otherwise satisfy all claims for damage to the property of third parties.

The contractor shall indemnify the Employer against all claims which may be made against the Employer by any member of the Public or third party in respect of any thing which may arise in respect of the works or in consequence thereof and shall at his own expense arrange to effect and maintain, until the virtual completion of the contract, with an approved office, a Policy of Insurance in the name of the Employer and the contractor against such risks and deposit such policies with the Employer from time to time during the currency of this contract. The contractor will also similarly indemnify the Employer of all claims which may be made upon the Employer whether under the workmen's composition Act or any other statute in force during the currency of this contract or at common law in respect of any employee of the contractor or any sub-contractor and shall at his own expense effect and maintain, until the virtual completion of the contract, with an approved office, a Policy of Insurance in the joint name of the Employer and the Contractor against such risks and deposit such policy or policies with the Employer from time to time during the currency of the contract.

The contractor shall be responsible for any liability which may be excluded from the Insurance Policies above referred to and also for all other damages to any person animal or property arising out of incidental or defective carry out of this contract. He shall also indemnify the Employer in respect of any cost, charges or expenses arising out of claims or proceeding and also in respect of any award of composition and damages arising therefrom.

The Employer shall be entitled to deduct the amount of any damage, compensation, cost, charges and expenses arising from or accruing from, or in respect of, any such claims or damage from any or all sums due or to become due to the contractor without prejudice to the Employer's other rights in respect thereof.

## **Fire Insurance**

**31. (a)** The Contractor shall, within fourteen days from the date of commencement of works, insure the works at his cost and keep them insured until the virtual completion if the works, against loss or damage by fire with an office to be approved by the Architect in the joint name of the Employer and the Contractor (the name of the former being placed first in the policy), for the contract amount only. The Contractor shall deposit the policy and receipts for the premises with the owner within thirty days from the commencement of the works, unless otherwise instructed by commencement of the works, unless otherwise instructed by the Architect. In default of the Contractor insuring as provided above, the Employer or the Architect on his behalf, may so insure the works and may deduct the premium paid from any money due or may become due to the Contractor without prejudice to the other rights of the Employer in respect of such default. In case it becomes necessary to suspend the works, the Contractor shall as soon as the claim under the policy is settled, or work reinstated by the Insurance office should they elect to do so, proceed with all due diligence with the completion of the works in the same manner as though the incident had not occurred and in all respects under the same conditions of the Contract. The contractor in case of rebuilding or reinstatement after fire, shall be entitled to such extension of time for completion as the Architect deemed fit.

**(b)** The amount so due as aforesaid shall be the total value of the works duly executed and of the contract and of the contract materials and goods delivered upon the site for use in works and including the date of the date not more than seven days prior to the date of the said Certificate less the amount to be retained by the Employer (as hereinafter provided) and less any installments previously paid under this clause. Provided the such Certificate shall only include the value of the materials and goods as and from time to time as they are reasonably, properly and not prematurely brought upon the site and then only if properly stored and/or protected against weather.

The Contractors will have to take out following Insurance Policies:

- 1) All Risks Insurance Policy to cover-  
Earthquake- Fire & Shock  
Landslide/Rockslide/Subsidence.  
Flood/Inundations.  
Storm/Tempest/Hurricanes/Typhoon /Cyclone Collapse.  
Theft/Burglary.  
Damage to material brought at Site and to be subsequently used in the work.
- 2) Third party Insurance Policy
  - a. For accidental loss or damage caused to the property of other persons.
  - b. For fatal or non-fatal injury to any person other than insured own employees or work men of employees of the owner of the works any other construction work thereon, or member of the Insured's family or of any of the aforesaid; directly consequent upon of solely due to the construction of any property described in the Schedule.
  - c. Limit of indemnity in respect of any one of the accidents or series of accidents arising out of one event, the amount is Rs.3,00,000.00
- 3) Workmen's Compensation Insurance.

**32.** The Contractor shall be allowed admittance to the Site on the "Date of Commencement" stated in the Appendix hereto, or such later date as may be specified by the Architect and he shall there up on and forthwith begin the works and shall regularly proceed with and complete the same (except the painting or other decorative works the Architect may desire to delay) on or before the "Date of Commencement" stated in the Appendix subject nevertheless to the provision foreextension of time hereinafter contained.

33. If the Contractor fails to complete the works by the date stated in the Appendix or within any extended time of under the clause 28 hereof and the Architect certifies in writing that in his opinion, the same ought reasonably to have been completed, the Contractor shall pay the Employer the sum named in the Appendix as "Liquidated Damages" for the period during which the said works shall so remain incomplete and the employer may deduct such damages from any moneys due to the Contractor.
34. If in the opinion of the Architect the work be delayed
- (a) by force majored or (b) by reason of any exceptionally inclement weather or (c) by reason of proceedings taken or threatened by or dispute with adjoining or neighboring owners or public authorities arising otherwise than through the Contractors own default or (d) by the works and delay or the other Contractors or tradesmen engaged or nominated by the Employer or the Architect and not referred to in the Schedule of Quantities and/or specification or (e) by reasons of the Architect's instructions (f) by reason of civil common, local combination of workmen or strike or lock-out affecting any of the building trades or (g) in consequence of the Contractor not having received in due time necessary instructions from the Architect for which he shall specifically applied in writing or (h) from other cause which the Employer may consider as beyond the control of the Contractor or (i) In the event, the value of work exceed the value of the Priced Schedule of Quantities owing to variation, the architect may with the previous approval in writing of the Employer make a fair and reasonable extension of time for the completion of the Contract works; in case of such strike or lockout, the Contractor shall as soon as may be, give written notice thereof to the Architect, but the Contractor shall nevertheless constantly use his endeavor to prevent delay and shall nevertheless constantly use his endeavor to required to the satisfaction of the Architect/Employer to proceed with the work.
35. If the Contractor after receipt of written notice from the Architects requiring compliance within ten days fails to comply with such further drawings and/or Architect's instructions, the employer may employ and pay other persons to execute any such work whatsoever it may be necessary to give effect thereto, and all costs incurred in connection therewith shall be recoverable form the Contractor by the Employer on the Certificate of the Architect as a debt or may be deducted by him from any moneys due to the Contractor.
36. If the Contractor being a individual or a Firm, commits any "act of insolvency" or shall be adjudged an Insolvent or being an Incorporate company, shall have an order for supervision of the court and the official Assignee or the Liquidator in such acts of insolvency and winding up, as the case may be, shall be unable within seven days after notice to him requiring him to do so, to show the reasonable satisfaction of the Architect that he is able to carry out and fulfill the Contract and to give security therefore, of so required by the Architect.

Or if the Contractor (whether an individual, Firm or Incorporated Company) shall suffer execution or other process of court attaching property to be issued to the Contractor.

Or shall suffer any payment under this Contract to be attached by or on behalf of any of the creditors of the Contractors.

Or shall assign or sublet this Contract without the consent in writing of the Employers first obtained.

Or shall charge or encumber this Contract or any payment due or which may become due to the Contractor hereunder.

Or if in the opinion of the Employer that the hereunder.

- a. Has abandoned the Contract, or
- b. Has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for fourteen days after receiving form the Architect notice to proceed, or
- c. Has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or
- d. Has failed to remove materials from the Site or to pull down and replace work for seven days after receiving form the architect written notice that the said materials or work were condemned and rejected by the Architect under these conditions or,
- e. Has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this Contract to be observed and performed by the contractor to observe or perform the same.

Then and in any of the said cases the Employer may, notwithstanding any previous waiver, after giving seven days notice in writing to the Contractor, determine the Contract but without thereby affecting the powers of the Architect/Employer or obligations or liabilities of the Contractor has not been so determined, and as if the work subsequently executed had been executed by or on behalf of the Contractor, And further, the Employer by his agent or servants may enter upon and take possession of the work and all plant, tools, scaffoldings, shed, machinery, steam and other power utensils and materials lying upon the premises or on the adjoining land or roads and use the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the works or by the employing any other contractor or person to completing or finishing or using the materials and plant for the work. When the work shall be completed or as soon as thereafter as convenient the Architect shall give a notice to the Contractor to remove his surplus materials and plant, and should the Contractor fail to do so within the period of fourteen days after receipt thereof by him, the Employer may sell the same by public auction, and give credit to the Contractor for the net amount realized. The Employer shall have been put to in procuring the works to be completed and the amount, if any, owing to the Contractor and the amount, which shall thereupon be paid by the employer to the Contractor or by the Contractor to the Employer.

37. The Contractor shall be paid by the Employer from time to time by installments under Interim certificates to be issued by the Architects to the Contractor on account of the works executed when in the opinion of the Architect, work for Interim Certificates (or less at the reasonable discretion of the Architect) has been executed in Accordance with this contract, subject, however, to a retention of the percentage of such value named in the appendix hereto as "retention percentage for Interim Certificate", until the total amount retained shall reach the named in the Appendix as "Total Retention Money", after which time the installments shall be up to the full value of the work subsequently so executed and fixed in the building. The Architect may in his discretion include the Interim Certificate, such amount, as he may consider proper on accounts of material delivered upon the site by the contractor for use in the works. And when the works have been virtually completed and the Architect shall have certified in writing that they have been complete, the contractor shall be paid by the Employer in accordance with the certificate to be issued by the Architect the sum of money named in the Appendix "Installment after virtual completion" being a part of the said Total Retention Money. And the contractor shall be entitled to the payment of the Final Balance in accordance with the Final Certificate to be unused in writing by the Architect at the expiration of the period referred to as "The Defects Liability Period" in the appendix hereto from the date of virtual completion, or as soon after the expiration of such period as the works shall be finally completed and all defects made good according to the true intent and all defects made good according to the true intent and meaning and hereof whichever shall last happen, provided always that the issue of the Architect of any certificate during the progress of the works or at or after the completion shall not relieve the contractor from his liability nor relieve the Contractor from his liability in case of fraud, dishonesty or fraudulent concealment relating to the works or materials or to any matter dealt with in the certificate, and in case of all the defects and insufficiencies in the works or materials which a reasonable examination would not have disclosed. No certificate of the Architect shall of itself be conclusive evidence that any works or materials to which it relates are in accordance with the contract, neither will the contractors have a claim for any amounts which the Architects might have certified in any interim bill and paid by the employer and which might subsequently be discovered as not payable and in this respect the Employers decision shall be final and binding.

The Architect shall have power to withhold any Certificate if the works or any parts thereof are not being carried out to his satisfaction.

The Architect may by any certificate make any correction in any previous certificate, which shall have been issued by him.

No certificate of payment shall be issued by architect if the contractor fails to insure the works and keep them insured till the issue of Virtual completion certificate.

All the interim payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim nor shall it conclude determine or affect in any way the power of the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract.

#### **Settlement of Disputes by Arbitration**

38. All dispute or difference of any kind whatsoever which shall at any time arise between the parties hereto touching or concerning the works or the execution or maintenance thereof of this contract or the construction, remaining operation or effect thereof of this contract or the construction, remaining operation or effect thereof or to the rights or liabilities of the parties or arising out of or in relation thereto whether during or after determination, foreclosure or breach of this contract (other than those in respect of which the decision of any person is by the contract expressed to be final and binding) shall after written notice by either party to the contract to the other of them and to the appointing authority. Hereinafter mentioned be referred for adjudication to a sole arbitrator to be appointed as hereinafter provided.

For the purpose of appointing the sole Arbitrator referred to above, the Appointing Authority will send within thirty days of receipt by him of the written notice aforesaid to the contractor, a panel of three names of persons who shall be presently unconnected with the organization for which the work is executed.

The contractor shall on receipt by him of the names as aforesaid, select any one of the persons named to be appointed as a sole Arbitrator and communicate his name to his name to the appointing authority within thirty days of receipt by of the names. The appointing authority shall thereupon without any delay appoint the said person as he sole Arbitrator, if the contractor fails to communicate such selection as provided above within the period specified, the appointing authority shall make the selection and appoint the selected person as the sole Arbitrator.

If the appointing authority fails to send the contractor the panel of three names as aforesaid within the period specified, the contractor shall send the appointing authority a panel of three names of persons who shall be unconnected with either party. The appointing authority shall on receipt by him of the names as aforesaid select any one of the persons named and appoint him as a sole Arbitrator. If the appointing authority fails to select the person and appoint him as the sole Arbitrator within 30 days or receipt by him of the panel and inform the contractor accordingly, the contractor shall be entitled to appoint one of the person from the panel as sole Arbitrator and communicate his name to the appointing authority.

If the Arbitrator so appointed is unable or unwilling to act or resign is appointing or vacate his office due to any reason whatsoever another sole Arbitrator shall be appointed as aforesaid.

The work under the contract shall, however continue during the Arbitration proceeding and no payment due or payable to the contractor shall be withheld on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing the date of the first hearing.

The Arbitrator may from time to time, with consent of the parties, enlarge the time for making and publishing the Award.

The Arbitrator shall give a separate award in respect of each dispute in accordance with the terms of the contract and give a reasoned award. The venue of arbitration in his sole discretion.

It is also a term of the contract that if contractor's do/does not make any demand for arbitration in respect of any claims/Architects that the bill after due verification is passed for payment of a lesser amount, or otherwise, the contractor's right under this agreement to refer to arbitration shall be deemed to have been forfeited and Clients/Architects shall be relieved and discharged of their liability under this agreement in respect of such claim(s). Further, it is agreed that for the purpose of this clause, such notice is deemed to have been received by the contractor(s) within 2 days of posting of the letter by Clients/Architects or when delivered by hand immediately after receipt thereof by the contractor's, whichever is earlier. Further a letter signed by the officials of Clients/Architects that the letter was so posted to the Contractor's shall be conclusive.

The Fees, if any, of the Arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The costs of the reference and of the award including the fees, if any, of the arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and may fix or settle the amount of costs to be paid.

The award of the Arbitrator shall be final and binding on both the parties.

Subject to aforesaid, the provisions of the Arbitration Act, 1940, or any statutory modification or re-enactment thereof and the rules made there under, and for the time being in force, shall apply to the arbitration proceeding under this clause.

**Right of technical scrutiny of final bill.**

39. The Employer shall have right to cause a technical examination of the works and the final bill of the works and the final bill of the contractor including all supporting vouchers, abstracts, etc., to be made at the time of payment of the final bill. If as a result of this examination or otherwise any sum is found to have been overpaid or over certified, it shall be lawful for the Employer to recover the sum.

The subject work will be scrutinised by the Chief Technical Examiner's Office, a technical wing of Central Vigilance Commission and other Vigilance and Audit Authorities of the institute. Decision of this Authority shall be binding on the contractor. Any discrepancy noted/defected shall be rectified by the contractor free of cost or appropriate amount will be recovered from the contractor's payment.

**Employer entitled to recover compensation paid to work men.**

40. If, for any reason, the Employer is obliged, by the virtue of the provisions of the workmen's compensation Act, 1923, or any statutory modification or re-enactment thereof to pay compensation to a workman employed by the contractor in execution of the works, the Employer shall be entitled to recover from the contractor the amount of compensation so paid, and without prejudice to the rights of the employer under said Act. The workman shall be at liberty to receive such amount or any part thereof by deduction of it from the security deposit or from any sum due to the contractor and upon his giving to the Employer full security to the satisfaction of the Employer for all costs for which the Employer might become liable in consequence of contesting such claim.

**Abandonment of works.**

41. If at any time after the acceptance of the Tender, the Employer shall for any reasons whatsoever not require the whole or any part of the works to be carried out, the Architect shall give notice in writing to the contractor who shall have no claim to any payment of compensation or otherwise whatsoever on account of any profit or advantage which he might have derived from the execution of the whole works.

**Return of surplus materials.**

42. Notwithstanding anything to the contrary contained in any or all the clauses of this contract, where any material for the execution of the contract is procured with the assistance of the Employer by purchase made under orders or permits or licenses issued by the Government, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose them without the prior written permission of the Employer and return it to the Employer, if required by the Employer, at the price to be determined by the Architect having due regard to the condition of the materials, the price to be determined not to exceed the purchase price thereof inclusive of Sales Tax, Octroi Duty and other such levies paid by the contractor in respect thereof. In event of the breach of the aforesaid condition, the contractor shall, in addition to being liable to action for contravention of the terms of license or permit and /or criminal breach of trust, be liable to Employer for all such moneys, advantage or profits resulting or which in the usual course would have resulted to him by reason of such breach.

**Right of Employer to terminate contract in event death of contractor if individual.**

43. Without prejudice to any of the rights or remedies under this contract, if the contractor, being an individual dies, the Employer shall have the option of terminating the contract without incurring any liability for such termination.

The acceptance of tender will rest with the Employer. The Employer, however does not bind himself to accept the lowest, and reserves to himself the authority to reject any or all the tenders received without assigning any reason whatsoever. The whole work may be split up between two or more contractors or accepted in part and not in full if considered expedient by the Employer and the tenderer will have no claim for revision of rates or other conditions if his tender is accepted in parts.

Tenders in which any of the particulars and prescribed information are missing or are incomplete in any respect and or the prescribed condition are not fulfilled are liable to be rejected.

Canvassing in connection with tendering is strictly prohibited and the tenders submitted by the Tenderers is strictly prohibited and the tenders submitted by the Tenderers who resort to canvassing will be liable to rejection.

Tenderers containing uncalled for remarks or any additional conditions are liable to be rejected.

**Marginal Notes.**

44. The marginal notes and in the catch lines hereto and in the annexes are meant only for convenience of reference and shall not in any way be taken into account in the interpretation of these presents and the annexure hereto.

**Idle Labour**

45. Whatever the reasons may be no claim for idle labour additional establishment cost of hire and labour charges of tools and plants would be entertained under any circumstances.

**Office accommodation for Site Engineer/Construction Manager**

47. The contractor shall provide, erect, and maintain at his cost a separate simple watertight office accommodation for the Site engineer/Construction Manager to facilitate day to day functioning of site supervision and construction management of the project. This accommodation shall be well lighted and ventilated and provided with windows, door with lock, also having toilet, pantry drinking water cooler etc. The site engineer's office shall be minimum of 300 Sq.Ft. and the contractor shall provide desk, chairs, drawers, for keeping drawing setup board having proper lock and a tack board for displaying drawings. In addition to above contractor shall provide a conference hall of minimum 250 sq.ft area equipped with centre table and number of required chairs to hold meetings at site. Contractor shall also install and maintain at his own expenses telephone and fax machine at the site for his own use and for the use of Architect besides providing Architect's office (for their site engineer) well equipped with a P4 onwards computer loaded with Auto Cad, MS Office, Primavera and other software's and A3 size coloured printer for efficient co-ordination at site.

**APPENDIX HEREIN BEFORE REFERRED TO**

Clause		
1	Defect Liability Period	Twelve months.
2	Period of Final Measurement	Three months.
3	Date of Commencement	14 <sup>th</sup> days from the date of issue of works order, or the date site is handed over whichever is later.
4	Completion period	24 months for the entire construction.
5	Liquidated damages	Shall be 0.5% of contract amount per week of delay subject to maximum of 5.0 % of the contract amount.
6	Incentive	Shall be 0.5% of contract amount per week of early completion subject to maximum of 5.0% of the contract amount.
7	Value of works for Interim Certificates	Rs.50,00,000.00 minimum (Rs. Fifty Lacs) excluding secured advance against materials.
8	Retention Percentage per bill	8%
9	Total retention money	10%
10	Installment after virtual completion	50% of total retention money, Earnest money, & security deposit.
11	Period for honouring certificate of payment,	Interim certificate upto 75% of amount certified by the Architect within 15 days and balance 25% amount within 30 days from the date of certificate issued by the Architect.  Final Certificate – Three months.

.....  
**Employer**

.....  
**Contractor**

## **SAFETY CODE**

### **1. Scaffolds**

Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration work which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made either of good quality wood or steel. The steps shall have a minimum width of 450 mm and a maximum rise of 300 mm. Suitable hand holds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than  $\frac{1}{4}$  to ( $\frac{1}{4}$  horizontal and 1 vertical).

Scaffolding or staging more than 4 m. above the ground floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly bolted, braced or otherwise secured, at least 1 m. above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

Working platforms, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform, gangway or stairway is more than 4 m. above ground level or floor level, they shall be closely boarded and shall have adequate width and be suitably fenced as described in (ii) above.

Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 m.

Wherever there are open excavations in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.

Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m. in length while the width between side rails in rung ladder shall in no case, be less than 290 mm. for ladder up to and including 3 m. in length. for longer ladders this width shall be increased at least 20 mm. for each additional meter of length.

A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to construction.

(A - FIRST AID BOX -First Aid Box has to be provided by the contractor at site.)

### **2. Other Safety Measure**

All personnel of the contractor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.

Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.

### **3. Excavation & Trenching**

All trenches, 1.25 m. or more in depth shall at all times be supplied with at least one ladder for each 30 m. in length or fraction thereof. The ladder shall be extended from bottoms of the trench to at least 1 m. above the surface of the ground. Sides of trenches which are 1.5 m. or more in depth shall be stepped back to give suitable slopes or securely held by timber bracing so as to avoid the danger of sides of collapsing. The excavated materials shall not be placed within 1.5 m. of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

The contractor shall take all measure on the site of the work to protect the public from accidents and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any such persons or which may with the consent of the contractor, be paid to compromise any claim by any such person.

#### 4. Demolition

Before any demolition work is commenced and also during the process of the work:

All roads and open areas adjacent to the work site shall either be closed or suitably protected.

No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electricity charged.

All practical steps shall be taken to prevent danger to persons employed from the risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

#### 5. Personal Safety Equipments

All necessary personal safety equipment as considered adequate by the Engineer should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, the contractor should take adequate steps to ensure proper use of equipment by those concerned.

Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.

Those engaged in welding works shall be provided with welder's protective eyesight lids.

Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

When workers are employed in sewers and manholes, which are in use, the contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.

The contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead or any toxic material in any form. Wherever men above the age 18 are employed on the work of such painting the following precautions should be taken:

No paint containing lead or lead products shall be used except in the form of paste or ready made paint. Paints like vinyl and epoxies having toxic fumes should be applied after following all precautions laid down by manufactures.

Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.

Overalls shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.

When the work done near any public place where there is risk of drawings all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

**Electrical Safety :**

All switches/equipments to be properly connected & earthed and to be checked by electrical supervisor and certified for safe use. A record to be kept all such equipments to be use e.g. welding machine, hoist etc.

**6. Hoisting Machines**

Use of hoisting machines and tackle including their attachments anchorage and supports shall confirm to the following standards or conditions:

These shall be of good mechanical constructions sound material and adequate strength and free from patent defect and shall be kept in good repair and in good working order.

Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.

Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be incharge of any hoisting including any scaffolding winch or give signals to operator.

In case of every hoisting machine and of every chain ring hook, shackle shovel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

In case of departmental machines, the safe working load shall be notified by the Engineer. As regards contractor's machines, the contractor shall notify the safe working load of the machine to the Engineer Whenever he brings any machinery to site of work and get verified by the Engineer concerned.

Motors, gearing, transmission, electrical wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum of the risk of any part of a suspended load becoming accidentally displace. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary, should be provided. The workers should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use.

Adequate washing facilities should be provided at or near places of work.

These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer, Engineer of the institute or their representatives.

Display of danger board sign near switch is to be ensured by the contractor.

The contractor shall be responsible for all damages, losses etc due to fire or otherwise if i.e. is due to his negligence on proper operation and maintenance of his part of installations.



# **TECHNICAL SPECIFICATION FOR 33KV OH LINE AT** **NIT,ROURKELA**

The installations shall generally be carried out in conformity with the requirements of Indian Electricity Act, 1910 as amended up to date and Indian Electricity Rules, 1956 framed there under, the relevant regulations of the Electric Supply Authority concerned. The work shall be executed as per National Electrical Code/REC norms and if any item is not covered there under or there is any doubt, the specification approved by the Engineer-in-charge will be final and binding.

## **Ambient Conditions:**

All Electrical installations and equipments shall be suitable to work in following ambient conditions.

Maximum Temperature : 50-Degree Celsius

Relative Humidity : 100%

In the vicinity : Rourkela.

## **System Conditions:**

The Electrical installations and equipments shall be suitable for operation in following system conditions.

Supply voltage : 33000 Volts, +/-10%

Supply frequency : 50 Hz, +/-5%

Number of Phases : Three

## **Scope of Work:**

The scope of this work covers supply of all materials and labour required for the construction of 33 KV overhead lines in the exact location as specified in the bill of quantities complete including statutory Electrical inspection etc., as required. The fees deposited in Govt. treasury shall be borne by the Corporation. Any item that has not been specifically mentioned in the tender schedule but required for satisfactory commissioning shall be borne by the contractor. No extra payment is to be made on this account.

## **Salient features:-**

- |                           |  |
|---------------------------|--|
| 1. Type of 33 KV line     | Three phase Three wire 33 KV over head line in vertically configuration. |
| 2. Support for 33 KV Line | 11 mtr. Long 150 x 150 mm R.S. Joist confirming to IS.                   |
| 3. Span length            | As specified in The Drawing  |
| 4. Conductor              | 232-sqmm AAA conductor   |

All materials, fittings, appliances used in electrical installations shall conform to Indian Standard Specifications wherever these exist. All required materials covered under this specification shall be supplied and installed by the contractor complete in all respect. The materials and accessories those are required for completing the work would form part of the work although they have not been specified separately.

Selection of materials and installation work shall be such as to simplify operation, inspection, maintenance and testing. The work shall include all reasonable precautions and provisions for safety of operation and maintenance personnel.

**Standard:-**

- (a) Unless otherwise specified, all materials covered under this specification shall be designed, manufactured, tested and installed in conformity with the latest Indian Standard Specifications. In case such Indian Standard Specifications are not published equivalent British Standard Specifications shall be followed. All equipments and installations shall confirm to latest Indian Electricity Rules, REC standard, WESCO norms, PWD and Local / State laws or byelaws as regards to safety, earthing and other essential provisions specified therein. Lines and sub-stations must be constructed as per latest Indian Electricity Rules, REC standard, WESCO norms, which are subject to inspection by WESCO Authorities and Electrical Inspector of the State Government.
- (b) All equipments and materials selected shall also be supplied and installed taking into consideration the Factories Act, Fire Regulations and Local laws or bylaws.
- (c) All the materials supplied by the contractor according to the contract conditions will be subject to inspection, approval and acceptance by the Engineer-in-charge/WESCO or their authorised representative from time to time. The contractor shall extend all required facilities for such inspection free of cost. At the time of inspection, the inspecting officer shall have full liberty to reject any such material, which does not confirm to specifications or the requirements. The owner shall not entertain any claim for any rejected materials. The contractor shall remove all rejected materials from the site at his own cost.
- (d) The owner shall not accept any surplus material procured by the contractor.
- (e) The contractor will be responsible to get electrical installations inspected by the Electrical Inspector of the State Government/ Central Government and to obtain the statutory clearance for energisation. Only the statutory fees deposited by the Contractor in the Govt. treasury shall be reimbursed on production of documentary evidence.

- (f) The contractor will be responsible for handing over of the installations to NITR/WESCO authorities . The cost of watch and ward of the installations till final handing over to NITR/WESCO shall be borne by the contractor.
- (g) The contractor should possess valid electrical contract license, RPF registration and labour license issued by the appropriate statutory authority of the State/ Central Government during the execution of the contract.

**Inspection and Approval of materials .**

The pre-delivery factory inspection (PDI) shall be conducted for major materials such as poles, Conductor, ABS/HGF, Panel Boards etc., as mentioned in respective technical specification. The PDI shall be witnessed by the authorised engineer of NIT/WESCO. Minimum 7 days clear notice in advance shall be given to depute the inspecting officer. The materials shall be despatched to the site after issue of despatch clearance by Engineer-in-Charge / PIC(Elec Construction).

The contractor shall put up samples of other items for approval by the Engineer-in-charge. The contractor shall furnish the original bills of the procured materials to the PIC(Elec constn) NIT/WESCO for verification, if required.

**STANDARDS & SPECIFICATION**

The equipment, materials and service covered by this specification shall conform to the latest applicable provision of the following standards.

IS : 5	:	Colour for ready mixed paints.
IS : 325	:	Three Phase Induction Motors.
IS : 335	:	New insulating oil for transformers, Switchgears.
IS : 1271	:	Classification of insulating materials for electrical machinery and apparatus relation to their stability in services.
IS : 2026 (Part I to IV)	:	Power Transformer.
IS : 2071	:	Method of high voltage testing.
IS : 2099	:	High voltage porcelain bushings.
IS : 2705	:	Current Transformers.
IS : 3202	:	Code of practice for climate proofing of electrical equipments.
IS : 3347	:	Dimensions for porcelain Transformer Bushings.
IS : 3637	:	Gas operated relays.
IS : 3639	:	Fittings and accessories for power Transformers.
IS : 556	:	Electric Power Connectors.
IS : 6600/BS:CP” 1010	:	Guide for loading of oil immersed Transformers.
IS : 10028	:	Code of practice for selection, installation and Maintenance of Transformers P-1, II & III.

If the standard is not quoted for any item, it shall be presumed that the latest version of Indian Standard shall be applicable to that item. The equipment complying other internationally accepted standards, may also be considered if they ensure performance superior to the Indian Standards.

### **33KV OH line routing**

The route of the overhead lines, as far as possible, has been decided taking into consideration the present and future requirements and utility services affected by it. The route of the overhead line shall generally follow the route of roads and the poles located along the side of the road on the road borm adjacent to the individual plot boundary or surface water drains. The route shall be so chosen that the poles within two cut-points shall remain straight as far as possible. The position of poles may be adjusted accordingly to avoid the blockage of the entrance to a building.

#### **Clearance**

The spacing between two 33KV current carrying bare conductors shall be maintained: 1525mm

Clearance of the lowest conductor above ground, clearance between conductors & trolley wires, clearance from buildings & structures shall be maintained as per rules 77, 78, 79 and 80 of Indian Electricity Rules, 1956. The support heights have been designed to provide these clearances. However if at any point, the height of the support become insufficient, arrangements shall be made by the contractor to raise the height of the support by external means as approved by the Engineer-in-charge without claiming for any extra cost.

### **specification of 3-phase 3 Wire 33KV OH line**

**Supply:** 11 mtr long 150 x 150mm R.S. Joist pole confirming to IS shall be supplied by contractor. The pole should be of approved make and shall be dispatched after conducting pre delivery factory inspection and issue of dispatch clearance by this office.

#### **Pole erection:-**

The exact location of pole supports shall be finalised as per the drawing in consultation with the Engineer-in-charge. Pole pits of depth 1/6th of the pole height shall be excavated in all kinds of soil and rock. 1:3:6 PCC base padding of thickness 150-mm shall be provided at the bottom of the pole pit using 40-mm HG metal. After erection of pole, the pit shall be backfilled with a 1:2:4 concrete mass with proper compaction as per guidelines of E.I.C. Electricity, Orissa vide their letter number 2791 (WE) dated 21st November 2002. Anti-climbing device and Danger notice boards shall be fixed on the poles as per I.E. Rules / REC Specification. Nomenclature of the poles shall be made with enamel paint.

A pole shall be erected as a strut when support to the pole by a stay is not possible .The strut pole shall be of the same specification as the normal poles. The strut poles shall be erected at an angle of 45 deg. approximately with the horizontal. All other erection procedures shall be same as stated above for pole erection.

**Stay Set:**

HT stay sets shall be installed at all end points, tapping points, DP structure and cut points of the overhead line as far as possible as per direction of E-I-C.

**Supply:**

The HT stay set comprising of stay rod, turn buckle, thimble, anchor plate , HT guy insulator and stay wire (7/8) shall be supplied by the contractor. All the metal parts shall be hot dip galvanised.

**Stay installation:-**

Stay pit of size (0.9-m x 0.6-m x 1.4-m depth) shall be excavated in all kinds of soil and rock. The stay rod with anchor plate shall be installed therein and the pit shall be filled in with 1:3:6 PCC using 40-mm HG metal. Proper curing of PCC shall be done to enable the concrete to acquire strength. The binding of stay shall be done before the stringing of conductors neatly by twisting each and every stand of stay wire. The stay insulator shall be provided at least at a height of 3.0-metre from the ground level and fixed in such a fashion that the wires would not fall on ground in case of the failure of the insulator.

**Cross arms: -****Supply: -**

The cross arms required for the work shall be supplied by the Contractor at his cost. The following types of cross arms shall normally be used in the construction of 33 KV overhead line.

- Straight cross arm
- V cross arm
- Pole top channel

The Straight cross arms shall be used in pairs and fabricated out of 1500-mm long ISMC-100 (100 x 50 x 6-mm mild steel channels). The V cross arms shall be fabricated from ISMC-100 (100 x 50 x 6-mm ISMC) as per REC specifications, WESCO norms and I.E. Rules. The pole top channel shall be fabricated from ISMC-100 of required length

**Cross arm installation:-**

The straight cross arms shall be used in pairs. Two numbers pressure bolts shall be provided for maintaining the uniform gap between the cross arms. The V cross arms shall be fixed using suitable clamps. The pole top clamps shall be either directly bolted in the nuts provided in the pole or fixed using suitable clamps. The cross arms shall be properly fixed on the pole with nut and bolt after de-rusting. These shall be painted with two coats of red oxide primer and finished with two coats aluminium painting. Earthing lead connection shall be made to the cross arms by 6 swg GI wire

from pole top earthing point.

**Insulators: Supply: -**

The 33 KV/11 KV insulators and associates hardware shall include the following

- 33 KV/11 KV pin insulator with GI pin
- 33 KV string insulator with hardware fitting (B&S and T&C type)
- All other materials required for installation of insulators such as nut bolts etc shall be provided by the contractor.

**(a) Disc Insulator**

Disc insulators made of glazed porcelain shall be used as insulators on dead ends or on suspension type lines of 11 KV and above. Ball & Socket type (B&S) disc insulators of mechanical strength not less than 70KN shall be used confirming to IS: 3188/1965 and IS: 731/1971. These shall be mounted on metallic cross-arms with the help of suitable non-magnetic galvanised iron hardware fittings.

**(b) Pin Insulators**

33KV pin insulators shall conform to IS:2486(Part=II) & shall have stalk length of 300mm and shank length of 150mm with minimum failing load of 10KN. These shall be mounted on metallic cross-arms with the help of non-magnetic threaded galvanised iron pins conforming to IS:2486(Part-I).

**(c) Stay Insulator**

The HT stay insulators used for stay installation and guy wires shall confirm to IS: 5300/1969.

**(d) Lightning Arrestor**

Non-linear resistor type station class lightning arrestors for use in effectively earthed system with a nominal voltage of 33KV and 10KA standard discharge current shall be used. The lightning arrestor shall confirm to IS: 3070(Part-I)/1985.

**Installation of Insulators:-**

The 33KV insulators shall be fixed to the cross arms using suitable hardware only as per REC specification, WESCO norms and I.E. Rules complete as per direction of Engineer-in-charge.

**Conductor- Supply: -**

232-sqmm AAA conductor shall be supplied by the contractor confirming to the following technical specification. The conductors shall be despatched to work site after conducting the pre-delivery factory inspection and issue of despatch clearance by this office.

**TECHNICAL DETAILS OF 100-sqmm AAAC AS PER IS: 398 (Part-IV)**

<b>Sl No</b>	<b>Description</b>	<b>Acceptance Criteria</b>
	Indian Standard No	IS-398 (Pt4) 1979-94

<b>Sl No</b>	<b>Description</b>	<b>Acceptance Criteria</b>
	Number and diameter of wires	19/3.94 No/mm
	Total nominal Al. area of conductor	232-sqmm
	Overall diameter of stranded conductor	19.7 mm
	Mass of Conductor per Kilo-meter	636.67 Kg.
	Breaking load	68.05 KN
	Max. Length of conductor supplied on one drum	5 Km
	Calculated maximum resistance at 20 deg. C.	0.1471 Ohm/Km

### **Installation of Conductor (Stringing):**

The conductor stringing shall be carried out as per standard practice of WESCO maintaining proper sag and tension. Paving of 232-sqmm AAA conductors shall be done carefully such that no sharp twist and no scratch should be developed in the conductor. All required bindings and jumpering shall be done using Aluminium binding wire and PG clamps only. Proper clearances as specified in IE Rules shall be maintained.

### **33 KV Structure:**

11 mtr long 150 x 150 mm R.S. Joist pole shall be used as support for 33 KV structure. The spacing between these poles shall be maintained as per drawing/REC standard, WESCO norms and satisfying the I.E. Rules for 3 phase 33 KV overhead line. It shall be provided with 2 Nos. top channels made of 100 x 50 x 6mm mild steel channel. The 33 KV line shall be terminated to the structure on these channels by means of 33 KV string insulators with B&S type hardware fitting. Holes, pressure bolts and GI nut-bolts of suitable size and numbers shall be provided on top channels for the same. 75 x 40 x 6 mm ISMC bracing channels and 65 x65 x 6 mm MS angle cross bracings shall be provided. These structural materials shall be fastened with clamps or other structure materials by means of 5/8" diameter G.I. bolts of appropriate length only. After fabrication the structure materials shall be painted with two coats each of red oxide primer and aluminum paint after proper derusting. Coil earthing shall be done in each pole. Anti-climbing device and Danger notice boards shall be fixed on the poles as per I.E. Rules / REC Specification wherever necessary. Nomenclature of the poles shall be made with enamel paint.

### **Danger Notice Board:**

All the overhead line supports and distribution equipments shall be fitted with danger notice boards mentioning the system voltage confirming to IS: 2551/1963. The danger notice boards shall be fitted at a height of 3000mm above the ground level in case of overhead line supports. It shall be made of a 1.6mm thick mild steel sheet duly

derusted, primered, vitreous enamelled with white letters and marked with conventional skull and bone signal in red colour. The "Danger" & its appropriate translated word along with the system voltage shall be written in Odiya, English and Hindi languages. The sizes recommended are as follows

For low & medium voltages up to 650 Volts	: 200mm x 150mm
For high voltages above 650 Volts	: 250mm x 200mm

### Installation of Earthing

The earthing installations shall generally conform to IS: 3043/1966 and requirements of Indian Electricity Rules, 1956.

All three-phase medium voltage equipments shall be earthed by two separate and distinct connections with earth through earth electrodes. Single-phase equipments shall be earthed at least at one point. In case of high & extra high voltages, the neutral point shall be earthed by not less than two separate and distinct connections with earth each having its own electrode.

An earthing electrode shall not be situated within a distance of 1.5-metres from the building whose installation system is being earthed. The cross sectional area of earth continuity conductor in electrical installation shall not be less than 16swg copper or 14swg GI wire. The earth resistance for various installations shall be restricted within the following maximum permissible limits.

Distribution Substations	: 2 ohms
Industrial Buildings	: 4 ohms
Non industrial Buildings	: 5 ohms
Earth continuity inside an installation	: 1 ohm (From electrode to any point in installation)

The following types of earthing installations shall in general be provided.

- (a) Pipe earthing
- (b) Plate earthing

#### (a) Pipe Earthing

Pipe earth electrodes shall be of perforated class B G.I. pipe of specified length and diameter. Galvanising of pipes shall conform to relevant ISS. The G.I. pipe electrode shall be cut tapered at the bottom and provided with holes of 12-mm diameter drilled not less than 75mm from each other in zigzag manner up to 500-mm from the top of the electrode. A pair of 50mm x 5mm G.I. flat clamp with 2 nos. 18mm diameter drilled holes on either side shall be welded to the electrode at about 150mm below the top of the pipe.

The electrode shall be buried in the ground vertically with its top not less than 200-mm below the ground level. The pipe earth electrode shall be surrounded by,

either salt & charcoal in alternate layers or a homogeneous mixture of the both, for a radius of about 150-mm and up to a height of about 250-mm below the top of the electrode. The balance portion of the excavated pit shall be filled with good quality soil and properly compacted.

A brick masonry chamber with hinged cast iron/ removable RCC inspection cover of size 300mm x 300mm shall be constructed within the tendered rate. Watering arrangement shall be made with funnel and wire mesh fixed by means of a reducer socket on the top of the electrode.

**(b) Plate Earthing**

Plate earthing shall be installed with either tinned copper or GI plates of specified size. A 1.5-metres long 40-mm x 5-mm strip of same material shall be brazed or welded to the plate with 2 nos. 18-mm diameter drilled hole on its top.

The electrode shall be buried in the ground with its face vertical and top of the plate not less than 1.5-metres below ground level. The earth plate shall be embedded with, either alternate layers of 150-mm thick containing salt & charcoal or a homogeneous mixture of the both, up to 150-mm above the top of the plate. A 20-mm diameter class B GI pipe shall be attached to the electrode for watering arrangement. The balance portion of the excavated pit shall be filled with good quality soil and properly compacted. A funnel with wire mesh shall also be attached on the top of the pipe.

A brick masonry chamber with hinged cast iron/ removable RCC inspection cover of size 300mm x 300mm shall be constructed within the tendered rate.

**Installation of Earthing Leads**

The earthing lead connecting the earth electrode to the apparatus or installation directly shall be of the same material as earth electrode. The earthing leads shall be either wires or strips of adequate size as specified and of either GI or tinned copper. The GI leads shall be connected to the electrode by means of 16mm diameter GI nut bolts with flat & spring washer and the tinned copper leads shall be connected to the electrode by means of 16-mm diameter brass nut bolts with flat & spring washer.

All earth connections shall be visible for inspection. The earthing lead from electrode onwards shall be suitably protected from mechanical injury by means of 20-mm diameter GI pipe for GI wires. The portion of this protection pipe within ground shall be buried at least 300 mm deep from ground level. (Subject to increase up to a depth of 600-mm in road crossings and pavements.) The portion within the building shall be recessed or clamped at not more than 500-mm interval in the walls/ columns/ beams etc and recessed in the floors. Joints in the earthing lead from earth

electrode to apparatus shall be avoided as far as practicable. However if joints are inevitable, same shall be done by welding or proper bolting in case of GI strips and brazing or proper bolting in case of tinned copper strips. The welded joints in GI strips shall be applied with bituminous paint and wrapped with bituminous tape.

## **SPECIAL CONDITIONS OF CONTRACT**

### **Authorities**

The contractor while executing the work shall obey to the provisions of the Government Acts relating to the work and the regulations and byelaws of statutory bodies or local authorities and supply authorities. The contractor shall undertake to provide all test certificates and make necessary arrangements to obtain electric supply.

### **Drawings**

The installations work shall be carried out as per the approved execution drawings. Prior to laying of conduits or cables, the contractor shall submit drawings for same indicating the route, conduit size and numbers, location of inspection boxes etc. for approval.

The contractor on completion of the installation shall submit the following drawings in tracing paper.

As built electrical layout drawings of each floor showing the position of points & outlets, type of fittings & fixtures, location of switch boards & distribution boards, circuit & phase indication, position of earth electrodes, cable & conduit routes, position of lightning terminals & conductors etc neatly drawn.

As built schematic single line diagram of the entire installation showing

- (i) All distribution boards having description of capacity, system & source of supply, type & their numbers;
- (ii) Location, size, type, length of main and sub-main cables/ wires;
- (iii) Load details of each circuit or ways of distribution board or switchgear.

The drawings shall furnish the identification details such as name of work, job no., accepted tender no., date of completion, site location, name & address of owner, name & address of consultant, signature & name of contractor, his address, scale of drawing.

### **Commercial**

All types of labourers referred in the schedule such as masons, electricians, wiremen, cable jointers, helpers, labourers etc are required to carry out electrical installation work to a building with all necessary tools and plants with them.

After completion of the installation, the contractor shall test the same in the presence of Engineer-in-charge for safety and durability as per IS specification and I.E. Rules. He shall get the electrical installation inspected by the Electrical Inspecting Authority and obtain necessary inspection report and statutory clearance to energise the installation at his own cost. However the owner shall reimburse all fees for inspection prescribed by the statutory authority and paid by the contractor on production of documentary evidence. The contractor shall submit necessary test certificates as and when required.

After completion of testing, necessary statutory inspection by competent authority and contract/ agreement with local supply authority, the contractor at his own cost shall arrange for final commissioning and energisation of installations before final handing over to the owner.

Rate quoted shall include all cost of labours with tools and plants, sundries and accessories, transportation of materials from local store, insurance, storage and handling, providing watch and ward to the installation carried out by him and materials in his custody, and expenses for maintaining the installation in proper order till final taking over. The contractor shall make good the damages caused during the course of work at his own cost.

Only materials of approved make shall be used. All other materials not included in the list of approved materials shall be got approved from Engineer-in-charge. If required, the materials may be sent for testing to any standard testing laboratory for conforming the quality and specification as per ISS. The cost towards testing shall be borne by the contractor. The owner shall not accept any surplus material procured by the contractor.

The work shall be carried out in accordance with the specification of the schedule complete with cost of all materials (except otherwise mentioned), all types of labour involved, all types of tools & plants required, sundries and accessories and as per the drawing, design and direction of Engineer-in-charge.

The electrical installation work shall be carried out by a registered and licensed electrical contractor duly authorised by the local Electrical Licensing Authority. The Contractor shall engage a Licensed Electrical Supervisor to supervise the work directly. Copy of valid license and details of previously executed works of the contractor and his supervisor shall be furnished along with the tender.

#### Terms of Payment

Payment, up to maximum 80% of the quoted rate on each item completed but awaiting testing and commissioning, shall be made. Another 10% payment shall be made after successful testing in presence of Engineer-in-charge & inspection by statutory authority. The balance 10% payment shall be made after completion of work

with final commissioning, energisation, handing over to owner & submission of performance bank guarantee.

#### Performance Guarantee

The entire electrical installations carried out by the contractor shall be guaranteed for a trouble free operation against any bad workmanship, bad quality of material used for a minimum period of 12 months from the date of taking over by the owner or 18 months from the date of commissioning, whichever is earlier. The Contractor shall rectify the defects, if any, found during this period and replace all faulty materials free of cost.

The performance guarantee shall be executed in shape of a bank guarantee, in the prescribed format of the owner, amounting to 5% of the total value of electrical works executed, through any Nationalised Bank valid till completion of the guarantee period.

**Approved Make of Materials**

<b>Sl. No</b>	<b>Description</b>	<b>Approved Makes</b>	<b>Offered Make (Specify)</b>
1	R.S. Joist.	SAIL /JINDAL/ TATA	
2	AAA Conductor	CARBON/LUMINO/Any SSI unit of Orissa having past experience in similar type of conductor manufacturing with approval of Engineer in Charge	
3	Porcelain Insulators	BHEL/ Jayshree / WS/ MODERN/OBLUM	
4	33 KV Out door VCB	ABB/AREVA/SIEMENS	
5	33 KV CT	LAXMI/CGL/PRAGATI/MEHERU/TELK	
6	33 KV ISOLATOR	G.NANDY/ABB/S&S/ Siemens/HIVELM	
7	33 KV LA	OBLUM/BHEL/CGL/ABB/ALSTOM	
8	CEMENT	OCL(KONARK)	
9	All OTHER ITEMS	AS approved by Engineer In Charge	