

**BHARAT SANCHAR NIGAM LIMITED**  
(A Govt. of India Enterprises)  
**O/O THE TELECOM DISTRICT MANAGER, RAIGARH**

---



**BID DOCUMENT**  
**E-TENDER FOR OPTICAL FIBRE CABLE LAYING &**  
**ASSOCIATED WORKS (EB/FTTH & Other Works)**  
**IN**  
**RAIGARH SSA**

**TENDER NO. : TDM/RIH/W-20-721/OFC LAYING (FTTH/E.B. & OTHER)/18-19/13 , DATED 05.12.2018**

Date & Time of Submission of Bid - up to 11.30 hrs of 03.01.2019

Date & Time of Opening of Bid --- up to 12.30 hrs of 03.01.2019.

Validity of the Bid: --- 240 Days

Cost of tender document -----Rs. 1140.00

**COVER PAGE**

**TABLE OF CONTENTS**

| <b><u>SECTION</u></b> | <b><u>CONTENT</u></b>  | <b><u>PAGES NO.</u></b> |
|-----------------------|--|-------------------------|
|                       | <b><u>QUALIFYING BID DOCUMENT</u></b>                            |                         |
| I                     | Notice Inviting Tender   | 3-6                     |
| II                    | Bid Form   | 7                       |
| III                   | Bidders Profile  | 8-9                     |
| IV-A                  | Instructions to Bidders  | 10-17                   |
| IV-B                  | E-tendering Instructions to Bidders                              | 18-20                   |
| V                     | General (Commercial) Conditions of the Contract                  | 21-32                   |
| VI                    | Special Conditions of the Contract                               | 33-38                   |
| VII                   | Optical Fiber Cable Construction Specification                   | 39-53                   |
| VIII                  | Safety Precautions   | 54-58                   |
| IX                    | Format of Agreement  | 59                      |
| X                     | Letter of Authorization for Attending Bid Opening                | 60                      |
| XI (A)                | Material Security Bond Form                                      | 61                      |
| XI (B)                | Declaration  | 62-64                   |
| XI (C)                | Work Order   | 65                      |
| XI (D)                | Application for Grant of License                                 | 66                      |
| XI (E)                | List of the Documents to Be Submitted Along With Qualifying Bid  | 67                      |
| XI (F)                | Bid Security Form  | 68                      |
| XI (G)                | Performance Security Guarantee                                   | 69-70                   |
|                       | <b>FINANCIAL BID DOCUMENT(cover page)</b>                        | 71                      |
| XII                   | Rates for different allied works to be carried out by contractor | 72-74                   |
| XIII                  | FINANCIAL BID FOR OFC LAYING WORKS                               | 75                      |
| XIV                   | Scope of work (addedanum-1 )                                     | 76                      |



भारत संचार निगम लिमिटेड  
(भारत सरकार का एक उपक्रम)  
कार्यालय दूरसंचार जिला प्रबंधक – रायगढ़

**निविदा आमंत्रण सूचना**

क्रमांक : दूजिप्र/रायगढ़/डब्ल्यू-20-7216/ओ.एफ.सी.लेडिंग/एफ.टी.टी.एच.-ई.बी./18.19/13. दिनांक : 05.12.18

बी.एस.एन.एल. की ओर से दूरसंचार जिला प्रबंधक रायगढ़ द्वारा सक्षम ठेकेदारों से "रायगढ़ एस एस ए के अंतर्गत ओ.एफ.सी. बिछाने एवं संबंधित कार्य हेतु ई.बी. एवं एफ.टी.टी.एच. कार्य के लिए " इलेक्ट्रॉनिक-निविदाएं आमंत्रित की जाती है। निविदा खोलने की तिथि 03.01.2019 12.30 बजे है।

विस्तृत जानकारी के लिए कृपया वेबसाइट – [www.chhattisgarh.bsnl.co.in](http://www.chhattisgarh.bsnl.co.in) या [www.tcil-india-electronictender.com](http://www.tcil-india-electronictender.com) पर लॉग ऑन करें।

सहायक महाप्रबंधक (यो. एवं प्र)  
कार्यालय दूरसंचार, जिला प्रबंधक रायगढ़

नये कनेक्शन या ब्राडबैंड के लिए **SMS** करें **LL** या **BB** लिखकर **BSNL** उपभोक्ता 54141 पर एवं अन्य 9400054141 पर।

**Section - I**  
**BHARAT SANCHAR NIGAM LIMITED**  
**(A Government of India Enterprise)**  
**Office of the TDM RAIGARH- (C.G.)**  
**NOTICE INVITING TENDER**

|    |  |   |
|----|--|---|
| 1  | Name & Description of the Work   | TENDER FOR OPTICAL FIBRE CABLE LAYING(24/48/96F) AND ASSOCIATED WORK (E.B./FTTH & OTHER WORK) IN RAIGARH SSA  |
| 2  | Tender No  | No. TDM/RIH/W-20-721/ OFC Laying(FTTH/E.B.& Other) /18-19/13 Dated-05.12.18   |
| 3  | Validity of tender offer   | 240 days from opening date.   |
| 4  | Name of OFC Route  | Spur routes/ New Routes under EB projects, for FTTH connection & other works as and when required in RAIGARH SSA.   |
| 5  | Length of Section  | Total Length = 30 Km (Approx.)  |
| 6  | Estimates Cost(Rs in lakhs) (Apprx).   | 46.63   |
| 7  | EMD ( Rs)  | 1,16,575.00   |
| 8  | Cost of Tender Document (Rs)   | 1,140.00  |
| 9  | Tender document can be obtained by downloading it from the website <a href="http://www.chhattisgarh.bsnl.co.in">www.chhattisgarh.bsnl.co.in</a> Tender link for study and record. The official copy of tender document for participating in E-tender shall be available for downloading from <a href="https://www.tcil-india-electronictender.com">https://www.tcil-india-electronictender.com</a> from 05.12.18 16:00 Hrs onwards up to 11.00 Hrs of 03.01.19 |   |
| 10 | Availability of online tender document   | The tender document shall be available for downloading from 16:00 Hrs of 05.12.18 onwards up to 11.00 Hrs of 03.01.19. Tender documents shall be available on portal mentioned in DNIT only and to be submitted online. Physical copy will not be available for sale and will not be accepted.  |
| 11 | Time and last Date of online submission of tender  | Duly filled Tender document along with all documents should be submitted on line on portal <a href="https://www.tcil-india-electronictender.com">https://www.tcil-india-electronictender.com</a> on or before 11.30 Hrs of 03.01.19   |
| 12 | Time and Date of online opening of tender  | 12.30 Hrs 03.01.2019  |
| 13 | Venue of tender submission and opening   | AGM (P) O/o TELECOM DISTRICT MANAGER RAIGARH-496001   |
| 14 | Amendments/Corrigendum of bid  | Up to 1700 Hrs of 15.12.18  |
| 15 | EMD and cost of tender   | EMD is to be paid in the form of DD / Bankers cheque payable at RAIGARH, valid for 18 months from tender opening date. It can also be paid in FDR/BG valid for 18 months from bid opening date .EMD should be in favor of AO(Cash) ) O/o TELECOM DISTRICT MANAGER RAIGARH-496001. Cost of bid can be in the form of DD/Cash /Bankers Cheque in favor of AO(Cash) ) O/o MANAGER TELECOM DISTRICT MANAGER RAIGARH-496001 payable at RAIGARH. Cash receipt must be submitted with tender as per tender submission procedure. MSE bidders are exempted from payment of EMD/cost of bid as per valid certification on date of bid opening. |

**TERMS AND CONDITIONS OF THE TENDER:**

- 1. Purchase of Tender Document: As per S. No. 8 of DNIT.**

- 1.1 The bidders downloading the tender document are required to submit the tender fee amount through DD/ Banker's cheque/Cash along with their tender bid as per bid submission procedure, failing which the tender bid shall be left archived unopened/ rejected. The DD/ banker's cheque shall be drawn from any Nationalized/ Scheduled Bank in favour of A.O.(Cash) O/o TDM BSNL RAIGARH and payable at RAIGARH.
- 1.2 The tender documents shall be issued **free of cost to MSE bidders** on production of requisite proof in respect of valid certification from MSME for the tendered item.
- 1.3 Contract period is for one year with provision of extension for further one year or part thereof on same terms and conditions.

## **2. Bid Security/EMD:**

- 2.1 The bidder shall furnish the bid EMD by Demand Draft/ Banker's cheque drawn in favour of A.O. (Cash), BSNL, O/o TDM RAIGARH and payable at RAIGARH .It can also be deposited by means of FDR/Bank Guarantee from a Nationalized /scheduled bank drawn in favour of A.O. (Cash), BSNL, O/o TDM RAIGARH which should be **valid for 18 months** from the tender opening date.
- 2.2 The MSE units shall be exempted from submission of Bid Security deposit on production of requisite proof in respect of valid certification from MSME for the tendered item.
3. The tender document & all other documents establishing bidder's eligibility & qualifications are to be submitted as per online submission details given in tender document.
4. Rates to be quoted by the bidder in the prescribed format.
5. The bidder shall furnish a declaration in his tender bid that no addition / deletion / corrections have been made in the downloaded tender document being submitted and it is identical to the tender document appearing on the website with amendments as uploaded by department. In case of discrepancy of bid submitted from the one uploaded by department, the bid will be rejected and a case of fraud will be registered with police.
6. **Place of opening of Tender bids:** Tenders will be opened online at AGM (P), BSNL Telephone Exchange, First floor, Beldula Road RAIGARH 496001 (Contact at 9425201422/ 9425201100 ).
7. A authorized representatives of bidders (i.e. vendor organization) can attend the tender opening event at the tender opening venue as given above .
8. Tender bids received after due time & date will not be accepted.
9. Incomplete, ambiguous, Conditional, unsealed tender bids are liable to be rejected.
10. The BSNL TDM RAIGARH reserves the right to accept or reject any or all tender bids without assigning any reason and not bound to accept the lowest tender.
11. All computer generated documents should be duly signed/ attested by the bidder/ vendor organization.
12. In case the date of submission (opening) of bid is declared to be a holiday, the date of submission (opening) of bid will get shifted automatically to next working day at the same scheduled time. Any change in bid opening date due to any other unavoidable reason will be intimated to all the bidders separately.
13. **The tenders which are not submitted in above mentioned manner will be rejected.**

## **14. Eligibility of Contractor:**

- I. The intending bidder must have registered with any (a) Government Department, PSUs and other Govt. Institutions. (b) Public Limited Company. (c) Govt. recognized institutions (d) Co-operative registered with Register of Co-operative. The copy of registration should be duly attested by gazetted officer/ notary.
- II. Valid PAN Card along with IT return for last financial year, duly attested by Gazetted officer/notary should be submitted for signature verification.
- III. The intending bidder shall have experience of digging/HDD work for OFC/ UG Cable/ Water Pipe Line/ Electric Cable/ Drainage Pipe Line work for not less than 25% value of estimated cost of the section OR 25% of the estimated quantity of the section, in last six FINANCIAL years including the current financial year from

any of the following organization's (a) Government Department, PSUs and other Govt. Institutions. (b) Public Limited Company. (c) Govt. recognized institutions (d) Co-operative registered with Register of Co-operative (e) private telecommunication service Provider Company and a copy of experience certificate is to be enclosed with Qualifying Bid. The certificate should be on the organization's letter pad bearing complete address, telephone No., FAX No. etc. Further the experience certificate will be verified by the BSNL before awarding the works to the tenderer. The copy of experience certificate should be duly attested by gazetted officer/notary. Bidder can participate in all sections, if a bidder participates in more than one section than bidder has to submit the experience certificate equivalent to the sum total of experience amount of the sections for which he has submitted the bids.

1. The bidder should submit the EPF , ESIC & Central Labour registration copy as per the provisions of EPF & Misc. Provisions Act. 1952 , ESIC Act & Central Labour Laws.
2. Bidder should submit GST registration copy.
3. Solvency Certificate of **Rs 5.0 Lacs** from the any scheduled bank is to be submitted.
4. The solvency certificate shall not be older than one year from the date of issue of NIT. The tender, which is not accompanied by the requisite bid security, shall be summarily rejected. Tender will not be accepted / received after expiry date and time .The TDM, RAIGARH reserves the right to accept or reject any or all the tenders without assigning any reason what so ever and is not bound to accept the lowest tender. Tender documents duly filled and signed. For details, please visit: [www.chhattisgarh.bsnl.co.in](http://www.chhattisgarh.bsnl.co.in)
5. List of qualified experienced personnel, who are working for the bidder, who will be deployed for the work.
6. No any proprietor/ Partnerø of any firm or company should be blacklisted in any where in India by BSNL or other PSU/Organization . An undertaking is to be given by all the proprietor/ Partnerø that, any of his firm or partner is not blacklisted anywhere in India by any organization/PSU/Govt. Body. if said condition come to notice at any time of contract period , then entire amount of EMD , Performance security & Bank Guarantee shall be forfeited & all running contract shall be terminated.
7. Undertaking regarding No Near Relative(Declaration-I), Non Black Listing(Declaration-II) & Payment Insulation Certificate(Declaration-III) in the given format in bid document.
8. The tender, which is not accompanied by the requisite bid security, shall be summarily rejected. Tender will not be accepted / received after expiry date and time .The TDM, RAIGARH reserves the right to accept or reject any or all the tenders without assigning any reason what so ever and is not bound to accept the lowest tender. Tender documents duly filled and signed. For details, please visit: [www.chhattisgarh.bsnl.co.in](http://www.chhattisgarh.bsnl.co.in)

The TDM RAIGARH reserves the right to reject any or all tenders without assigning any reason what so ever.

**Assistant General Manager (P)**  
**O/o Telecom District Manager**  
**BSNL, RAIGARH**

Copy to :

1. Notice Board

Also visit us at -[www.chhattisgarh..bsnl.co.in](http://www.chhattisgarh..bsnl.co.in)



**SECTION III  
BIDDER'S PROFILE**

|   |
|---|
| Passport size<br>photographs<br>of the bidder /<br>authorised<br>Signatory<br>Holding |
|---|

**General:**

- 1. Name of the bidder / firm \_\_\_\_\_
- 2. Name of the person submitting the tender whose Photograph is affixed  
Shri/Smt. \_\_\_\_\_

(In case of Proprietary/ Partnership firms, the tender has to be signed by Proprietor / Partner Only, as the case may be)

- 3. Address of the firm  
\_\_\_\_\_  
\_\_\_\_\_

- 4. Telegraphic Address \_\_\_\_\_

- 5. Tel. No. (With STD code) (O) \_\_\_\_\_ (Fax) \_\_\_\_\_ [R] \_\_\_\_\_

- 6. Registration & incorporation particulars of the firm:

- i) Proprietorship
- ii) Partnership
- iii) Private Limited
- iv) Public Limited

**(Please attach attested copies of documents of registration/ incorporation of your firm with the competent authority as required by business law)**

- 7. Name of Proprietor/Partners/Directors \_\_\_\_\_  
\_\_\_\_\_

- 8. Tender's Enlistment certificate details

- a. Category \_\_\_\_\_
- b. Number \_\_\_\_\_
- c. Issuing Telecom Circle \_\_\_\_\_
- d. Issued on \_\_\_\_\_
- e. Valid up to \_\_\_\_\_

**(An attested copy of the Enlistment Certificate may please be enclosed)**

- 9. Bidder's bank, its address and his current account number \_\_\_\_\_  
\_\_\_\_\_

- 10. Permanent Income Tax number, Income Tax circle \_\_\_\_\_  
\_\_\_\_\_

**(Please attach a copy of last Income Tax return)**



11. Infrastructural capabilities:

- a. Capacity of trenching per day (in meters)\_\_\_\_\_
- b. Capacity of PLB pipe laying per day (in meters)\_\_\_\_\_
- c. Capacity of pulling of cable through PLB pipe per day (in Meters)\_\_\_\_\_
- d. Capacity of engaging laborers per day \_\_\_\_\_
- e. Particulars of vehicles available with the bidder:

|                     |                     |
|---------------------|---------------------|
| Type of Vehicle (s) | Registration number |
|---------------------|---------------------|

- f. Particulars of other machines possessed by the contractor which can help in trenching, PLB pipe laying and of cable pulling;

\_\_\_\_\_

\_\_\_\_\_

12. Details of Technical and supervisory Staff:

- 13. Registration with EPF authorities: - EPF Code No..... (Attach copy)

**I/We hereby declare that the information furnished above is true and correct. Place:**

**Date:**

Signature of bidder / Authorised signatory..... Name of the  
bidder.....

Seal of the bidder

## Section IV -A

### Instructions to Bidders

#### A. INTRODUCTION:

##### 1. **DEFINITIONS**

- a. **BSNL** means Bharat Sanchar Nigam Limited and its successors.
- b. **CMD: The CMD means CHAIRMAN AND MANAGING DIRECTOR OF BSNL**  
And his successors.
- c. **Department:** The Department means the Department of Telecommunications / Department of Telecom Services or any other Department under the Ministry of Communications, which invites the tender on behalf of the President of India? All references of:  
Chief General Manager Principal General Manager General Manager  
Deputy General Manager / Area Manager / Director / Telecom Distt. Manager  
Divisional Engineer  
Sub Divisional Engineer Junior Telecom Officer Chief Accounts Officer Accounts Officer  
Assistant Accounts Officer  
Including other officer in the Department, whatever designations assigned to them from time to time, who may be the in-charge of direction, supervision, testing, acceptance and maintenance including their successor(s) in the office appearing in various clauses shall be taken to mean the Department of Telecommunications under the Ministry of communications, Government of India.
- d. **The AGM (P)** means the: **AGM (P)** and his successors.
- e. **The jurisdiction of The TDM RAIGARH:** the jurisdiction of **TDM RAIGARH** means which coincides geographically with ENTIRE SSA RAIGARH.
- f. **Representative of TDM RAIGARH:** Representative of TDMRAIGARH means officer and staff for the time being UNDER TDM RAIGARH deputed for inspecting or supervising the work or testing etc.
- g. **Engineer - in - charge:** the Engineer - in - charge means the Engineering Officer nominated by the TDM RAIGARH to supervise the work, under the contract,
- h. **Site Engineer:** Site Engineer shall mean an SDE/JTO of the BSNL who may be placed by the **TDM RAIGARH** as in-charge of the work at site at any particular period of time.
- i. **A/T Unit:** A/T Unit shall be mean Acceptance and Testing unit of the BSNL.
- j. **A/T Officer:** An officer authorised by **TDM RAIGARH** to conduct A/T.
- k. **Contract:** The term contract means, the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the BSNL and the contractor, together with the documents refer read to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time, by the engineer - in charge and all these documents taken together shall be deemed to form one contract and shall be complementary to one another. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them. The expression works or work shall unless there be something either in the subject or context repugnant to such construction, be construed and taken to means the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
- i. **Contractor:** The contractor shall mean the individual, firm or company, enlisted with BSNL in accordance with procedure for enlistment of contractor, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
- m. **Work:** The expression "**work**" shall unless there be something either in the subject or context repugnant to such construction be construct and taken to mean the work by or by virtue of the contract contracted to be executed whether temporary or permanent and whether original altered, substituted or additional.
- n. **Schedule(s):** Schedule(s) referred to in these conditions shall mean the relevant schedule(s) or the standard schedule of rates mentioned in the document.
- o. **Site:** The site shall mean the land / or other places on, into or through which work is to be executed

under the contract or any adjacent land, path or street through which, the work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.

- p. **Normal time or stipulated time:** Normal time or stipulated time means time specified in the work order to complete the work.
- q. **Extension of Time:** Extension of Time means the time granted by the BSNL to complete the work beyond the normal time or stipulated time.
- r. **Date of Commencement of work:** Date of commencement of work means the date of actual commencement of work or 7th day from the date of issue of work order, whichever is earlier.
- s. **Due date of completion:** Due date of completion shall be the date by which the work shall be completed at site including clearance of site.
- t. **Duration of completion of work:** The duration of completion of work or completion time shall be time specified in the work order plus extension of time granted, if any.
- u. **Excepted risk:** Excepted risk or risks due to war (whether declared or not), invasion, act of foreign enemies, hostilities, civil war, rebellion, revolution, insurrection, military or usurped power, any acts of BSNL damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods and other causes over which the contractor has no control and the same having been accepted as such by the Accepting Authority or causes solely due to use or occupation by the BSNL of the part of the work, in respect of which a certificate of completion has been issued.

## 2. ELIGIBILITY OF BIDDERS

The invitation of bids is open to all contractors as per their eligibility mentioned in NIT of this tender document.

## B. THE BID DOCUMENTS

### 3. BID DOCUMENTS

3.1 The construction work to be carried out, goods required, bidding procedures and contract terms are prescribed in the Bid Documents. The Bid Documents include:

#### 3.1.1 Qualifying Bid:

- 3.1.1.1 NIT
- 3.1.1.2 Bid Form
- 3.1.1.3 Bidder's Profile
- 3.1.1.4A Instructions to Bidders.
- 3.1.1.4B E-Tendering Instructions to Bidders.
- 3.1.1.5 General (commercial) Conditions of the contract.
- 3.1.1.6 Special Conditions of Contract.
- 3.1.1.7 O F Cable Construction Specifications
- 3.1.1.8 Safety Precautions
- 3.1.1.9 Format of Agreement
- 3.1.1.10 Letter of Authorization for Attending Bid Opening.
- 3.1.1.11 Material Security Bond Form
- 3.1.1.12 Declaration
- 3.1.1.13 Work Order
- 3.1.1.14 Application for Grant of License
- 3.1.1.15 List of Documents to be submitted along with the Qualifying bid.

#### 3.1.2 Financial Bid

- 3.1.2.1 FINANCIAL BID FOR OFC TRENCHING WORKS
- 3.1.2.2 ANNEXURE . A  
ESTIMATED RATES EXCEPT OFC TRENCHING WORK

- 3.2 The Bidder is expected to examine all instructions, forms, terms and specification in the bid documents. Failure to furnish all information required as per the Bid Documents or submission of bids not substantially responsive to the Bid Documents in every respect will be at the bidder's risk and shall result in rejection of the bid.

4. **QUERIES ON BID DOCUMENTS:**

A prospective bidder, requiring any clarification of the Bid Document shall notify the AGM (P) O/o TDM, RAIGARH in writing or by fax or cable at the AGM(P)O/oTDM, RAIGARH mailing address indicated in the invitation for Bids. The TDM RAIGARH shall respond in writing to any request for clarification of the Bid Documents, which it receives not later than 7 days prior to the date for the opening of the bids. Copies of the query (without identifying the source) and the clarifications by the TDM RAIGARH shall be sent to all the prospective bidders who have purchased the bid documents and all such clarifications issued by the TDM RAIGARH will form part of the bid document.

5. **AMENDMENT OF BID DOCUMENTS**

- 5.1 At any time, prior to the date for submission of bids, the TDM RAIGARH may, for reason whether suo motto or in response to a clarification requested by a prospective Bidder, modify the bid documents by amendments.
- 5.2 The amendments shall be notified in writing or by telex or FAX to all prospective bidders on the address intimated at the time of purchase of bid document from the TDM RAIGARH and these amendments will be binding on them.
- 5.3 In order to afford prospective bidders reasonable time to take the amendments into account in preparing their bids, the TDM RAIGARH may, at its discretion, extend the deadline for the submission / opening of bids suitably.

C. **PREPARATION OF BIDS**

6. **Cost of Bidding:** The bidder shall bear all costs associated with the preparation and submission of the bid. The TDM RAIGARH, will in no case, be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

7. **DOCUMENTS ESTABLISHING BIDDER'S ELIGIBILITY AND QUALIFICATIONS:**

The bidder shall furnish, as part of his bid documents establishing the bidder's eligibility the following documents:

- i) Bid Security in accordance to clause no.8
- ii) Original Tender document (s), to be uploaded and digitally signed by bidder or his authorised representative .
- iii) Experience certificate from competent authority as mentioned in NIT.
- iv) Latest Income tax return filed copy.
- v) Bid Form, duly filled in the tender document.
- vi) Bidder's profile duly filled as per tender document.
- vii) Original "Power of Attorney in case person other than the bidder has signed the tender documents.
- viii) List of qualified experienced personnel, who are working for the bidder, who will be deployed for the work.
- IX) The bidder should submit the EPF, ESIC & Central Labour registration copy as per NIT.
  - x) Copy of GST registration.
  - xi) List of qualified experienced personnel, who are working for the bidder, who will be deployed for the work.
  - Xii) Solvency Certificate as per NIT
  - Xiii) Undertaking regarding No Near Relative(Declaration-I), Non Black Listing(Declaration-II) & Payment Insulation Certificate(Declaration-III) in the given format in bid document.
- Xiv) Any other document mentioned in NIT / Bid Document

8. **BID SECURITY: EARNEST MONEY DEPOSIT (EMD)**

- 8.1 The bidder shall furnish, as part of his bid, a bid security (EMD) as mentioned in the NIT. No interest shall be paid by the TDM RAIGARH on the bid security for any period, what so ever.

- 8.2 The bid security is required to protect the TDM RAIGARH against the risk of bidders conduct, which would warrant the security's forfeiture, pursuant to Para 8.7.
- 8.3 Bid Security shall be paid in the form of Crossed Demand Draft issued by any nationalized bank/a scheduled bank, drawn in favor of Accounts officer (Cash) BSNL, % TDM RAIGARH payable at RAIGARH or in the form of Bank Guarantee as per proforma place at Section-XI Part 6 F.
- 8.4 **A bid not secured in accordance with Para 8.1 and Para 8.3, It shall be rejected by the AGM (A&p) as non responsive.**
- 8.5 The bid security of the unsuccessful bidder will be refunded as promptly as possible as but not later than 30 days after the expiry of the period of bid validity prescribed by the BSNL.
- 8.6 The successful bidder's bid security will compulsorily be converted to part Performance security deposit in Accordance with clause (ii) section V.
- 8.7 **The bid security shall be forfeited;**
- 8.7.1 If a bidder withdraws his bid during the period of bid validity specified in the bid document or
- 8.7.2 If the bidder makes any modifications in the terms and conditions of the tender before acceptance of the tender, which are not acceptable to the AGM (A&p) or
- 8.7.3 In case of a successful bidder, if the bidder fails to sign the agreement in accordance with clause 25.

9. **BID PRICES:**

- 9.1 **PRICES SHALL BE QUOTED BY THE BIDDER FOR OFC WORKS IN SECTION – XII.** THE BIDDER SHALL GIVE THE TOTAL A COMPOSITE PRICE INCLUSIVE OF ALL TAXES AND LEVIES IN CASE OF WORKS TO BE EXECUTED . THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTING THE MATERIALS, TO BE SUPPLIED BY THE AGM (P) TELECOM STORE OR OTHERWISE TO EXECUTE THE WORK UNDER THE CONTRACT, TO SITE AT HIS /THEIR OWN COST. AND THEREFORE NO SEPARATE CHARGES ARE PAYABLE ON THIS ACCOUNT. THE OFFER SHALL BE FIRM IN INDIAN RUPEES
- 9.2 Price quoted by the bidder shall remain fixed during the entire period of contract and shall not be subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.
- 9.3 Discount, if any, offered by the bidders shall not be considered unless they are specifically indicated in the schedule of rates (financial Bid). Bidders desiring to offer discount shall therefore modify their offers suitably while quoting and shall quote clearly net price taking all such factors like Discount, free supply, etc. into account.

10. **PERIOD OF VALIDITY OF BIDS:**

- 10.1 Bid shall remain valid for 240 day from date of opening of the bid (Qualifying Bid). **A BID VALID FOR A SHORTER PERIOD SHALL BE REJECTED BY THE TDM RAIGARH AS NON-RESPONSIVE.**
- 10.2 The TDM RAIGARH reserves the right to request the lowest 3 bidders as per read out list on the opening day to extend the bid validity for a period of further 120 days and the bidder has to necessarily extend the bid validity. Refusal to extend the bid validity will result in forfeiture of the bid security. A bidder accepting the request and extending the bid validity will not be permitted to modify his bid.

11. **SIGNING OF BID:**

- 11.1 The bidder shall submit, as a part of his bid, the bid documents (in original) duly signed on each and every page, establishing the conformity of his bid to the bid documents of all the works to be executed by the bidder under the contract.  
(Note: The bidder is advised to keep a photocopy (at his own cost) of the bid documents for his own reference.)
- 11.2 The bid shall contain no erasures or overwriting except as necessary to correct errors made by the bidder in which case such corrections shall be signed with date by the person or persons signing the bid.

12. **SUBMISSION OF BIDS**

**Method of preparation of bid:**

- 12.1 No. of Bid Submission Stages for tender : Single Stage.
- 12.2 No. of Envelopes for submission of Bids : Two Nos- Techno commercial & Financial. If Techo-commercial bid is found suitable, then only the **financial bid** will be opened.

**Note 1** The bidder shall submit Techno-commercial & Financial bid simultaneously.

**Note 2** The bids will be evaluated techno-commercially first and thereafter financial bids of techno-commercially compliant bidders only shall be opened

First envelope will be named as techno-commercial bid will contain documents of bidder satisfying the eligibility / Technical & commercial conditions and 2<sup>nd</sup> envelope will be named as financial bid containing financial quote. These envelopes shall contain one set of the following documents :-

**Techno-commercial envelope** shall contain:-

1. The intending bidder must have registered with any (a) Government Department, PSUs and other Govt. Institutions. (b) Public Limited Company. (c) Govt. recognized institutions (d) Co-operative registered with Register of Co-operative. The copy of registration should be duly attested by gazetted officer/ notary.
2. Valid PAN Card along with IT return for last financial year, duly attested by Gazetted officer/notary should be Submitted for signature verification.
3. The intending bidder shall have experience of digging/HDD work for OFC/ UG Cable/ Water Pipe Line/ Electric Cable/ Drainage Pipe Line work for not less than 25% value of estimated cost of the section OR 25% of the estimated quantity of the section, in last six FINANCIAL years including the current financial year from any of the following organization's (a) Government Department, PSUs and other Govt. Institutions. (b) Public Limited Company. (c) Govt. recognized institutions (d) Co-operative registered with Register of Co-operative (e) private telecommunication service Provider Company and a copy of experience certificate is to be enclosed with Qualifying Bid. The certificate should be on the organization's letter pad bearing complete address, telephone No., FAX No. etc. Further the experience certificate will be verified by the BSNL before awarding the works to the tenderer. The copy of experience certificate should be duly attested by gazetted officer/notary. Bidder can participate in all sections, if a bidder participates in more than one section than bidder has to submit the experience certificate equivalent to the sum total of experience amount of the sections for which he has submitted the bids.
4. The bidder should submit the EPF ,ESIC & Central Labour registration copy as per the provisions of EPF & Misc. Provisions Act. 1952 , ESIC Act & Central Labour Laws.
5. Bidder should submit GST registration copy.
6. Solvency Certificate of **Rs 5.0 Lacs** from the any scheduled bank is to be submitted.
7. The solvency certificate shall not be older than one year from the date of issue of NIT. The tender, which is not accompanied by the requisite bid security, shall be summarily rejected. Tender will not be accepted / received after expiry date and time .The TDM, RAIGARH reserves the right to accept or reject any or all the tenders without assigning any reason what so ever and is not bound to accept the lowest tender. Tender documents duly filled and signed. For details, please visit: [www.chhattisgarh.bsnl.co.in](http://www.chhattisgarh.bsnl.co.in)
8. Documents of Valid Certification from MSME for the tendered Items if applicable.
9. List of qualified experienced personnel, who are working for the bidder, who will be deployed for the work.
10. Undertaking regarding No Near Relative(Declaration-I), Non Black Listing(Declaration-II) & Payment Insulation Certificate(Declaration-III) in the given format in bid document.

**12 Financial envelope** shall contain: Electronic Form- financial bid along with Price Schedule

**Note 3:-** The following documents are required to be submitted offline to AGM (P), BSNL Telephone Exchange, Beladula Road RAIGARH 496001(C.G.), on or before the date & time of submission of bids in a sealed envelope.

The envelope shall bear the tender number, name of work and the phrase: "Do Not Open Before (due date & time of opening of tender)"

- i) EMD & Bid security (original copy) as per DNIT
  - ii) Cost of tender document as per DNIT
  - iii) Power of Attorney and authorization for executing the power of Attorney if applicable.
  - iv) PASS PHRASE for both part (Technical and Financial) in separately sealed envelope.
- 13 The tenderer will be bound by all terms, conditions & specifications as detailed in the tender document.
- 14 Any tender with conditions other than those specified in the tender document is liable to be summarily rejected. No modification by the contractor in any of the condition will be permitted after the tender is opened.
- 15 Tenders should be addressed to AGM (P), BSNL Telephone exchange, Beladula Road, RAIGARH 496001(C.G.) and submitted online before the closing (date & Time) of tender, as mentioned in DNIT. The tenderer is to ensure the submission bids at the correct address and within time. The BSNL may, at its discretion, extend this deadline for the submission of bids by amending the Bid Documents in which case bidders previously subject to the deadline will thereafter be subjected to the extended deadline.

#### **17. LATE BID**

Tender will not be accepted /received after the specified date and time notified by BSNL and the same shall be rejected/ left archived unopened . It is the sole responsibility of the tenderer that he should ensure timely submission of tender.

#### **18. OPENING OF BID BY THE BSNL**

- 18.1. The BSNL shall open the bid online in the presence of bidders or his authorized representatives who choose to attend as schedule given in DNIT . The bidder's representatives, who are present, shall sign an attendance register. The bidder shall submit authority letter to this effect before they are allowed to participate in the bid opening.
- 18.2. A maximum of one (1) representative for any bidder shall be authorized and permitted to attend the bid opening.
- 18.3 Name of envelopes to be opened & information to be read out by Bid Opening Committee
- The bids will be opened in 2 stages i.e. the techno-commercial bid shall be opened on the date of tender opening given in NIT. The financial bid will not be opened on the Date of opening of techno commercial bids in this case & sealed financial bids will be handed over to AGM (P), BSNL, Room No 104, Door Sanchar Bhawan, Beladula Road RAIGARH 496001(C.G.) for retention. Techno-commercial bids will be evaluated by Tender evaluation Committee & approved by competent authority. The financial bids of those bidders who are approved to be techno-commercially compliant by the competent authority, will be opened by TOC in front of techno commercially eligible bidders/ authorized representatives by sending them a suitable notice by sms/ telephone/ fax/ regd post.
- (i) The date fixed for opening of bids, if subsequently declared as holiday by the BSNL, the revised date of schedule will be notified. However, in absence of such notification, the bids will be opened on next working day, time and venue remaining unaltered.

#### **19.0 MODIFICATION AND WITHDRAWAL OF BIDS**

- 19.1 The bidder may modify, revise or withdraw his bid after submission prior to deadline prescribed for submission of bid as per provisions of online portal.
- 19.2 The bidder's modification, revision or withdrawal shall have to be online and digitally

authenticated.

**19.3** No bid shall be modified subsequent to the deadline for submission of bids.

In case there is discrepancy in figures and words in the quote, the same shall be announced in the bid opening, but the quote in words shall prevail.

**20. CLARIFICATION OF BIDS BY THE AGM (P):**

To assist in examination, evaluation and comparison of bids, the AGM (A&p) may, at its discretion ask the bidder for clarification of its bid. The request for its clarification and its response shall be in writing. However, no post bid clarification at the initiative of the bidder shall be entertained.

**21. PRELIMINARY EVALUATION:**

21.1 The TEC shall evaluate the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed and whether the bids are generally in order.

21.2 If there is discrepancy between words and figures, the amount in words shall prevail. If the Contractor does not accept the correction of the errors, his bid shall be rejected . .

21.3 Prior to the detailed evaluation, pursuant to clause 22, the TDM RAIGARH will determine the substantial responsiveness of each bid to the bid document. For purpose of these clauses a substantially responsive bid is one which conforms to all the terms and conditions of the bid documents without deviations. The TDM RAIGARH determination of bids' responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

21.4 **A bid, determined as substantially non responsive will be rejected by the TDM RAIGARH and shall not subsequent to the bid opening be made responsive by the bidder by correction of the non-conformity.**

21.5 The AGM (A&p) may waive any minor infirmity or non-conformity or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of the bidder.

**22. EVALUATION AND COMPARISON OF SUBSTANTIALLY RESPONSIVE BIDS:**

22.1 The TDM RAIGARH shall evaluate in detail and compare the bids previously determined to be substantially responsive pursuant to clause 18.

22.2 The evaluation and comparison of responsive bids shall be on the percentage deviation (above/below/at par) offered and indicated in schedule of rates of the bid documents.

**23. CONTACTING THE AGM (P):**

23.1 Subject to cause 17 no bidder shall try to influence the AGM (A&p) on any matter relating to its bid, from the time of bid opening till the time the contract awarded.

23.2 Any effort by the bidder to modify his bid or influence the AGM (A&p) in the bid evaluation or the comparison award decisions shall result in the rejection of the bid.

**24. AWARD OF CONTRACT:**

24.1 The AGM (A&p) shall consider award of contract only to those eligible bidders whose offers have been found technically, commercially and financially acceptable.

24.2 The work against the tender is for one year's requirement and the terms and conditions of this tender shall be operative for a period of one year from the date of signing of agreement between the AGM (A&p) and the contractor.

**25. TDM RAIGARH 'S RIGHT TO VARY QUANTUM OF WORK:**

The TDM RAIGARH, at the time of award of work under the contract, reserves the right to decrease or increase the work by up to 25 % of the total quantum of work specified in the schedule of requirements without any change in the rates or other terms and conditions.

**26. TDM RAIGARH'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS:**

The TDM RAIGARH reserves the right to accept or reject any bid and to annul the bidding process and reject all bids, at any time prior to award of contract without assigning any reason what -so- ever and without thereby incurring any liability to the affected bidder or bidders on the grounds for the TDM RAIGARH 's action.

**27. ISSUE OF LETTER OF INTENT:**

27.1 The issue of letter of intent shall constitute the intention of the AGM (P) to enter in to contract with the bidder. Letter of intent will be the Issued as offer to the successful bidder.

27.2 The bidder shall within 21 days of issue of letter of intent, give his acceptance along with material security in conformity with cause 5.(i) section- V, provided with the bid documents.

**28. SIGNING OF AGREEMENT:**

28.1 The signing of agreement shall constitute the award of contract on the bidder. The agreement with the



successful bidder shall be signed by the BSNL RAIPUR within a week, of submission of material security as per clause 24.2 above.

- 28.2 As soon as the tender is approved by the competent authority, the Bid Security deposited by the successful bidder shall be compulsorily converted in to the Performance security deposit, which will be held by the AGM (A&p) till the completion of warranty period.

29. **ANNULMENT OF AWARD:**

Failure of the successful bidder to comply with the requirement of clause 24 & 25 shall constitute sufficient ground for the annulment of the award and forfeiture of the bid security, in which event, the AGM (A&p) may make the award to any other bidder at the discretion of the AGM (A&p) or call for new bids.

## SECTION-IV-B E-tendering Instructions to Bidders

**Note :-**The instructions given below are TCIL e-tender portal. E Portal address and the according references/clauses may be suitably modified in this section as applicable from time to time.

**General :** These Special Instructions (for e-Tendering) supplement -Instruction to Bidders- Submission of Bids only through online process is mandatory for this Tender. For conducting electronic tendering, AGM (P), BSNL Telephone Exchange, Beladula Road First floor, Door Sanchar Bhawan RAIGARH O/o TDM RAIGARH -496001 is using the portal <https://www.tcil-india-electronictender.com> through TCIL, a Government of India Undertaking.

**1. Tender Bidding Methodology:** Sealed Bid System ó -Single Stage, using two Envelopes called techno commercial and Financial bids-

Financial & Techno-commercial bids shall be submitted by the bidder at the same time.

### 2. Broad outline of activities from Bidders prospective:

1. Procure a Digital Signing Certificate (DSC) from CCA
2. Register on TCIL Portal
3. Create Users and assign roles on TCIL
4. View Notice Inviting Tender (NIT) on TCIL
5. Download Official Copy of Tender Documents from TCIL
6. Bid-Submission on TCIL : Prepare & arrange all document/paper for submission of bid online and offline.
7. Submission of offline documents in sealed envelope at AGM (A&p), BSNL Room No-104, First floor , Door Sanchar Bhawan RAIGARH O/o TDM RAIGARH -496001 size of documents to be uploaded remains minimum. If required, documents may be scanned at lower resolutions say at 150 dpi. However it shall be sole responsibility of bidder that the uploaded documents remain legible.
- 8 Utmost care may be taken to name the files/documents to be uploaded on TCIL.
- 9 It is advised that all the documents to be submitted are kept scanned or converted to PDF format in a separate folder on your computer before starting online submission. Financial bid may be downloaded and rates may be filled appropriately.

For participating in this tender online, the following instructions are to be read carefully.

These instructions are supplemented with more detailed guidelines on the relevant screens of the TCIL.

### 3. Digital Certificates

For integrity of data and its authenticity/ non-repudiation of electronic records, and be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC). also referred to as Digital Signature Certificate (DSC), of Class 2 or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer <http://www.cca.gov.in>].

### 4. Method for submission of bid documents

In this tender the bidder has to participate in TCIL e-tender portal online. Some documents are to be submitted physically offline.

#### 4.1. Offline submission:

The bidder shall submit the following documents offline AGM (A&p), BSNL Telephone Exchange, Beladula Road First floor, Door Sanchar Bhawan RAIGARH O/o TDM RAIGARH -496001 on or before the date & time of submission of bids specified in NIT, in a Sealed Envelope. The envelope shall bear (the project name), the tender number and the words -DO NOT OPEN BEFORE (due date & time).

1. Tender Fee as per NIT (Original copy).
2. EMD-Bid Security (Original copy).
3. Original Power of Attorney (If applicable)
4. PASS PHRASE for both part (Technical and Financial) in separately sealed envelopes.
5. Any Other document required in confirmation to T&C of NIT/Bid Document

NOTE: The Bidder has to upload the Scanned copy of all above said documents during Online Bid-Submission.

#### 4.2 Online submission:

**Contents of 1<sup>st</sup> Envelope (Techno-Commercial Bid) & 2<sup>nd</sup> Envelope (Financial Bid/ BoQ):- As per clause 12.2 & 13 section IVA.**

Note:

(i) If some document is not applicable for the bidder then he has to upload scanned copy of paper mentioning -The document <name> called vide clause \_\_\_\_\_ is not applicable on us.

(ii) If document asked for contains more than one page then all those pages may be uploaded in one PDF file.

#### 5. Registration

To use the Central Public Procurement Portal <https://www.tcil-indiaelectronicstender.com> , Vendor need to register on the portal. The vendor should visit the home-page of the portal ((<https://www.tcil-india-electronicstender.com>)) and go to the link then select Bidders Manual Kit.

Note: Please contact TCIL Helpdesk (as given below), to get your registration accepted/activated. TCIL Helpdesk/ ETS

Helpdesk

Telephone (011) 2624 1071 / 2624 1072 / **26202699**

[between 9:30 hrs to 18:00 hrs on working days]

Mobile Nos. 98683 93717 / 98683 93775/ 9868393792

E-mail ID [ets\\_support@tcil-india.com](mailto:ets_support@tcil-india.com)

##### **BSNL Contact-1**

BSNL Contact Person Sachin Swarnkar SDE (PLG)

Telephone/ Mobile 07762-220500, 9425201100

E-mail ID- [sdeplgrih@gmail.com](mailto:sdeplgrih@gmail.com)

##### **BSNL Contact-2**

BSNL Contact Person N S Kanjele AGM(P)

Telephone/ Mobile 07762-222000, 9425201100.

E-mail ID- [aagmraigarhbsnl@gmail.com](mailto:aagmraigarhbsnl@gmail.com)

[between 10:30 hrs to 17:30 hrs on working days]

Note : Any support related mail problem should be sent to [ets\\_support@tcil-india.com](mailto:ets_support@tcil-india.com) and mark copy to [support@electronicstender.com](mailto:support@electronicstender.com).

## 6. Price schedule / BOQ

Utmost care may kindly be taken to upload price schedule / BOQ. Any change in the format of price schedule / BOQ file shall render it unfit for bidding. Following steps may be followed:

1. Download price schedule / BOQ part A in XLS format and price schedule / BOQ part B in PDF Format.
2. Fill rates in down loaded price schedule / BOQ as specified in XLS format only in white background Cells. Don't fill in grey background cells.
3. BOQ file part A is password protected XLS file. Don't unprotect the file. Price has to be filled in the Same file and the same has to be uploaded.  
Save filled copy of downloaded price schedule / BOQ file in your computer and remember its name & location for uploading correct file (duly filled in) when required.
5. Download price schedule / BOQ part B in PDF format. Get it printed, fill up required information. Scan it and save in your computer for uploading it while submitting the bid.

## 7. Other Instructions

For further instructions, the vendor should visit the home-page of the portal <https://www.tcil-india-electronictender.com>, and go to the Bidders Manual Kit. The compatible support software (PDF Converter, Java, etc) for online bid submission may be downloaded from TCIL Portal.

The help information provided through ETS User-Guidance Center is available in three categories: Users intending to Register / First-Time Users, Logged-in users of Buyer organizations, and Logged-in users of Supplier organizations. Various links are provided under each of the three categories.

**Important Note:** It is strongly recommended that all authorized users of Supplier organizations should thoroughly peruse the information provided under the relevant links, and take appropriate action. This will prevent hiccups, and minimize teething problems during the use of ETS.

The following **FOUR KEY INSTRUCTIONS** for BIDDERS must be assiduously adhered to:

- a) Obtain individual Digital Signing Certificate (DSC or DC) well in advance of your first tender submission deadline on ETS
- b) Register your organization on ETS well in advance of your first tender submission deadline on ETS
- c) Get your organization's concerned executives trained on ETS well in advance of your first tender submission deadline on ETS
- d) Submit your bids well in advance of tender submission deadline on ETS (There could be last minute problems due to internet timeout, breakdown, et al)

While the first three instructions mentioned above are especially relevant to first-time users of ETS, the fourth instruction is relevant at all times.

## 8. Minimum Requirements at Bidders end

• Computer System with good configuration (Min P IV, 1 GB RAM, Windows XP)

• 2 Mbps Broadband connectivity with UPS.

• Microsoft Internet Explorer 6.0 or above

• Digital Certificate(s) for users.

Note: For Participating in this Tender the bidder must be registered with TCIL.

## SECTION V

### GENERAL (COMMERCIAL) CONDITIONS OF THE CONTRACT

1. **APPLICATION:**

The General conditions shall apply in contracts made by the AGM (A&p) for the execution of OF Cable construction works.

2. **STANDARDS:**

The works to be executed under the contract shall conform to the standards prescribed in the optical fiber Cable construction practices.

3. **PRICES:**

- 3.1 Prices charged by the Contractor for the works performed under the Contract shall not be higher from the prices quoted by the Contractor in his Bid.
- 3.2 Price once fixed will remain valid for the period of contract. Increase and decrease of taxes/duties will not affect the price during this period.

4. **SUBCONTRACTS:**

The contractor shall not assign, sub contract or subject the whole or any part of the works covered by the contract, under any circumstances.

5. **SECURITY**

(i) **Material Security:**

- a. The successful bidder will have to deposit material security as mentioned in the Scope of Work, subject to a minimum of Rs 2 Lacs, in the form of bank guarantee (valid up to and including six months after the period of the contract) from a scheduled bank and in the material security bond form provided in the bid document, section 6 XI 6 Part - A. Material Security can also be submitted in the form of crossed Demand Draft drawn in favor of Accounts officer (CASH) BSNL, O/o TDM RAIGARH issued by a schedule bank and payable at RAIPUR. The Material Security will be a non interest bearing deposit, for any period what so ever.
- b. The contractor at any point of time will not be issued stores costing more than material security. If due to any reason more stores have to be issued to the contractor, then the material security will be suitably enhanced. In this regard the decision of TDM RAIGARH shall be final and binding.
- c. The proceeds of the material security shall be payable to the AGM(A&p) as a compensation for any loss resulting from the contractor's failure to handle properly the material issued to him under the contract.
- d. The Material security shall be released/refunded within a fortnight from the date of the payment of the last final bill of the work under the contract: or final settlement of material account whichever is later on production of "no dues certificate" from "Engineer -in-charge".

(ii) **Performance Security**

- a. **The bidder shall within 10 days of signing of Agreement submit performance security for an amount of 8 % of the contract value for a period of 2 years in conformity with Section – XI Part - G provided with the bid documents**

**OR**

**shall permit the AGM (A&p), at the time of making any payment to him for works done under the contract, to deduct such sum to the tune of 10 % of running bills/final bill.**

- b. The proceeds of the performance security shall be payable to the AGM (A&p) as compensation for any loss resulting from the contractor's failure to complete its obligations under the contract.
- c. The performance security deposit shall be refunded after expiry of warranty period of last work executed

provided there are no recoveries to be made arising out of poor quality of work, incomplete work and/or violation of any terms and conditions of the contract as Stipulated in the bid document.

d. No interest will be paid to the contractor on the security deposit.

6. **ISSUE OF WORK ORDERS AND TIME UNIT :**

6.1 The work order shall be issued so as to include all items of works. The idea behind issuing work orders in this way is to ensure that the network becomes ready. The contractor shall organize the work in such a way so as to deliver meaningful output of requisite quality within shortest possible time.

6.2 **The work orders shall be issued by the Engineer in -charge** after examining the technical and planning details of these works to be executed.

6.3 If due to any reason partial work order is to be issued then the same shall be issued with the approval of TDM RAIGARH

6.4 The Engineer in charge shall mention the time limit to execute the work order after seeing the quantum of work and store availability position.

6.5 The TDM RAIGARH reserves the right to cancel or modify the scope of work stipulated to be carried out against the work order in the event of change of plan necessitated on account of technical reasons or in the opinion of work order issuing authority, if the contractor is not executing the work at the required rate.

7. **EXTENSION OF THE TIME:**

7.1 **General**

7.1.1 In each work order, the work order issuing authority shall specify the time allowed for completion of work consistent with the magnitude and urgency of work. The time allowed for carrying out the work is to be strictly observed by the contractor and shall be reckoned from seventh day from the date of issue of work order.

7.1.2 In as much as "the time being deemed to be the essence of contract", throughout the stipulated period of contract, the work is to be proceeded with all due diligence on the part of the contractor.

7.2 **Application for Extension-of the Time and Sanction of Extension of Time (EO T):**

7.2.1 There may be some hindrances, other than covered under force majeure, while execution of work and in such cases the contractor shall apply in writing in the prescribed Form to the engineer - in- charge for extension of time (EOT), on account of which he desires such extension within three days of occurrence of hindrance. The Engineer -in-charge shall forward the request to the TDM RAIGARH with his detailed -report and photocopy of the hindrance register, in the prescribed Form within three days of receipt of request from the contractor. The competent authority is empowered to grant extension of time for completion of work on certain conditions. He shall exercise such powers, if the following conditions are satisfied.

7.2.1.1 The application contains the ground(s), which hindered the contractor in execution of Work.

7.2.1.2 The Engineer-in-charge is of the opinion that the grounds shown for extension of time are reasonable.

7.2.2 The competent authority shall consider the request keeping all the facts and circumstances in view and shall grant extension of time, if in his opinion, there are reasonable and sufficient ground for granting such extension and the reasons for delay are not ascribable to the contractor.

7.2.3 The competent authority may also grant extension of time for completion of work in cases where reasons for delay are ascribable the contractor, but such extension of time shall be with LD charges as per cause dealing with penalty for delays in execution of works. The extension of time with LD charges shall be issued under the signature of TDM RAIGARH. Officer competent to grant the extension of time.

7.2.4 The competent authority shall grant EOT with time period for completion of work expressly mentioned. The sanction of the competent Authority of EOT shall be issued under the signature of the Engineer-in-charge.

7.2.5 If the competent authority is of the opinion that the grounds shown by the contractors are not reasonable and sufficient and declines to grant the extension of time, the contractor cannot challenge the soundness of the opinion by reference to arbitration. The decision of the competent authority on period of extension of time or refusal for extension of time shall be final and binding on the contractor.

7.3 **Grant of Extension of Time without Applications:**

There are, at times, practical difficulties like non-availability of materials, delay in providing permissions/right of way etc. reasons of which are ascribable to the AGM(A&p). In such cases, the Engineer-in-charge with the approval of competent authority to sanction EOT, may issue extension of time without waiting for contractor to make an application for EOT. Entry of hindrances shall be made in the Hindrance Register. The AGM (A&p) will, however, not be liable to the contractor for any losses or damages, costs, charges, or expenses that the contractor may in any way sustain/suffer due to delay in making the above available.

## 8. MEASUREMENT, INSPECTION, TESTING AND ACCEPTANCE TESTING:

### PROCEDURE FOR MEASUREMENTS

- 8.1 **Measurement Book:** The measurement book is the basis of all accounts of quantities of work and supplies. The payments to the contractors for the work done are made on the basis of measurements recorded in the measurement book. These books are very important accounts records and therefore, they should be maintained very carefully and accurately, as these may have to be produced as evidence in a court of law, if and when required. The measurement books are to be maintained by the officer in-charge of the work or his immediate engineering subordinate not below the rank of Junior Telecom Officer.
- 8.1.1 All the measurement should be neatly taken down in measurement book issued for the purpose.
- 8.1.2 All the measurement books in the **TDM RAIGARH** area should be serially numbered. A register shall be maintained in the form showing the serial number of each book, officer to whom it is issued, Work order no, and date, date of issue, date of its return to the AGM (A&p).
- 8.1.3 The pages of the measurement book shall be machine-numbered and entries shall be recorded continuously and no blank pages left or page torn out. Any pages left blank inadvertently shall be cancelled by diagonal lines, the cancellation being attested and dated.
- 8.1.4 The entry shall be made in ink. No entry shall be erased. If a mistake is made, it should be corrected by crossing out the incorrect words or figures and inserting the corrections, the corrections thus made shall be initialed & dated by the officer concerned.
- 8.1.5 When the officer holding the measurement book is transferred, he shall handover the measurement book issued to him to his successor and the same should be shown as received back from him and be issued to the relieving officer. The transfer shall also be recorded in the measurement book after the last entry in these books under dated signature of the relieving officer and the relieved officer.
- 8.2 Recording of measurements: Each set of measurements to be recorded shall commence with the entries stating.
- i) Full name of work ii) Estimate number
  - iii) Name of O F Cable route
  - iv) Name of JTO and SDE in-charge of work v) Name of contractor
  - vi) Work order number and date
  - vii) Date of commencement of work viii) Date of completion of work
  - ix) Date of recording of measurements
  - x) Reference to previous measurements xi) Number and date of agreement
- 8.2.1 Responsibility of taking and recording measurements: The measurements of various items of work shall be taken and recorded in the measurement book issued with each work order. The measurement shall be taken and recorded by an officer not below the rank of Junior Telecom Officer, supervising the work. The Junior Telecom Officer/Sub Divisional Engineer, directly responsible for supervision of work, shall be responsible for accuracy of 100 % of measurements. The Divisional Engineer shall be responsible for conducting test check of 10 % of measurements.
- 8.2.2 Method of recording of nomenclature of items: Complete nomenclature of items, as given in the agreement need not be reproduced in the measurement book for recording the measurements but corresponding Item Code as provided, shall be used.
- 8.2.3 Method of measurements: The measurements of the work shall be done for activity -wise as and when the item of work is ready for measurement. The methods of measurement of various items are enumerated as under:

#### Measurement of depth of trenches

The cable routes of one work order shall be divided into a number of segments each of maximum 200 meters length bounded by identifiable landmarks at both the ends of the segments. If landmarks are not available, length of segment may be maintained at 200 meters. The measurement of depth shall be recorded at each point of measurement (POM) in the measurement book in meters in the multiples of 5 cms. For example 97 cms will be recorded as 95 cms and 103 cms as 105 cms. The points of measurements shall be at a distance of 10 meters starting from 0 (Zero) Meter. For example, if the length of segment is 175 meters, the

POMs shall be at 0M, 10M, 20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M, 110M, 120M, 130M, 140M, 150M, 160M & 170M. The last POM shall be at 175<sup>th</sup> M to be recorded against Residual POM.

The efforts required to excavate trenches is not proportionate especially with reference to depth. Therefore, normally the workers tend to dig shallow trenches. As standard depth of the trench is important for future life and protection of cables, this tendency has to be discouraged. In order to encourage the contractor to achieve best possible depth in the face of site constraints, the following scale of payment shall be applied for digging trenches of lesser depths, subject to condition that relaxation has been granted by the competent authority for lesser depths.

#### Depth of trench 165 Cms.

| Depth between         | Reduction in rate         |
|-----------------------|---------------------------|
| <165 Cms. To 150 Cms. | 5 %                       |
| <150 Cms. To 130 Cms. | 12.5 % of approved rates. |
| <130 Cms. To 105 Cms. | 25 % of approved rates.   |
| Below 105 Cms.        | 40 % of approved rates.   |

If the area is predominantly rocky or full of hindrances or there is difficulty in getting permissions from PWD or local agencies involved resulting in difficulty to achieve full depth for full section/route, it is suggested to call for tenders for curtailed depth of 140/120 Cms. Of trench. The rate reduction schedule for such trenches is given below:

#### Depth of trench 140 Cms.

| Depth between                          | Reduction in rate       |
|--|-------------------------|
| <165 cms to $\geq$ 125 cms             | 5 %                     |
| <125 cms to <125 cms to $\geq$ 105 cms | 15 % of approved rates. |
| Below 105 cms                          | 40 % of approved rates. |

#### Depth of trench 120 Cms.

| Depth between              | Reduction in rate       |
|----------------------------|-------------------------|
| <120 cms to $\geq$ 105 cms | 5 %                     |
| Below 105 cms              | 40 % of approved rates. |

The payment for sub normal depth will be calculated as per equations given below:

$$P = (100 - \text{ROR}) \times \frac{\text{RA} \times \text{D}}{\text{ND}}$$

|     |   |   |
|-----|---|---|
| P   | = | Payment for one meter.  |
| ROR | = | Reduction in rate in % as applicable as per tables given above              |
| RA  | = | Approved rate of trenching per meter  |
| D   | = | Actual depth achieved in cms  |
| ND  | = | Nominal depth of trench 165/140/120 cms. for which tender has been floated. |

#### Measurement of Lengths and protection

The measurement of length of trenches is on running meter basis, irrespective of type of soil/starts encountered while digging.

The type of protection provided (item code-wise) in segment shall be recorded in the measurement book in the sheet provided for this purpose.

- Measurement of length of cable. The length of cables laid in trenches, through pipes and through ducts shall be measured by use of RODO Meter. The length should be cross -



verified with the marking of lengths on the cables. The lengths shall be recorded in sheet provided in the measurement book.

- Measurement of other items. The measurement/numerical details of other items shall be recorded in the sheets provided for respective items viz.
  - Digging of joint pit and preparation of joint chamber along with its type i.e. Brick chamber of Pre Cast RCC type.
  - Fixing, Painting and sign writing of route/joint indicators.
  - Termination of Cable in equipment room and no. of joints.

8.2.4 The contractor shall sign all the measurements recorded in the measurement book. This will be considered as an acceptance by the contractor, of measurements recorded in the MB. In case contractor fails to attend at the measurements or fails to countersign or to record the difference within a week, then in case of any such events the measurements taken by Engineer -in-charge or by his/her subordinate as the case may be shall be final and binding on the contractor and the contractor shall have no right to dispute the same.

8.2.5 The Divisional Engineer before passing the bill for sections covered by each set of measurement may carry out test check by re-opening trench at as many locations as necessary and as specified in document procedures for optical fiber cable construction and bills will be passed only when he is personally satisfied of the correctness of entries in the Measurement Book and also when he is satisfied of other aspects of the work as per the terms of the contract. The contractor shall provide the necessary assistance of labor for re-opening of trench for test check by the Divisional Engineer. Separate payment shall not be made to the contractor for excavation of such test checks, however such test pits shall not be more than 10 % of the cable laying work.

8.2.6 Measurement of the work of cable pulling through pipe/duct will be taken equal to the total length of the cable pulled through pipe/duct.

### 8.3 **Inspection and Quality Control:**

8.3.1 The Quality of Works: The importance of quality of O F Cable Construction works cannot be over-emphasized.

8.3.2 It is imperative that the contractor(s) is/are fully conversant with the construction practices and shall be fully equipped to carry out the work in accordance with the specifications. The contractors are expected and bound to ensure quality in construction works in accordance with specifications laid down. The contractor shall engage adequate and experienced supervisors to ensure that works are carried out as per specifications and with due diligence and in a professional manner. The contractors shall satisfy himself/themselves that the work conforms to the quality specifications before offering the same to A/T Wing for Acceptance and Testing.

8.3.3 In addition to Acceptance Testing being carried out by A/T Wing and supervision by Construction Officers, all works at all times shall be open to inspection of the BSNL. The contractors shall be bound, if called upon to do so, to offer the works for inspection without any extra payment.

8.3.4 Site Order Book: The site order book is one of the primary records to be maintained by the JTO/SDE supervising the work during the course of execution of works. The noting made by officers as well as contractors will form as basis for operation of many contractual causes. The contractor shall remove all the defects pointed out by the BSNL staff in the Site order book. The site order book is to be maintained in the prescribed format. The contractor or their authorized representatives shall also be at liberty to note their difficulties etc. in these books. The site order books shall invariably be consulted at the time of making final payments to the contractor.

8.3.5 An assessment of extent of interest shown by the contractors in executing the works with requisite quality shall be recorded and used in evaluating the Contractors Performance Rating (CPR).

### 8.4 **Testing and Acceptance Testing:**

8.4.1 The work shall be deemed to have been completed only after the same has been accepted by the A.T. Officer. The contractor shall make test pits at the locations desired by A. T. Officer for conducting test checks without any extra payment. The contractor shall restore the pits after test measurements to its original shape. The contractor shall be responsible to provide test/measurement tools and testers for conducting various tests.

8.4.2 **Scope of Acceptance and Testing:** The purpose of acceptance and testing is to verify integrity of measurement and quality of work done. The A.T. Officer shall not be responsible for recording of measurements for the purpose of billing and contractual obligations. However, if the measurements taken by A.T. Officer are found to be lesser than the measurements recorded by the officer responsible for recording the measurements, the measurement taken by A. T. Officer shall prevail without prejudice to any punitive action against the contractor as per provisions of the contract and the officer recording the measurements. The contractor shall be obligated to remove defects/deficiencies pointed out by the A. T. Officer without any additional cost to the BSNL.

- 8.4.3 Offering the work for acceptance and testing: The Sub Divisional Engineer responsible for construction, after having satisfied himself of completion of work ready for A.T, shall offer the Work to A.T. Officer for conducting Acceptance and Testing.
- 8.4.4 The contractor shall provide labor, if demanded by the AT officer for digging of test pits and other necessary infrastructure for carrying out the AT work. No extra payment will be made for the digging of test pit.
9. **WARRANTY:**
- 9.1 The contractor shall warrant that the material supplied for the work shall be new and free from all defects and faults in material, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for materials of the type ordered and shall perform in full conformity with the specifications and drawings. The contractor shall be responsible for any defects that may develop under the conditions provided by the contract and under proper use, arising from faulty materials, design or workmanship such as corrosion of the equipment, inadequate quantity of materials etc. and shall remedy such defects at his own cost when called upon to do so by the BSNL staff who shall state in writing in what respect the stores are faulty. It will be applicable until the period of twelve months from the date of completion.
- 9.2 If any defect is not remedied within a reasonable time, as prescribed by the BSNL Staff, the BSNL Staff may proceed to do the work at the contractor's risk and costs, but without prejudice to any other rights which the BSNL staff may have against the contractor in respect of such defects.
- 9.3 Replacement under warranty clause shall be made by the contractor free of all charges at site including freight, insurance, cost of works and other incidental charges.
10. **AUDIT AND TECHNICAL EXAMINATION:**
- 10.1 BSNL shall have the right to cause an audit and technical examination of the work and the final bills of the contractor including all supporting vouchers, abstract etc. to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have overpaid in respect of any work done by contractor under the contract or any work claimed by him to have been done by him under the contract and found not to have been executed, the contractor shall be liable the refund the amount of over payment and it shall be lawful for BSNL to recover the same from him in the manner prescribed in clause with the heading payment of bills (same chapter), or in any other manner legally permissible and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by BSNL to the contractor.
- 10.2 Provided that BSNL shall be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment have been agreed upon between the Divisional Engineer or his subordinate officer on one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the **AGM (A&p)** or his subordinate officer.
- 10.3 Any sum of money due and payable to the contractor including security deposit returnable to him under this contract may be appropriate by the BSNL for the payment of a sum of money arising out or under any other contract made by the contractor with the BSNL.
11. **PAYMENT TERMS:**
- 11.1 **Procedure for Preparation and settlement of bills:**
- 11.1.1 **Procedure for preparation, processing and payment of running bills:** The contractor shall prepare the running bills in triplicate ensuring execution of part work in it completeness as envisaged above, correctness of rates and quantum of work and submit the bills to S.D.E. in - charge of work. The bills shall be submitted in the office of **AGM(A&p)** . The bills shall be prepared accurately and as per measurements recorded in measurement book of all the items involved in the work. The SDE/JTO in-charge shall record the certificate on the running bill that the site order books have been consulted before signing the running bills. This would enable **the S.D.E/JTO. to ensure whether the defects pointed during execution have been rectified or not. The S.D.E/JTO. in-charge of work shall scrutinize the bills and accord necessary certificates and submit the running bills with the documents as mentioned below to the Divisional Engineer, in - charge of work.**
- First copy of bill with first copies' of measurement sheets of measurement book. (Payable Copy).
  - Second copy of bill with second copies of measurement sheets of measurement book. (Not for Payment).
  - Third copy of the bill with photocopies of measurement sheet. (Not for Payment).

- **Copies of authenticated documents of payments of EPF contribution paid for the last month should be attached along with the current month bill.**
  - **Copies of authenticated documents of payments of Insurance contribution paid for the last month should be attached along with the current month bill.**
  - **For payment of running bills on completion of PLB pipe laying works, the payment may be released up to the amount restricted to 50% of the cost of PLB pipe laying work of entire route.**
  - **For payment of running bills on completion of PLB pipe laying and OFC pulling, payment may be released up to the amount restricted to 75% of the cost of related works of entire route.**
  - **100% payment will be made on completion of Depth A/T & Fiber A/T.**
- 11.1.2 Inner shall exercise the prescribed checks on the bills and accord necessary certificates on the bills. The Divisional Engineer shall retain the third copy in record and record it in the estimate file maintained in his office and send first and second copies with all documents to Works Section of Planning Cell for processing of bills and release of payment.
- 11.1.3 The work section shall process the bills in the estimate file of the concerned work and scrutinize the bills vis-a-vis work order issued, sanctioned provisions in the estimate etc. The bill shall be passed, after necessary scrutiny by Works Section, by the officer competent to pass the bill.  
Against any running bill, payment to the extent of only 90% shall be made which shall be treated as an advance to the contractor. 10% of the bill amount towards Performance Security Deposit and Statutory taxes (Income Tax etc.) applicable to contract shall be deducted at the time of payment from each running bill. Account payee cheque for the amount passed in the bill will be issued only after the contractor gives a stamped receipt for the amount, if the bills are not pre-receipted. Details of payment of all the bills shall be entered into contract's ledger by Work Section.
- 11.1.4 Procedure for preparation, processing and payment of final bill: The contractor shall prepare the final bill in triplicate of all the works and submit the same to S.D.E. /JTO in-charge of work within 30 days of completion of work and payment shall be made within three months if the amount of the contract is up to Rs two lacs and in six months if the same exceed Rs. Two lacs.  
The final bill shall be prepared all the measurements of all items involved in execution of laying work details. The contractor shall prepare the final bill containing the following details.
- \* The bill for all the quantities as per Measurements at the approved rates.
- Adjustment of amount paid against running bills
  - Adjustment of performance security deposit and statutory taxes already recovered.
  - Store reconciliation statement furnishing account of stores received against the Work order and returned to the designated Store as surplus with requisite verifications from store in - charge/S.D.E. in-charge of work.
  - Letters of grant of E.O.T(s) if work could not be completed within stipulated time.
  - Six sets of bound documentation.
- ✓ **Final bill will be accepted by AGM (P) office only after completion of Depth A/T & Fiber A/T.**
- 11.1.5 The S.D.E./JTO in-charge of work shall scrutinize the final bill against the works entrusted and accord necessary certificates stating that the work has been executed satisfactorily in accordance with specifications and terms and conditions of the contract. The S.D.E. shall verify the quantities of items of work with reference to measurements recorded in the measurement book. The S.D.E. in-charge of work shall submit the final bills, along with other documents mentioned above, with the documents as mentioned hereunder to the Divisional Engineer, in -charge of work.
- \* Bill prepared by the contractor.
  - \* Measurement Book.
  - \* The site order Book.
  - \* The hindrance registers.
  - \* Details of recoveries/penalties for delays, damages to BSNL /Third party properties as per provisions of the contract. In case no recovery is to be made, NIL report needs to be submitted.
  - \* **Copies of authenticated documents of payments of EPF contribution paid for the last month should be attached along with the current month bill.**
- 11.1.6 The Divisional Engineer shall exercise the prescribed checks on the bills and accord necessary certificates on the bills. The Divisional Engineer shall retain the third copy of the bill along with photocopies of other documents not available in his estimate file and send first and second copies of the bill, measurement book and other documents submitted by S. D.E. along with the bills as above to Works Section of the Planning Cell for processing and final payments.

- 11.1.7 The work section of AGM (A&p) shall process the bills in the estimate file of the concerned work and scrutinize the bills vis-a-vis work order issued, sanctioned provisions in the estimate etc. The Works Section shall scrutinize the bill who recovers all the liabilities of the contractor and statutory taxes besides 10% payments against security deposit. The bill shall be passed, after necessary scrutiny by Works Section, by the *officer* competent to pass the final bill.
- 11.1.8 The bidder is required to submit a payment insulation under taking that he has sufficient capital resources at his disposal so that he will make due payments to the labours / workers / working of this tender/ contract every month as per laws without linking it with payments from BSNL and carry out operations of tender without linking it with payments from BSNL. (It may be noted that BSNL makes payments twice a month based on status of submitted & passed invoices available with paying authority as per current policy).
- 12 Procedure for Payment for sub standard works:**
- 12.1 The contractors are required to execute all works satisfactorily and in accordance with the specifications. If certain items of work are executed with unsound, imperfect or unskilled workmanship or with materials of any inferior description or that any materials or articles provided by him for execution of work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract (referred to as substandard work hereinafter), the Divisional Engineer in -charge shall make a demand in writing specifying the work, materials or articles about which there *is* a complaint.
- 12.2 Timely action by Construction Officers: Timely reporting and action, to a great extent, can prevent occurrence of sub standard work, which will. be difficult or impossible to rectify later on. It is incumbent on the part of Construction Officers to point out the defects in work in time during progress of the work. The Junior Telecom Officer/Sub Divisional Engineer responsible for execution and supervision of work shall without any loss of time submit a report of occurrence of any sub standard work to the Divisional Engineer in -charge besides making an entry in the site order book. notice in respect of defective work shall be given to the contractor by Divisional Engineer In - charge in writing during the progress of work asking the contractor to rectify/replace/remove the sub standard item of work and also definite time period within which such rectification/removal/replacement has to be done. After expiry of the notice period, If there contractor falls to rectify/replace/remove the sub standard items , the defects shall be . Got rectified/replaced/removed BSNL all or through some other agency at the risk and cost of the contractor.
- 12.2.1 Non-reporting of the sub standard work In time on the part of Construction *Officer* (s) shall not in any way entitle the contractor to claim that t he defects were not pointed out during execution and as such the contractor cannot be absolved *of* the responsibility for sub standard work and associated liabilities.
- 12.2.2 Authority and Procedure to accept sub standard work and payment thereof: There may be certain items of work pointed out as sub standard which may be difficult to rectify and in the opinion *of* the **TDM RAIGARH** the items in question will not materially deteriorate the quality *of* service provided by the construction, **TDM RAIGARH** shall appoint committee to work out the reduced rates payable to the contractor for such sub standard work. The committee shall constitute one Divisional Engineer other than the one who is directly in -charge of O F Cable Construction involving sub standard items *of* work, as "chairman and one S.D.E. and an Accounts Officer as members. The, committee shall take into account the approximate cost of material/work pointed out as sub standard' and recommend the rates payable for sub standard work which shall not exceed 60% of the approved rates of the item in question.
- 12.2.3 Record of sub standard work: The items adjudged, as sub standard shall be entered into the measurement book with red ink.
- 12.2.4. The contractor should ensure that the payment to their workers might be made through account payee cheque or on-line and records made available to BSNL.**
- 13. PENALTY CLAUSE:**
- 13.1 **Delays in the contractor's performance:**
- 13.1.1 The time allowed for completion of the work as entered in the tender shall be strictly adhered by the contractor and shall be *deemed to be the most important aspect of the contract on the part of the contractor and shall be reckoned from Seventh day from issue of work order by the BSNL* . The work shall, throughout the stipulated period *of* contract, be proceeded with all due diligence to achieve the desired progress uniformly, and the contractor shall pay as penalty an amount equal to 1.0 (one) percent of the amount (minimum Rs One thousand per week) of the incomplete work for every one week of delay in completion of work, subject to a maximum of 10 (ten) percent of the cost of the work awarded.
- 13.1.2 On any date the penalty payable as above, reaches 10 (ten ) percent of the estimated cost of the work, the contractor should proceed with the work further only on getting a written instructions from the Divisional

Engineer that, he is allowed to proceed further with the work. It will be In the discretion of the Divisional Engineer to allow the contractor to continue with the work on the basis of any written agreement reached between the contractor and the Divisional Engineer one of the conditions of such agreement may be a stipulation for the contractor to agree f or realization of penalty for delay at a higher rate as may be agreed between the Divisional Engineer and contractor.

- 13.1.3 Penalty for delay in completion of the work shall be recoverable from the bills of the contractor and/or by adjustment from the security deposit or from the bills of any other contract. However, adjustment from security deposit will be made only when the contract has been terminated or at the time of final settlement of bills on completion of work.

In case of slow progress of the work in a section which have been awarded to a particular contractor, and the public interest does not permit extension of time limit for completion of the work, the **AGM (A&p)** will have the full right to order that the scope of the contractor may be restricted to such fraction of the whole of the work and get the balance executed at the risk and cost of the contractor. The details are given in Rescission of the contract clause of the bid document All such payments shall be recovered from the contractor's pen ding bills or security deposit.

- 13.1.4 The **TDM RAIGARH** reserves the right of cancel the contract and forfeit the security deposit If the contractor fails to commence the work within 7 days after issue of the work order.

### 13.2 Penalty for cutting/damaging the old cable/New Cable:

- 13.2.1 Penalty for cutting/damaging the existing cables of BSNL and the existing underground facilities of third parties: -

- 13.2.2 During excavation of trench utmost care is to be taken by the contractor so that the existing underground cables are not damaged or cut. IN -case any damage/cut is done to the existing cables, a penalty as per the schedule given below will be charged from the contractor or the amount will be deducted from his running bills:

-

| Size of existing UG/ OF cables cut/ damaged | Amount of penalty per Fault   |
|---|-------------------------------|
| Of Cable & UG Cable of any size             | Rs 50,000.00 (Fifty thousand) |
|   |                               |

This amount will be recovered for levying both penalty & compensation.

- 13.2.3 Contractor shall either pay to third parties all expenditure incurred for restoring services which are damaged by Contractor while carrying out the work or the same amount will be deducted from his bills. Such expenditure shall be intimated to Contractor either by Engineer -in-charge or concerned third parties in writing. The amount deducted by the Contractor from his bill shall be paid to concerned third parties by Divisional Engineer or Accounts Officer.

- 13.2.4 Engineer-in-charge at his absolute discretion shall reserve the right to reject any bill submitted by the Contractor prior to making payment by him to third parties for the damages caused or to deduct same amount from his bill.

### 13.3 Penalty to damage stores/materials Supplied by the department while laying:

- 13.3.1 The contractor while taking delivery of materials supplied by the BSNL at the designated place shall thoroughly inspect all items before taking them over. In case of execution of the work, if any material is found damaged/working unsatisfactorily, then a penalty equivalent to the cost of material + 10 % as penalty shall be recovered from the contractor's payments/securities.

- 13.3.3 However, contractor will not be penalized for any defect in workmanship of the materials, which shall be taken up separately with the supplier of the stores.

## 14. Rescission/Termination of contract

### 14.1 Circumstances for rescission of contract:

Under the following conditions the competent authority may rescind the contract:

- If the contractor commits breach of any item of terms and conditions of the contract.
- If the contractor suspends or abandons the execution of work and the engineer in - charge of the work comes to conclusion that work could not be completed by due date for completion or the contractor had already failed to complete the work by that date.

- (c) If the contractor: - had been given by the officer-in-charge of work a notice in writing to rectify/replace any defective work and he/she fails to comply with the requirement within the specified period.
- 14.2 Upon rescission of the contract, the security deposit of the contractor shall be liable to be forfeited and shall be absolutely at the disposal of the BSNL as under:
- 14.2.1 Measurement of Works executed since the date of last measurement and upto the date of rescission of contract shall be taken in the presence of the contractor or his authorised representative .who shall sign the same in the MB. If the contractor or h is authorised representative do not turn up for joint measurement,. the measurement shall be taken by the officer authorised for this purpose after expiry of due date given for joint measurement. The measurement taken by the officer so authorised shall be final and no further request for joint measurement shall be entertained. '
- 14.2.2 The unused material (Supplied by the BSNL) available at site, shall be transported back by the BSNL to the Telecom Store at the risk and cost of the contractor. If any such material is found damaged/lost then the penalty shall also be recovered from the contractor as per conditions in tender documents, *ibid*.
- 14.2.3 The un-executed work shall be got executed through the qualified bidder from amongst the bidders, who participated in the bidding process, by giving them offers in their order of ranking (L2, L3---) at their quoted rates. If the work was awarded on single' tender basis then the BSNL shall get' the unexecuted work completed through any other contractor approved UNDER AGM (A&p) RAIGARH at the approved rates of that particular section or to execute the work BSNL only, as is convenient or expedient to the BSNL at the risk and cost of the contractor. In such an event no compensation shall be payable by the BSNL to the contractor toward any inconvenience/loss that he may be subjected to as a result or' such an action by the BSNL. In this regard the decision of AGM (A&p) shall be final and binding. In all these cases, expenses whim may be incurred in excess of the sum whim would have been paid to the original contractor if the whole work had been executed by him shall be borne, and paid by the original contractor and shall be deducted from any money due to him by: the BSNL under the contract or any other account whatsoever anywhere in the BSNL or from a security deposit.
- 14.2.4 The certificate of the Divisional Engineer in-charge of work as to the value of work done shall be final and conclusive against the contractor, provided always that action shall only be taken after giving notice in Writing to the contractor.
- 15 Termination for Insolvency:**
- 15.1 The BSNL may at any time terminate the Contract by giving written notice to the Contractor, without compensation to Contractor, if the Contractor becomes bankrupt or otherwise insolvent as declared by the competent court provided that such termination will not prejudice or affect any right or action or remedy which has accrued or will accrue thereafter to the BSNL.
- 15.2 Optional Termination by BSNL (Other than due default of the Contractor):**
- 15.2.1 The BSNL may, at any time, at its option cancel and terminate this contract by written notice to the contractor, in which event the contractor shall be entitled to payment for the work done up to the time of such cancellation and a reasonable compensation in accordance with the contract: prices for any additional expenses already incurred for balance work exclusive of purchases and/or whole of material, machinery and other equipment for use In or in respect of the work.
- 15.2.2 In the event of the termination of the contract, the contractor shall forthwith dear the site of all the contractor's materials, machinery and equipment's and hand over possession of the work / operations concerned to the BSNL or as the BSNL may direct.
- 15.2.3 The BSNL may, at its option, cancel or omit the execution of one or more items of work under this contract and may part of such items without any compensation whatsoever to the contractor.
- 15.3 Issuance of Notice:**
- 15.3.1 The Divisional Engineer in-charge of work shall issue show cause notice giving details of lapses, violation of terms and conditions of the contract, wrongful delays or suspension of work or slow progress to the contractor directing the contractor to take corrective action. A definite time schedule for corrective action shall be mentioned in the show cause notice. If the contractor fails to take corrective action within the stipulated time frame, the Divisional Engineer in -charge shall submit a draft of final notice along with a detailed report to the competent authority who had accepted the contract.
- 15.3.2 The final notice for rescission of contract to the contractor shall expressly state the precise date and time from which the rescission would become effective. The following safe guards shall be taken while issuing tile final notice:

- a) During the period of service of notice and its effectiveness, the contractor should not be allowed to remove from the site any material/ equipment belonging to the BSNL .
- b) The contractor shall give in writing the tools and plants he would like to take away/remove from the site. Such of the materials as belong to him and which may not be required for future execution of balance work may be allowed by the Divisional Engineer in-charge of work to be removed with proper records.
- c) No new construction beneficial to the contractor shall be allowed.
- d) Adequate BSNL security arrangement In replacement of the contractor watch and ward shall be made forthwith. Expenses on this account are recoverable from the security deposit or any amount due to the contractor.

## **16 INDEMNITIES:**

- 16.1 The contractor shall at all times hold the BSNL harmless and indemnify from against all action, suits, proceedings, works , cost, damages, charges claims and demands of every nature and descriptions, brought or procured against the BSNL, Its *officers* and employees and forthwith upon demand and without protect or demur to pay to the BSNL any and all losses and damages and cost ( Inclusive between attorney and client) and all costs incurred in endorsing this or any other indemnity or security which the BSNL may now or at any time have relative to the work or the contractors obligation or in protecting or endorsing its right in any suit on other legal proceeding, charges and expense and liabilities resulting from or incidental or in connection with injury, damages of the contractor or damage to property resulting from or arising out of or in any way connected with or incidental to the operations caused by the contract documents. In addition the contractor shall reimburse the BSNL or pay to the BSNL forthwith on demand without protect or demur all cost, charges and expenses and losses and damages otherwise incurred by it in consequences of any claim, damages and actions which may be brought against the BSNL arising out of or incidental to or in connection with the operation covered by the contractor.
- 16.2 The contractor shall at his own cost at the BSNL's request defend any suit or other proceeding asserting a claim covered by this indemnity, but shall not settle, compound or compromise any suit or other finding without first consulting the BSNL.

## **17. FORCE MAJEURE:**

- 17.1 If any time, during the continuance of this contract, the performance In whole or in part by either party or any obligation under this contract shall be prevented or delayed by reason of any war, or hostility, acts of the public enemy, evil commotion sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts or act of God (Herein after referred to as events) provided notice of happenings, of any such eventuality is given by either party to the other within 21 days from the date of occurrence thereof, neither party shall by reason of such event be entitled to terminate this contract nor shall either party have any such claim for damages against the other in respect of such non -performance and work under the contract shall be resumed as soon as practicable after such event may come to an end or cease to exist, and the decision of the BSNL as to whether the work have been so resumed or not shall be final and conclusive, provided further that if the performance, in whole or part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 60 days either party may, at his option terminate the contract.
- 17.2 Provided also that if the contract is terminated under this clause, the BSNL shall be at liberty to take over from the contractor at a price to be fixed by the BSNL , which shall be final, all unused, undamaged and acceptable materials, bought out components and stores in the course of execution of the contract, in possession of the contractor at the time of such termination of such portions thereof as the BSNL may deem fit excepting such materials bought out components and stores as the contracts may with the concurrence of the BSNL elect to retain.

## **18. ARBITRATION:**

- 18.1 In the event of any question, dispute or difference arising under this agreement or In connection there-with except as to matter the decision of whom is specifically provided under this agreement, the same shall be referred to sole arbitration of the Chief General Manager, Chhattisgarh Telecom Circle or In case his designation is changed or his office is abolished then in such case to the sole arbitration of the officer for the time being entrusted whether in addition to the functions of the Chief General Manager Chhattisgarh Telecom Circle or by whatever designation such officers may be called (hereinafter referred to as the said officer) and if the Chief General Manager, Chhattisgarh Telecom Circle or the said officer is unable or unwilling to act as such to the sole arbitration or some other person appointed by the Chief General Manager, or the said officer. The agreement to appoint an arbitrator will be in accordance with the Arbitration and Conciliation Act, 1996.

There will be no objection to any such appointment that the arbitrator is BSNL Servant

or that he has to deal with the matter to whom the agreement relates or that in the course of his duties as BSNL Servant he has expressed views on all or any of the matter under dispute. The award of the arbitrator shall be final and binding on the parties. In the event of such arbitrator to whom the matter is originally referred, being transferred or vacating his officer or being unable to act for any reasons whatsoever such Chief General Manager or the said officer shall appoint another person to act as arbitrator in accordance with terms of the agreement and the person so appointed shall be entitled to proceed from the stage at whom it was left out by his predecessors.

- 18.2 The arbitrator may from time to time with the consent of parties enlarge the time for making and publishing the award, Subject to aforesaid Indian Arbitration and Conciliation Act 1996 and the Rules made there under, any modification thereof for the time being In force shall be deemed to apply to the arbitration proceeding under this clause.
- 18.3 The venue of the arbitration proceeding shall be the Office of the Chief General Manager, Chhattisgarh Circle or such other Places as the arbitrator may decide. The Following procedure shall be followed:
- 18.3.1 In case parties are unable to settle by themselves, the dispute should be submitted or arbitration in accordance with contract agreement
- 18.3.2 There should not be a joint submission with the contractor to the sole Arbitrator.
- 18.3.3 Each party should submit its own claim severally and may oppose the claim put forward by the other party.
- 18.3.4 The onus of establishing his claims will be left to the contractor.
- 18.3.5 Once a claim has been included in the submission by the contractor, a reiteration or modification thereof will be opposed.
- 18.3.6 The "points of defence" will be based on actual conditions of the contract .
- 18.3.7 Claims in the nature of ex-gratia payments shall not be entertained by the Arbitrator as these are not contractual.
- 18.3.8 The question whether these conditions are equitable shall not receive any consideration in the preparation of "points of defence".
- 18.3.9 If, the contractor includes such claims in his submission, the fact that they are not contractual will be prominently placed before the Arbitrator.

***The award of the sole Arbitrator shall be final and binding on all the parties to the dispute.***

- 19.1. **SET OFF:** Any sum of money due and payable to the contractor (Including security deposit refundable to him) under this contract may be appropriated by the BSNL or any other person or persons contracting through the BSNL and set off the same against any claim of the BSNL or such other person or persons for payment of a sum of money arising out of this contract made by the Contractor with BSNL or such other person or persons contracting through BSNL .

- 19.2. **Security Deposit** :- The Bidder can deposit Security Deposit in the form of PERFORMANCE SECURITY GUARANTEE (BOND FORM) for an amount equal to 10% of the cost of Tender( As per Approved Rates) as per format available at Section-XI Part-G at the time of Agreement or may allow BSNL to deduct 10% from the bills as Security Deposit.

The Security Deposit will only be released for duly A/Ted routes after six months from the date of payment of final bill and only after makeover the route to SSA concerned.



**SECTION VI**  
**SPECIAL CONDITIONS OF CONTRACT**

- 1. GENERAL:**
- 1.1 The work shall be accepted only after prescribed checks carried out by BSNL Officers, designated by the BSNL, as per prescribed schedule and work/material passing the test successfully.
- 1.2 The BSNL reserves the right to disqualify such bidders who have a record of not meeting contractual obligations against earlier contracts entered into with the BSNL.
- 1.3 The BSNL reserves the right to black list a bidder for a suitable period in case he fails to honour his bid without sufficient grounds.
- 1.4 The BSNL reserves the right to counter offer price(s) against price(s) quoted by any bidder.
- 1.5 Any clarification issued by BSNL, in response to query raised by prospective bidders shall form an integral part of bid documents and it may amount to amendment of relevant clauses of the bid documents.
- 1.6 Tender will be evaluated as a single package of all the items given in the price schedule.
- 1.7 All work to be executed under the contract shall be executed under the direction and subject to the approval in all respects of by the *Divisional Engineer or Site Engineer In-charge of work site* who shall be entitled to direct at what point or points and what manner they are to be commenced, and from the time to time carried on.
- 1.8 The work in each section may be split up between two or more contractors or accept any tender in part and not entirely if considered expedient by the **TDM RAIGARH**
- 1.9 If the contractor shall desire an extension of time for completion of the work on the grounds of unavoidable hindrance in execution of work or on any other *ground he shall apply in writing to the Divisional Engineer within 3 days of the date of hindrance* on account of which he desires such extension as aforesaid. In this regard the decision of the **TDM RAIGARH** shall be final.
- 
- 1.10 If at any time after the commencement of the work, the BSNL may feel that execution of whole or part of work, as specified in the tender is not required to be carried out, then the BSNL shall give notice in writing of the fact to the contractor who shall have no claim. to any payment of compensation whatsoever on account of any profit or advantage which he might have derived in consequence of the full amount of the work not having been carried out neither shall he have any claim for compensation by reason of any alterations having been made in the original specifications, drawings, designs and instructions which shall instructions any curtailment of the work as originally contemplated.
- 1.11 Whenever any claims against the contract or for the payment of a sum of money arises out of or under the contract, the BSNL shall be entitled to recover such sum by appropriating in part or whole the security deposit of the contractor, and to sell any BSNL promissory notes etc, forming the whole or part of such security or running Final bill pending against any contract with the BSNL. In the event of the security being insufficient or if no security has been taken from the contractor, then the balance or the total sum recoverable as the case may be, shall be deducted from any sum then due or which at any time there after may become due to the contractor under this or any other contract with BSNL. Should this sum be not sufficient to cover the full amount Recoverable the contract or shall pay to BSNL on demand the balance remaining due.
- 1.12 No official of Gazetted rank or other Gazetted officer employed in Engineering or administrative duties in an Engineering BSNL or any other BSNL of the BSNL of India is allowed to work as a contractor for a period of two years after his retirement from BSNL service without the previous permission of BSNL of India. This contract is liable to be cancelled if either the contractor or any of his employee is found at any time to be such a person who hadn't obtained the permission of BSNL of India as aforesaid before submission of the engagement In the contractor's service as the case may be.
- 1.13 In the event of the contractor being, adjusted insolvent or going voluntarily into liquidation of having received order or other order under insolvency act made against him or in the case of company, of the passing of any resolution, or making of any order for winding up whether voluntarily or otherwise, or in the event of the contractor failing to comply with any of the conditions herein specified. The AGM (A&p) shall have the power to terminate the contract without any notice.
- 1.14 Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the **TDM RAIGARH** on behalf of the BSNL can terminate the contract without compensation to the contractor. However **TDM**

**RAIGARH TDM RAIGARH** ) at his discretion may permit contractor's heirs to perform the duties or engagements of the contractor under the contract, in case of his death. In this regard the decision of **TDM RAIGARH** shall be the final.

- 1.15 In the event of the contractor, winding up his Company on account of transfer or merger of his company with any other, the contractor shall make it one of the terms and Stipulations of the contract for the transfer of his properties and business, that such other person or company, shall continue to perform the duties or engagement of the contractor under this contract and be subject to his liabilities there under.

**1.16 Interpretation of the contract document:**

- 1.16.1 The representative of the AGM (A&p) and the contractor shall in so far as possible by mutual consultation, by to decide upon the meaning and intent of the contract document. In -case of disagreement the matter shall be referred to AGM (A&p) whose decision shall be final. Any change in the contract: documents shall be set forth in writing by the representative of the parties hereto. It shall be the contractor's responsibility to thoroughly familiarize all of his supervisory personnel with the contents of all the contract documents.

**1.17 Notification:**

- 1.17.1 The contractor shall give in writing to the proper person or authority with a copy to the Divisional Engineer such notification as may be mandatory or necessary in connection with the commencement, suspension, resumption, performance and I or completion of the contracted work . All notice shall be given sufficiently in advance of the proposed operation to permit proper co-relation of activities and the contractor shall keep all proper persons or authorities involved and advised of the progress of operations throughout the performance of the work and/or with such other Information and or supporting figure and data as may from time to time as directed or required.

**1.18 Shut down on account of weather conditions:**

The contractor shall not be entitled to any compensation whatsoever by reason of suspension of the whole or any part of the work made necessary by the BSNL or deemed advisable on account of bad weather conditions or other force majeure conditions.

**2. EASEMENTS, PERMITS, LICENCES AND OTHER FACILITIES :**

- 2.1 The contractor shall obtain/provide at his own cost all easements, permits and license necessary to do its work except for the following which shall be provided by the Representative of the AGM(A&p)  
(A) "Right of User " easements and permits.  
(B) Railway and Highway crossing permits including bridge. (C) Canal/ stream crossing permits.
- 2.2 The contractor shall be fully responsible for handling and obtaining all necessary easements, permits and licenses, for moving all construction equipment, tools, supplied materials and men across Railways and Highways, across public or private road as well as premises of any public utility within the right of user and for bearing all costs that may be incurred in respect of the same.
- 2.3 The contractor is to confine his operation to the provided construction "Right of User" unless it has made other arrangement with the particular property owners and or tenants such other arrangements shall be entirely at the responsibility of the contractor as to cost and arrangement as also bream and claim and shall be entitled with a copy to the Divisional Engineer.
- 2.4 The contractor will not be entitled to extra compensation for hardship and Increase in cost by the cable trench being routed adjacent to or across other pipeline, Highways, Railways, telephones or poser poles and wires or guy wires, embankments, cliffs, streams or other obstacles Whim may physically or otherwise in any manner, restrict or limit the use of the construction "Right of User. Some construction and such contingency shall be deemed to have been providing for in the rates.
- 2.5 At location where the OPTICAL FIBRE cable trench Is routed across o r along railways or roads the contractor shall without extra cost provide and. maintain such detours and road controls as are required by the railways or BSNL or local agencies having jurisdiction. .
- 2.6 If the BSNL is not able to provide above mentioned permits etc. In time then the extension of time limit shall be provided as per EOT clause given in tender document

**3. QUALITY OF WORK:**

- 3.1 The BSNL shall be the final judge of the quality of the work and the satisfaction of the BSNL

in respect thereof set forth in the contract documents. Laxity or failure to enforce compliance with the contract documents by the BSNL and or its representative shall not manifest a change or intent of waiver, the Intention being that, notwithstanding the same, the contractor shall be and remain responsible for complete and proper compliance with the contract documents and the specification there in. The representative of AGM(A&p) has the right to prohibit the use of men and any tools, materials and equipment which in his opinion do not produce work or performance meet the requirement of the contract documents.

#### **4. TAXES AND DUTIES:**

- 4.1.1 Contractor shall pay all rates, levies, fees royalties, taxes and duties payable or arising from out of, by virtue of or in connection with and /or incidental to the contract or any of the obligations of the parties in terms of the contractor documents and / or in respect of the works or operations or any part thereof to be performed by the contractor and. the contractor shall indemnify and keep indemnified the BSNL from and against the same or any default by the contractor in the payment thereof.

#### **5. PROTECTION OF LIFE AND PROPERTY AND EXISTING FACILITIES:**

- 5.1 The contractor is fully responsible for taking all possible safety precaution during preparation for and actual performance of the works and for keeping the construction site in a reasonable safe condition. The contractor shall protect all life and property from damage or losses resulting from his construction operations and shall minimize the disturbance and inconvenience to the public.

#### **6. LABOUR WELFARE MEASURES AND WORKMAN COMPENSATION:**

##### **6.1 Obtaining License before commencement of work:**

The contractor shall obtain a valid labor license under the Contract labor (R&A) Act 1970 and the Contract: Labour (Regulation and Abolition) Central Rules 1971, before commencement of the work, and continue to have a valid license until the completion of work. The contractor shall also abide by the provisions of the child Labour (Prohibition and Regulation) Act 1986. Any failure to fulfill this requirement shall attract the penal provisions of this contract arising out of the resultant non-execution of work. .

##### **6.2 Contractors Labour Regulations:**

##### **6.2.1 Working Hours**

- 6.2.1.1 Normally working hours of an employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.
- 6.2.1.2 When a worker is made to work for more than 9 hours on any day or for more than 48 hours in any week he shall be paid over time for the extra hours put in by him.
- 6.2.1.3 Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of Minimum Wages (Central) Rules 1960, as amended from time to time, Irrespective of whether such worker is governed by the Minimum Wages Act or not.
- 6.2.1.4 Where the minimum wages prescribed by the BSNL, under the Minimum wages Act, are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages, at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.
- 6.2.1.5 Where a contractor is permitted by the Engineer -in-charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day, on one of the five days, immediately before or after the normal weekly holiday, and pay wages to such worker for the work performed on the normal weekly holiday at the overtime rate.

##### **6.2.2 Display Of Notice Regarding Wages Etc.**

contractor shall, before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain, in a clear and legible condition in conspicuous places on the work, notices in English and in local Indian languages spoken by the majority of the workers, giving the minimum rates of the wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wages are earned, wages periods, dates of payments of wages and other relevant information.

##### **6.2.3 Payment of Wages.**

- 6.2.3.1 The contractor shall fix wage periods in respect of which wages shall be payable.
- 6.2.3.2 No wage period shall exceed one month.
- 6.2.3.3 The wages of every person employed as contract labor in an establishment or by a contractor, where less than one thousand such persons are employed, shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- 6.2.3.4 Where the employment of any worker is terminated by or on behalf of the contractor, the wages earned by him shall be paid before the expiry of the second working day from the date on which he

employment is terminated.

- 6.2.3.5 All payment of wages shall be made on a working day at the work premises and during the working time and on, a date notified In advance and in case the work Is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- 6.2.3.6 Wages due to every worker shall be paid to him direct or to other person authorised by him in this behalf.
- 6.2.3.7 All wages shall be paid In current coin or currency or in both.
- 6.2.3.8 Wages shall be paid without any deduction of any kind except those specified by the - Central BSNL by general or special order in this behalf or permissible under the Payment of wages Act 1956.
- 6.2.3.9 A notice showing the wages 'period and the place and time of disbursement of wages shall, be displayed at the place of work and a copy sent by the contractor to the Engineer in-Charge under acknowledgement.
- 6.2.3.10 It shall be the duty of the contractor of to ensure the disbursement of wages in presence of the site Engineer or any other authorized representative of the Engineer-in-Charge who will be required to be present at the place and time of the disbursement of wages by the contractor to workmen.
- 6.2.3.11 The contractor shall obtain from the site Engineer or any other authorised representative of the Engineer-in-Charge, as the case may be, a certificate under his signature at the end of the end of the entries in the "Register of wages" or the "Wage -cum-Muster Roll", as the case may be, In the following form: -

"Certified that the amount shown in the column No has been paid to the workman concerned in my presence on at ."

#### **6.2.4 Fines and deductions which may be made from wages**

- 6.2.4.1 The wages of a worker shall be paid to him without any deduction of any kind except the following
- Fines
  - Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
  - Deductions for damage to or loss of goods expressly entrusted to the employed person for loss of money or any other deductions which he is required to account, where such damage or loss is directly attributable to his neglect or default.
  - Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
  - Any other deduction, which the Central BSNL may from time to time, allow.
- 6.2.4.2 No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Labour Commissioner.
- 6.2.4.3 No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- 6.2.4.4 Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

#### **6.2.5 Labour records**

- 6.2.5.1 The contractor shall maintain **Register of Persons employed** on work on contract in From XIII of the contract Labour (R&A) Central Rules 1971.
- 6.2.5.2 The contractor shall maintain a **Muster Roll** register In respect of all workmen employed by him on the work under Contract in Form XVI of the (R&A) Rules 1971.
- 6.2.5.3 The contractor shall maintain a **Wage Register** in respect of all workmen employed by him on the work under contract in From XVII of the CL (R&A) Rules 1971.
- 6.2.5.4 **Register of accidents** - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include, the following particulars:
- Full Particulars of the labourers who met with accident.
  - Rate of wages
  - Sex
  - Age
  - Nature of accident and cause of accident
  - Time and date of accident
  - Date and time when admitted in hospital h) Date of discharge from the hospital
  - Period of treatment and result of treatment
  - Percentage of loss of earning capacity and disability as assessed by Medical officer.

- k) Claim required to be paid under Workmen's Compensation Act.
  - l) Date of payment of compensation.
  - m) Amount paid with details of the person to whom the same was paid n) Authority by whom the compensation was assessed
  - o) Remarks
- 6.2.5.5 The contractor shall maintain a **Register of Fines** in the Form XII. (R&A) Rules 1971  
The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and emission for which fines can be imposed.
- 6.2.5.6 The contractor shall maintain a **Register of deductions for damage** or loss in Form XX of the (R&A) Rules 1971.
- 6.2.5.7 The contractor shall maintain a **Register of Advances** in Form XXIII of the (R&A) Rules 1971.
- 6.2.5.8 The contractor shall maintain a **Register of Overtime** in Form XXIII of the (R&A) Rules 1971.
- 6.2.6 Attendance card-cum wage slip**
- 6.2.6.1 The contractor shall issue an **Attendance card cum wage slip** to each workman employed by him.
- 6.2.6.2 The card shall be valid for each wage period,
- 6.2.6.3 The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- 6.2.6.4 The card shall remain in possession of the Worker during the wage period under reference.
- 6.2.6.5 The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- 6.2.6.6 The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with him.
- 6.2.7 Employment card**  
The contractor shall issue an Employment Card in the Form XIV of a. (R&A) Central Rules 1971 to each worker within three days of the employment of the worker.
- 6.2.8 Service certificate**  
On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a Service Certificate in the from XV of the (R&A) Central Rules 1971.
- 6.2.9 Preservation of labor records**  
The Labour records and records of fines and deductions shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer -in-charge or Labour Officer or any other officers authorized by the Ministry of Communication in this behalf.
- 6.3 Power of labor officer to make investigations or inquiry**  
The labor officer or any person authorized by the Central BSNL on their behalf shall have power to make inquiries with a view to ascertaining and enforcing due and proper observance of Fair Wage Causes and provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor in regard to such provision.
- 6.4 Report of Investigating officer and action there on**  
The Labour Officer or other persons authorized as aforesaid shall submit a report of result of his investigation or inquiry to the Engineer in -charge indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. The Engineer in -charge shall arrange payments to the labor concerned within 45 days from the receipt of the report from the Labour Officer or the authorized officer as the case may be.
- 6.5 Inspection' of Books And Slips**  
The contractor shall allow inspection of all the prescribed labor records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorized by the Central BSNL on his behalf.
- 6.6 Submission of Returns**  
The contractor shall submit periodical returns as may be specified from time to time.
- 6.7 Amendments:** The Central BSNL may from time to time add to or amend the regulations and on any question as to the application/interpretation or effect of those regulations.
- 7. INSURANCE:**
- 7.1 Without limiting any *of* his other obligations or liabilities, the contractor shall, at his own expense, take and keep comprehensive insurance including third party risk for the plant, machinery, men, materials etc. brought to the site and for all the work during the execution. The contractor shall also take out workmen's compensations insurance as required by law and under take to indemnify and keep indemnified the BSNL from and against all manner of claims and demands and losses and damages and cost (including between attorney and client) charges and expenses that *may* arise in regard the same or that the BSNL *may* suffer or incur with respect to end / or incidental to the same. The contractor shall have to furnish originals and / or attested copies as required by the BSNL of the polices of insurance taken within 15 (fifteen) days of being called upon to do so together with all premium receipts and other papers related thereto which the BSNL may require.

**8. COMPLIANCE WITH LAWS AND REGULATION:**

8.1 During the performance of the works the contractor shall at his own cost and initiative fully comply with all applicable laws of the land and with any and all applicable by-laws rules, regulations and orders and any other provisions having the force of law made or promulgated or deemed to be made or promulgated by the BSNL, BSNL agency or BSNL , municipal board, BSNL of other regulatory or Authorised body or persons and shall provide all certificates of compliance therewith as may be required by such applicable law. By -laws, Rules, Regulations, orders and / or provisions.

The contractor shall assume full responsibility for the payment of all contributions and pay roll taxes, as to its employees, servants or agents engaged in the performance of the work specified in the contractor documents. If the contractor shall require any assignee or sub -contractor to sham any portion of the work to be performed hereunder may be assigned, sub-leased or sub- contracted to comply with the provisions of the clause and in this connection the contractor agrees as to undertake to save and hold the BSNL harmless and indemnified from and against any/all penalties, actions, suits, losses and damages, claims and demands and costs (inclusive between attorney and client) charges and expenses whatsoever arising out or occasioned, indirectly or directly , by failure of the contractor or any assignee or sub -contractor to make full and proper compliance with the said by-laws , Rules, Regulations, Laws and Order and provisions as aforesaid.

**9. TOOLS AND TENTS**

The contractor shall provide at his own cost all tools, tents appliances, implements etc. required for proper execution of works. The contractor shall also supply without charge the requisite number of persons with the means and materials necessary for the purpose of setting out works, counting, weighing and assisting the measurements for examination at any time and from time to time. The contractor shall be responsible to make all arrangements, at his own cost for de - watering of trenches/ducts and de-gasification of the ducts before carrying out the work. The contractor shall also be responsible to make arrangements, at his own cost, for water required for carrying of works at sites including curing of CC/RCC works. Failing his so doing the same may be provided by the Engineer -in-charge at the expense of the contractor and the expenses shall be deducted from any money due to the contractor under this contract or otherwise.

## SECTION VII

### Optical Fiber Cable Construction Specifications

#### OPTICAL FIBRE CABLE CONSTRUCTION PRACTICES

The guidelines in the form of Engineering Instructions (E.I.s) on Construction Practices of Optical Fiber Cables are issued by T & D wing of the Department, from time to time. However, the present practices are summarized here under, from the point of view of describing scope of work under various items of work. The document will need revision as and when practices undergo any revision.

The Optical Fiber Cable is planned considering the following objectives of the scheme.

- i) Minimum possible route length vis-à-vis route having maximum number of towns with potential telecom growth.
- ii) Linking of small exchanges of main road by leading in O.F.C. vis -à-vis routing the main cable itself via such exchanges.

After deciding above -mentioned issues, a detailed measurement of lengths of cable route along with details of rail/road crossings, culverts, causeways, etc. may record in the detailed survey register. The probable locations of joints, terminations and generators may also be decided and marked on the route map. On the basis of survey, general permission from road and all concerned authorities for laying the Optical fiber Cable along the decided routes and permission for rail/road crossings will have to be obtained. Generally, O.F.C. is laid straight as far as possible along the road near the boundaries, away from the burrow pits. The O.F.C. is laid along the roads at minimum distance of 15 meters from the centerline of the road or in accordance with the permission from the concerned road authorities in view of their road-widening plan. As the O.F.C. is laid after obtaining due permission from all the concerned authorities to avoid any change/shifting at a later stage and also disruption of services/revenue loss.

*In special cases, where it may be necessary to avoid burrow pits or low lying areas, the cable may be run underneath the shoulders at a distance of 0.6 meter from the outer edge of the road embankment provided the same is located at least 4.5 meters away from center line of road and 1.2 meters below the road surface.*

The Optical Fiber Cable is laid through HDPE pipes/PLB Blowing/Preinstalled rope type pipe buried at a nominal depth of 165 Cms. The steps involved in OF Cable construction are as under:

#### 1. THE WORK INVOLVES:

- a) Excavation of trench up to nominal depth of 165 cms according to Construction Specifications along National / State Highways/other roads and also in city limits as mentioned in the notice inviting tender.
- b) Laying of HDPE Pipe/PLB Blowing Type/Pre -installed ropes, and drawing of nylon rope through the same as per Construction Specification.

For PLB Pipes blowing Practice:-

To lay the pipe place jack stand along the sides of trench and mount the coil with the help of a strong iron shaft passing through the collapsible reel. Drive the reel slowly to avoid over spinning of reel while pulling. Unrolled pipe can be laid to the trench by placing the workers after every 15 to 20 meters. The arrangement for horizontal Jack and associated other accessories shall be arranged by contractor at his cost.

- c) Laying of GI and/or RCC pipes as additional protection for the HDPE Pipe/PL B Blowing Type/Pre-installed ropes at rail/ road crossings built-up area/ city limits, on culverts, bridges and also stretches where depth of the trench is less than 120 cms. as per construction specifications or as per the instructions of Site -In-Charge wherever required.
- d) Chambering or concreting according to construction specification, wherever required.
- e) Reinstatement of the excavated trench according to Construction specifications.
- f) Fixing of MS clamps for suspending GI pipes / GI troughs at culverts, bridges and/or chambering or concreting for GI pipes or troughs wherever necessary.
- g) Fixing of route indicators as per construction specification.

- h) Preparing of A/T pits, and to close them after the A/T is over without any extra payment.
- i) Horizontal boring to avoid road cutting

**Note: The HDPE Pipe/PLB Blowing Type/Pre -installed ropes can be of 75 mm dia and 50 mm dia with collar jointing arrangement or spigot, GI pipe shall mean 100 mm dia & 75 mm dia or any other size provided by the BSNL with coupling arrangement, I troughs shall mean 76 x 76 mm; RCC pipe shall mean class NP2 up to 100 mm dia with collar or spigot and socket jointing arrangement.**

## **2. DEPTH AND SIZE OF THE TRENCH:**

- a) Depth and size of trench mentioned in this clause are Standardized measurement and applicable to normal site condition where surface is generally uniform. Site Engineer shall be the authority to decide the depth of trench.
- b) The depth of the trench from top of the surface shall not be less than 165 cms unless otherwise permitted. The width of the trench shall be sufficient to lay requisite number of HDPE/ GI/ RCC pipes and also concreting wherever required.
- c) When trenches are excavated in slopes, uneven ground, inclined portion, the lower edge shall be treated as top surface of land and depth of trench measured accordingly.
- d) In a certain locations, such as uneven ground, hilly areas and all other places due to any reason whatsoever it can be ordered to excavate beyond standard depth of 165 cms. to keep the bed of the trench as smooth as possible. Near the culverts, both ends of the culverts shall be excavated more than 165 cms. in depth to keep the gradient less than 15 degrees with horizontal.
- e) If excavation is not possible to the minimum depth of 165 cms, as detailed in sub clauses above, full fact shall be brought to the notice of the Engineer -in-charge in writing giving details of location & reason for not able to excavate that particular portion. Approval may be granted by Divisional Engineer in writing under certain genuine circumstances only. The decision of Divisional Engineer shall be final and binding on contractor.

## **3. TRENCHING:**

- a) Trenching shall as far as possible be kept ahead of laying of pipes. Contractor shall exercise due care that soil from trenching intended to be loose for back filling is not mixed with loose debris. While trenching, Contractor should not cause damage to any underground installations belonging to others agencies and any damage caused should be made good at his own cost and expense.
- b) The Contractor should provide sufficient width in the trench at all such places, where it is likely to cave in due to soil conditions without any extra payment.
- c) A minimum free clearance of 15 cm. should be maintained above or below any existing underground installations. No extra payment will be made towards this.
- d) In order to prevent damage to HDPE Pipe/PLB Blowing Type/Pre -installed rope over a period of time, due to the growth of trees, roots, bushes, etc., the contractor shall cut them if encountered in the path of alignment of trench without any additional charges.
- e) In large borrow pits, excavation shall be done not less than 165 cms. in depth and both sides of borrow pit shall be excavated more than 165 cms in depth to keep gradient of bed less than 15 degree with horizontal.
- f) If not possible as stated in sub clause above, alignment of trench shall be changed to avoid borrow pit completely.

## **4. TRENCHING NEAR CULVERTS/BRIDGES AND CAUSEWAYS**

- a) The HDPE Pipe/PLB Blowing Type/Pre -installed ropes shall be laid below the bed at the depth not less than 165 cms. protected by G.I. Pipes and bricks or concrete chamber as decided by TDM RAIGARH.
- b) Both ends of culverts shall be excavated more than 165cms. in depth to keep the gradient not less than 15 degree with horizon. The bed of trench should be as smooth as possible.

## **5. LOCATION AND AUGMENTATION OF THE TRENCH:**



- a) In city areas the trench will normally follow the foot path of the road except where it may have to come to the edge of the carriage way when cutting across road with specific permissions from the authorities responsible for maintenance of that road .. Outside the City limits trench will normally follow the boundary of the roadside land. However, where the road side land is full of borrow pits or forestation or when the cable has to cross culverts, bridges or streams, the trench may be closer to the road edge or in some cases, over the embankment or shoulder of the road.
- b) The alignment of the trench will be decided by a responsible BSNL officer, not below the rank of a Junior Telecom Officer. While marking the alignment only the centerline will be marked, and the Contractor shall set out all other work to ensure that, the excavated trench is as straight as possible. Contractor shall remove all bushes, undergrowth, stumps, rocks and other obstacles to facilitate marking the centerline without any extra charges.

**6. DEWATERING:**

The Contractor shall be responsible for all necessary arrangements to remove or pump out water from trench. The Contractor should survey the soil condition encountering the section and make his own assessment about dewatering arrangements that may be necessary. No extra payment shall be admissible for this and the tendered rate may take care of this aspect.

**7. METHOD OF EXCAVATION:**

- a) In city limits as well as in built up area, the Contractor shall resort to use of manual labor only to ensure no damage is caused to any underground or surface installations belonging to other public utility services and / or private parties.
- b) However, along the High ways and cross country there shall be no objection to the Contractor resorting to mechanical means of excavation, provided that no underground installation existing in the path of excavation if any, are damaged.
- c) There shall be no objection to resort to horizontal boring to bore a hole of required size and HDPE Pipe/PLB Blowing Type/Pre -installed rope pushed through it at road crossing or rail crossing or small hillocks etc.

**8. LINE-UP:**

The line up of the trench must be such that HDPE Pipe/PLB Blowing Type/Pre -installed rope(s) shall be laid in a straight line except at locations where it has to necessarily take a bend because of change in the alignment or gradient of the trench, subject to the restrictions mentioned elsewhere.

**9. LAYING OF H.D.P.E. PIPES/PLB HDPE PIPE:**

- a) After trench is excavated to the specified depth the bottom of the trench has to be cleared of all stones or pieces of rock & leveled up properly. A layer of ordinary soil of not less than 5 cm. is to be used for leveling the trench to ensure that cable when laid will follow a straight alignment
- b) When trenches are excavated up to specified depth, properly dressed and leveled, joint measurement of trench shall be taken by representative of Contractor and Site Engineer. Measurement shall be recorded in measurement book with their signature. Trenches for which measurements are recorded in measurement book shall be considered as approved trenches.
- c) HDPE Pipe/PLB Blowing Type/Pre -installed ropes/RCC/GI pipes shall be laid only in approved trenches. The contractor shall exercise due care to ensure that the HDPE Pipe/PLB Blowing Type/Pre -installed rope is not subjected to any damage or strain.
- d) The HDPE Pipe/PLB Blowing Type/Pre -installed ropes shall be laid in 150/100 mm dia RCC spun pipes, at road crossings and through G.I. Pipes on culverts and bridges and also in exceptional cases where the depth of the trench is less than 165 cms. as specified by the concerned Engineer -In-Charge.
- e) Water present in the trench at the time of laying the HDPE Pipe/PLB Blowing Type/Pre -installed ropes shall be pumped out by the contractor before lowering in the pipes to ensure that no mud or water gets into the pipes.
- f) At road crossings, two or more extra HDPE Pipe/PLB Blowing Type/Pre -installed ropes shall be laid as per direction of Site Engineer.
- g) The HDPE Pipe shall be joined by coupler/socket at both ends, Nylon or P.P. rope shall be drawn though HDPE Pipe properly at time of laying pipes.

- h) In cross country routes, where depth of trench is less than 1.20m, HDPE Pipe/PLB Blowing Type/Pre-installed ropes should be laid within GI/RCC pipes. Alternatively, HDPE Pipe/PLB Blowing Type/Pre-installed ropes may be encased in reinforced concrete casing of dimensions 275mm x 275mm. In built up areas, where the depth of trench is not less than 165 cms., HDPE Pipe/PLB Blowing Type/Pre-installed ropes should be laid within GI/RCC pipes. In case of trench depth being less than 165 cms, the HDPE Pipe/PLB Blowing Type/Pre-installed ropes may be encased in reinforced concrete casing of dimensions 275 mm x 275 mm **with the permission of the concerned General Manager Telecom District RAIGARH.**
- i) In case of nullahs, which are dry for nine months in a year, the HDPE Pipe/PLB Blowing Type/Pre-installed ropes shall be laid within the RCC pipe laid at a minimum depth of 165 cms. The RCC pipes shall be extended 2 mtrs. beyond the bed of nullah on either side.
- j) Notwithstanding anything contained in clauses k(i) to (v) and 10(a), the site Engineer may admit in any specific case that the HDPE Pipe/PLB Blowing Type/Pre-installed ropes may be encased in reinforced concrete casing only.
- k) The following construction practices are applicable in general:
- i) Wherever GI pipes are used, rubber bushes shall be used at the two ends of the GI pipes to protect the damages of HDPE Pipe/PLB Blowing Type/Pre-installed ropes.
  - ii) Wherever RCC pipes are used, two ends must be properly sealed to bar entry of rodents.
  - iii) On road crossings, the HDPE Pipe/PLB Blowing Type/Pre-installed ropes shall be laid a depth 165 cms. encased with RCC pipe. The RCC pipes shall be extended 3 meters on either side of the road.
  - iv) On Rail bridges and crossings, the HDPE Pipe/PLB Blowing Type/Pre-installed ropes shall be encased in suitable cast iron/RC pipes as prescribed by the Railway Authorities.
  - v) *Unloading of PLB HDPE Coil from truck should be done with help of Wooden / Metallic planks and coil can also be dropped from floor of truck on sand or soft soil bed.*
- l) *For PLB Pipes blowing practice to lay the pipe, place jack stand along the side of trench and mount the coil with the help of strong iron shaft passing through the collapsible reel. Drive the reel slowly to avoid over spinning of reel while pulling, unrolled pipe can be laid to the trench by placing worker after every 15 -20 meters. The arrangement for horizontal Jack and associated other accessories should be arranged by contractor at his cost.*

#### 10. BACK FILLING AND DRESSING THE TRENCH:

- a) Provided that the HDPE Pipe/PLB Blowing Type/Pre-installed ropes have been properly laid in the trench at the specified depth, the back filling operation shall follow as closely as practicable. The back filling operation shall be performed in such a manner as to provide firm support under & above the pipes and avoid bend or deformation of the HDPE Pipe/PLB Blowing Type/Pre-installed ropes when the HDPE Pipe/PLB Blowing Type/Pre-installed ropes get loaded with the back filled earth. In locations where the back filling is not done properly by the contractor or done unevenly it shall be redressed and back filled properly by the BSNL at Contractor's expense. No debris shall be allowed in the back fill at any time.
- b) At locations where the back filled material contains hard clods, rock fragments and other materials which may cause injury to HDPE Pipe/PLB Blowing Type/Pre-installed rope & where excavated or rock fragment are intended to refill the trench in whole or in part, the trench should be initially filled, with a layer of ordinary soil or derocked loose earth of not less than 10 cms. above pipes, without any extra cost.
- c) Back filling on public, private roads, railway crossings, and foot paths in city areas shall be performed immediately after laying the HDPE Pipe/PLB Blowing Type/Pre-installed ropes. Back filling at such locations shall be thoroughly rammed, so as to ensure original condition & made safe to traffic. All excess soil/ material left out on road/footpath/railway crossing shall be removed

without any extra cost. However, along the high ways and cross country, the dug up material left out should be kept as heap above the trench while refilling.

- d) In city limits, no part of the trench should be kept open for more than 50 meters length at any time and in all places where excavation has been done, no part of the trench should be kept open over-night to prevent any mishap or accident in darkness.

e) **SPECIFICATION FOR CONSTRUCTION OF RETAINING WALL:**

"Random rubble masonry with hard stone in foundation and plinth including leveling up with cement concrete 1:6:12 (1 cement, 6 Coarse Sand, 12 Graded stone aggregate 20 mm nominal size) at plinth level with cement mortar 1:6 (1 cement, 6 coarse sand)."

**11. STORES:**

- (a) HDPE/GI/RCC pipes and other materials shall be collected by the Contractor from the store dumps of the BSNL conveniently located over the route. The Contractors expected to make his own arrangements for transporting the materials from the supply point/ store, without any additional payment. The basic rate quoted for the purpose of Bid should, therefore, take care of all expenses incidental to loading, transportation, unloading and distribution at site, of all materials.
- (b) After completing trenching, HDPE/PLB/GI/ RCC Pipe laying and refilling of section.
- i) For HDPE Pipe in 200 meters section rope is to be replaced by new one.
- ii) For pre-installed rope type :- The rope is to be replaced in coil length
- iii) PLB Pipe (blowing type) entire length of section allotted to the contractor should be checked by passing the mandrel of suitable size from one end of section to other end by blowing the air with the help of compressor of suitable capacity. It is the responsibility of the contractor to arrange the compressor and other necessary accessories at his cost.

**12. LAYING PROTECTION PIPES ON BRIDGES AND CULVERTS**

- a) The work involves laying of HDPE pipes /PLB Blowing Type/Pre-installed ropes through GI Pipes of not more than 4" dia or GI Troughs of size 4" x 4" laid on the Bridges/Culverts.
- b) In bridges/Culverts, where proper ducts are already provided, the HDPE Pipe/PLB Blowing Type/Pre-installed ropes will be laid through the ducts.
- c) Normally in the Bridges/Culverts, where there are no ducts and where the cushion on the top of the Arch is 0.5m or more thick the G.I. Pipe/ G.I. Trough carrying HDPE Pipe/PLB Blowing Type/Pre-installed rope & Cable may be burred on the top of the Arch adjoining the parapet wall, by digging close to the wheel guards.
- d) Where the thickness of the Arch is less than 0.5m, the pipes must be buried under the wheel guard masonry and the wheel guard rebuilt.
- e) If any of the above methods is not possible, the G.I. Pipe/G.I. Troughs must be clamped outside the parapet wall with the clamps supplied by the BSNL. If necessary, the pipes may be taken through the parapet wall at the ends where the wall diverges away from the road.
- f) In cases where the methods explained in clause c & d above are not possible, the G.I. Pipes/G.I. Troughs can be fixed on the top of the road kerb close to the inside face of the parapet wall by means of clamps, supplied, using rawl plugs & wood screws or small diameter bolts, without damaging concrete & limiting external diameter of the bolts to 7.5 mm. The permission for carrying out this work will be obtained from the Road Authorities.
- g) Methods cited in clauses above should be carried out under close supervision of the Road authorities and restoration of any damages to the structures in any of the methods adopted should be done to the entire satisfaction of the road authorities.
- h) When HDPE Pipe/PLB Blowing Type/Pre-installed ropes are laid on bridges/culverts as per clause c to f above, except when pipes are clamped outside of the bridge, cement concreting shall be provided over the protection pipes/troughs.40

**13. SPECIFICATIONS FOR CONCRETING:**

- a) The nominal dimension of concreting is of 275 mm x 275 mm. section. However depending on the actual situation, this cross section may be varied to ensure uniformity with any existing structure / base, on which the GI pipes/ GI troughs are placed, as demanded by the road authorities. The work should be carried out at the rates applicable for nominal cross section.
- b) The concreting surface should be thoroughly cleaned and leveled before concreting. Necessary wire mesh of adequate size shall be provided as reinforcement for the concrete.
- c) At both the ends of the Bridges/Culverts, where the GI Pipes/Troughs slope down and get buried, the concreting should be carried out to ensure that no portion of the GI Pipe/Trough is exposed and further down as required by the site in charge to protect the Pipe/Trough from any possible damage externally caused.
- d) Any damages caused to the existing structure such as Foot -Path or base of the Parapet or Kerb wall on which GI Pipes/Troughs are placed should be repaired and original condition restored to the satisfaction of Road Authorities.
- e) Where white wash/ colour wash exists on the Bridges/Culverts, the same should also be carried out on the concreted portion to ensure uniformity.
- f) Cement Concrete Mixture used should be of 1:2:4 Compositions i.e. 1 Cement: 2 Coarse Sand, 4 graded Coarse Stone aggregate of 20 mm. nominal size.
- g) Smooth finishing of exposed surface should be done with a mixture of 1:3: i.e. 1 Cement: 3 Fine Sand.
- h) Portions where cement concreting have been done shall be cured with sufficient amount of water for reasonable time to harden the surface.

#### 14. JOINT CHAMBER

The joint chamber is provided at every joint normally at a distance of 2 Kms to keep the O.F.C. joint well protected and also to keep extra length of cable which may be required in the event of faults at a later date. The joint chambers are made at site using bricks and mortar or are of pre -cast RCC type.

##### 14.1 Construction of brick chamber at site

For constructing brick chamber, first a pit of size 2m x 2m x 1.8m depth is required to be dug. Then, base of the chamber is made using concrete mix of 1:5:10 (1: cement, 5: coarse sand, 10: graded stone aggregate 40mm nominal size) of size of 1.7 m x 1.7 m x 0.15 m (thickness). Walls of brick chamber having internal dimensions of 1.2 m x 1.2 m x 1 m (H) should be constructed on this base having wall thickness of 90 using cement mortar mix of 1:5 (1: cement, 5: fine sand).

The bricks to be used for this purpose should be of size 90x4.5x30, best quality available and should have smooth rectangular shape with sharp corners and shall be uniform in colour and emit clear ringing sound when struck. The joint chamber should be so constructed that HDPE pipe/PLB Blowing Type/Pre-installed ropes ends remain protruding minimum 5 cms inside the chamber on completion of plastering. The HDPE pipes should be embedded in wall in such a way so that, the bottom brick should support the pipe and upper brick should be provided in a manner that HDPE pipe remains free from the weight of the construction. The joint chamber should be plastered on all internal surfaces and top edges with cement mortar of 1:3 (1: cement, 3: coarse sand), 12mm thick finished with a floating coat of complete cement as per standard. Pre -cast RCC slab with two handles to facilitate easy lifting, of size 0.7 m x 1.4 m and of thickness of 5 cm having one handle for each half in center and word 'OFC' engraved on it are to be used to cover the joint chamber. Two numbers of such slabs are required for one joint chamber. This pre-cast slab should be made of cement concrete mix of 1:2:4 (1: cement, 2: coarse sand, 4: stone aggregate 6mm nominal size) reinforced with steel wire fabric 75 x 25 mm mesh of weight not less than 7.75 Kg per sq. meter.

The joint chamber is filled with clean sand before closing. Lastly, back filling of joint chamber pit with excavated soil is carried out.

##### 14.2 Pre cast RCC chamber

For fixing pre cast RCC chamber, first a pit of size 2 m x 2 m x 1.8 m depth is required to be dug. Pre cast RCC chamber consists of three parts (i) round base plate in two half of 140 cm dia and 5 cm thickness (ii) full round RCC joint chamber with dia of 120 cm and height of 100 cm and thickness of 5 cm (iii) round top cover will be in two halves with dia of 140 cm and thickness of 5 cm having one handle for each half in centre and word '**BSNL OFC**' engraved on it. After, fixing the pre cast RCC joint chamber, the joint chamber is filled with clean sand before closing. Lastly, back filling of joint chamber pit with excavated soil is carried out.

#### 15. **ROUTE/JOINT INDICATOR**

The route/ joint indicators are co -located with each manhole/joint chamber. In addition route indicators are also to be placed where route changes direction like road crossings etc.

The route indicators are painted yellow and the same are placed at 2 ft. away from the center of the trench towards jungle side. The joint indicators are placed at OFC joints and placed 1 ft. away from wall of the joint chamber facing jungle side and are painted red. The engraved word '**BSNL OFC**' should be painted in white, on route as well as joint indicators. Numbering of route indicators/joint indicators should also be done in white paint. The numbering scheme for route indicators will be joint No./Route Indicator No. for that joint. For example, 2/6 marking on a route indicator means 6<sup>th</sup> route indicator after 2<sup>nd</sup> joint. Additional joints on account of faults at a later date should be given number of preceding joint with suffix A, B, C, D. For example sign writing 2A on a joint indicator means, additional joint between joint No.2 and 3. The numbering of existing route/joint indicator should not be disturbed on account of additional joints.

Enamel paints of reputed brands should be used for painting and sign writing of route as well joint indicators.

#### 16. **WETTING:**

Wherever the soil is hard due to dry weather conditions, if watering is to be done for wetting the soil to make it loose, the same shall be done by the contractor. No extra payment shall be admissible for this.

#### 17. **BLASTING:**

For **excavation in hard rock**, where blasting operations are considered necessary, the contractor shall obtain approval of the Engineer-In-Charge in writing for resorting to blasting operation.

The contractor shall obtain license from the competent authority for undertaking blasting work as well as for obtaining and storing the explosive as per the Explosive Act, 1884 as amended up to date and the explosive Rules, 1983. The contractor shall purchase the explosives fuses, detonators, etc. only from a licensed dealer. Transportation and storage of explosive at site shall conform to the aforesaid Explosive Act and Explosive Rules. The contractor shall be responsible for the safe custody and proper accounting of the explosive materials. Fuses and detonators shall be stored separately and away from the explosives. The Engineer-in-Charge or his authorized representative shall have the right to check the contractor's store and account of explosives. The contractor shall provide necessary facilities for this.

The contractor shall be responsible for any damage arising out of accident to workmen, public or property due to storage, transportation and use of explosive during blasting operation.

Blasting operations shall be carried out under the supervision of a responsible authorised agent of the contractor (referred subsequently as agent only), during specified hours as approved in writing by the Engineer-in-Charge. The agent shall be conversant with the rules of blasting.

All procedures and safety precautions for the use of explosives drilling and loading of explosives before and after shot firing and disposal of explosives shall be taken by the contractor as detailed in **IS: 4081** safety code for blasting and related drilling operation.

#### 18. **CABLE PULLING AND JOINTING/SPLICING:**

**NOTE: -** *This is applicable if cable pulling is included in the NIT.*

### **18.1 CABLE PULLING:**

Manholes marked during HDPE pipe/PLB Blowing Type/Pre -installed ropes laying of approx. size of 3m length x 1.0m width x 1.65m depth shall be excavated for pulling the cables. There may be situations where additional manholes are required to be excavated for some reasons, to facilitate smooth pulling of cable. Excavation of additional manholes will be carried out, without any extra cost. De-watering of the manholes, if required, will be carried out without any extra cost. De-watering/De-gasification of the ducts, if required, will be carried out without any extra cost. The existing 6mm PP rope shall be replaced by with PP rope of 8mm dia between the two consecutive manholes. This is to ensure that the HDPE pipes/PLB Blowing Type/Pre -installed ropes are cleaned for pulling the cable without exerting undue tension on the OF cable. While cleaning, excessive pressure should not be put which may result in breaking of P.P. rope and thus required opening of additional manholes? However, in case the cleaning rope gets stuck up during pulling, the location of clogging of HDPE Pipe/PLB Blowing Type/Pre -installed ropes should be measured and located accurately. The trench at that location should be opened and the HDPE Pipe /PLB Blowing Type/Pre -installed ropes should be cleaned properly or if not possible it should be changed by a clean new HDPE Pipe /PLB Blowing Type/ Pre-installed ropes to facilitate easy cable pulling at a later stage without any breakage. If clogging of HDPE Pipe/PLB Blowing Type/Pre - installed ropes is in the location where the pipes are protected either by RCC Pipe /PLB Blowing Type/Pre-installed ropes or by concreting and the protection is broken for cleaning/changing the HDPE Pipe, the protection thus removed should be brought back to normal by the contractor without any extra cost. However, HDPE Pipes/PLB Blowing Type/Pre -installed ropes, RCC Pipes required for this purpose will be supplied by the BSNL.

### **18.2 Jointing/Splicing:**

The OFC cable drums are usually of 2 Kms in length hence optical fiber joints will be approx. at every 2 Kms. The 6/12/24 fibers are to be spliced at every 2 Kms. and at both ends (Terminations) in the equipment room as directed by the Engineer -in-charge. The Infrastructure required for cable splicing i.e.

- \* Splicing machine
- \* Air Conditioned Van
- \* OTDR
- \* Optical talk set
- \* Tool kit etc.

will be arranged by the bidder at his own cost and also any additional accessories e.g. engine etc. required at site for splicing will also be arranged by the bidder at his own cost.

The optical fiber cable thus jointed end-to-end will be tested by an officer of A/T unit for splice losses and transmission parameters as specified by BSNL and prevalent at that time. The OF cable should meet all the parameters, specified and no relaxation will be granted. It should also be ensured that during jointing no fibers are interchanged or broken. The number of joints should not be more than 10% of the theoretical value calculated by the department.

**Note: The OTDR printout of each fiber indicating trace and losses and RID in four copies should be attached along with the bill claimed.**

### **19 Construction of Jointing Chamber:**

The joint chambers are provided at every joint to keep the O.F.C. joint well protected and also to keep extra length of cable, which may be required to attend the faults at a later date. Jointing chambers are to be prepared normally at a distance of every 2 Kms. Actual location of jointing chamber depends on length of cable drum and appropriateness of location for carrying out jointing work. The location is finalized by Engineer -in-charge. The jointing chambers are constructed either of brick masonry work at site & pre cast RCC slabs for covers or by way of fixing pre -cast RCC chambers and covers as per the instructions from engineer-in-charge.

### **20. Documentation:**

The documentation, consisting of the following shall be prepared exchange to exchange for intra SSA OFC links and for each section in case of inter SSA/National long distance routes.

- i) **Route Index Diagrams – General:** This diagram shall consist of Cable Route Details on Geographical Map drawn to scale the prominent land marks and alignment of cable with reference to road. This shall be prepared on A-3 sheets of 80 GSM.
- ii) **Route Index Diagrams – Profile:** These diagrams will contain:
- \* Make and size of the cable.
  - \* Offset of cable from center of the road at every 10 meters
  - \* Depth profile of Cable at every 10 meters
  - \* Details of protection with type of protection depicted on it
  - \* Location of culvert and bridges with their lengths and scheme of laying of HDPE pipe/PLB Blowing Type/Pre-installed ropes thereon.
  - \* Important landmarks to facilitated locating the cable in future
  - \* Location of joints and pulling manholes.

These diagrams shall be prepared on **A-4 sheets** of 80 GMS. On one sheet profile of maximum 400 meters shall be given to ensure clarity.

- iii) **Joint location Diagram:** This diagram will show:
- \* Geographical location of all the joints.
  - \* Depth of Joint Chamber covers from ground level
  - \* Type of chamber (Brick/Pre-cast)
  - \* Length of O.F. Cable kept inside the joint chamber from either direction. This shall be prepared on **A-4 sheets** of 80 GSM.

All the diagrams (i), (ii) & (iii) shall bear the signatures of the contractor, the Engineer-in-charge as a proof of accuracy of the details. The diagrams shall be bound in A -4 size book with cover. The cover sheets shall be of 110 GSM and laminated. The front cover shall have the following details.

1. Name of the SSA/Project Organization.
2. Name of the OFC Link
3. Name of the Contractor
4. Date of commencement of work
5. Date of completion of work

For each route/section 6 sets of above-mentioned document shall be submitted.

## 21. SAFETY PRECAUTIONS:

### 21.1 Safety Precautions when excavating or working in excavations close to electric cables

The Engineer-in-Charge of the work should get full information from Electricity undertaking regarding any electric cables, which are known or suspected to exist near the proposed excavation and unless this is done, excavation should not be carried out in the section concerned. The electricity undertaking should be asked to send a representative and work should be proceeded with close consultation with them.

Only wooden handled hand tools should be used until the electric cables have been completely exposed. Power Cables, not laid in conduits, are usually protected from above by a cover slab of concrete, brick or stone. They may or may not be protected on the sides. It is safer, therefore, always to drive the point of the pickaxe downwards then uncovering a cable, so that there is less chance of missing such warning slabs. No workman should be permitted to work alone where there are electric cables involved. At least one more man should be working nearby so that help can be given quickly in case of an accident. If disconnection of power could be arranged in that section it will be better. No electric cables shall be moved or altered without the consent of the Electric Authority and they should be contacted to do the needful. If an electric cable is damaged even slightly, it should be reported to the Electric Authority and any warning bricks disturbed during excavation should be replaced while back filling the trench. Before driving a spike into the ground, the presence of other underground properties should be checked. Information on plans regarding the

location of power cables needs not to be assumed as wholly accurate. Full precautions should be taken in the vicinity until the power cable is uncovered. All electric cables should be regarded as being live and consequently dangerous. Any power is generally dangerous, even low voltage proving fatal in several cases.

**21.1.1 Electric shock-Action and treatment:**

Free the victim from the contact as quickly as possible. He should be jerked away from the live conductors by dry timber, dry rope or dry clothing. Care should be taken not to touch with bare hands as his body may be energised while in contact. Artificial respiration should begin immediately to restore breathing even if life appears to be extinct. Every moment of delay is serious, so, in the meanwhile, a doctor should be called for.

**21.2 Safety precautions while working in public street and along railway lines**

Where a road or footpath is to be opened up in the course of work, special care should be taken to see that proper protection is provided to prevent any accidents from occurring. Excavation work should be done in such a manner that it will not unduly cause inconvenience to pedestrians or occupants of buildings or obstruct road traffic. Suitable bridges over open trenches should be so planned that these are required for the minimum possible time. Where bridges are constructed to accommodate vehicular traffic and is done near or on railway property, it should be with the full consent and knowledge of the competent railway authorities.

**21.2.1 Danger from falling material:**

Care should be taken to see that apparatus, tools or other excavating implements or excavated materials are not left in a dangerous or insecure position so as to fall or be knocked into the trench thereby injuring any workman who may be working inside the trench.

**22. Care when working in Excavations:**

Jumping into a trench is dangerous. If it is deep, workmen should be encouraged to lower themselves. Workers should work at safe distance so as to avoid striking each other accidentally with tools. If the walls of the trench contain glass bits, corroded wire or sharp objects they should be removed carefully. If an obstruction is encountered, it should be carefully uncovered and protected if necessary. Care must be taken to see that excavated material is not left in such a position that it is likely to cause any accident or obstruction to a roadway or waterway. If possible the excavated material should be put between the workmen and the traffic without encroaching too much on the road.

**22.1.1 Danger of cave in:**

When working in deep trenches in loose soil, timbering up/shoring the sides will prevent soil subsidence. The excavated material should be kept at sufficient distance from the edge of the trench or pit. Vehicles or heavy equipment must not be permitted to approach too close to the excavation. When making tunneled opening, it would be ensured that the soil is compact enough to prevent cave in even under adverse conditions of traffic. Extra care should be taken while excavating near the foundations of buildings or retaining walls. In such cases, excavation should be done gradually and as far as possible in the presence of the owners of the property.

**22.2 Protection of Excavations:**

Excavations in populated areas, which are not likely to be filled up on the same day should be protected by barriers or other effective means of preventing accidents and the location of all such openings must in any event be indicated by red flags or other suitable warning signs. During the hours from dusk to dawn, adequate number of red warning lamps should be displayed. Supervisory officers should ensure that all excavations are adequately protected in this manner as serious risk and responsibility is involved. Notwithstanding adoption of the above -mentioned precautions, works involving excavations should be so arranged as to keep the extent of opened ground and the time to open it to a minimum.

**22.3 Precautions while working on roads:**

The period between half an hour after sunset and half an hour before sunrise, and any period of fog or abnormal darkness may also be considered as night for the purpose of these instructions, for the purpose of providing the warning signs. Excavation liable to cause danger to vehicles or the public must at all times be protected with fencing of rope tied to strong uprights or bamboo poles at a suitable height or by some other effective means. Any such temporary erection which is likely to cause obstructions and which is not readily visible should be marked by posts carrying red flags or boards with a red background by day and by continuously lighted lamps at night.

The flags and the lamps should be placed in conspicuous positions so as to indicate the pedestrians and drivers



of vehicles the full expanse i.e. both width and length of the obstruction. The distance between lamps or between floors should not generally exceed 1.25m along the width and 6m along length of the obstruction in non-congested areas, but 4 meters along the length in congested areas. If the excavation is extensive, sufficient notice to give adequate warning of the danger, should be displayed conspicuously not less than 1.25m above the ground and close to the excavation. Where any excavation is not clearly visible for a distance of 25m to traffic approaching from any direction or any part of the carriage way of the road in which the excavation exists, a warning notice should be placed on the kerb or edge of all such roads from which the excavation or as near the distance as is practicable but not less than 10m from the junction of an entering or intersecting road in which the excavation exists. All warnings, in these should have a red background and should be clearly visible and legible. All warning lamps should exhibit a red light, but white lights may be used in addition to facilitate working at night. Wherever required a passage for pedestrians with footbridge should be provided. At excavations, cable drums, tools and all materials likely to offer obstructions should be properly folded round and protected. This applies to jointers, tents as well. Leads, hoses etc. stretched and across the carriageway should be guarded adequately for their own protection and also that of the public.

**23. Traffic Control:**

The police authorities are normally responsible for the control of traffic and may require the setting up of traffic controls to reduce the inconvenience occasioned by establishment of a single line of traffic due to restriction in road width or any other form of obstruction caused by the work. As far as possible, such arrangements should be settled in advance. If there are any specific regulations imposed by the local authorities, these should be followed.

**24. Work along Railway Lines :**

Normally all works at Railway crossing is to be done under supervision of the railway authorities concerned, but it is to be borne in mind that use of white, red or green flags by the BSNL staff is positively forbidden to be used when working along a railway line as this practice may cause an accident through drivers mistaking them for railway signals. When working along a double line of railway, the men should be warned to keep a sharp look on both the 'UP' and 'DOWN' lines to avoid the possibility of any accident when trains pass or happen to cross one another near the work spot.

**25. Procedure and Safety precautions for use of explosives during blasting for trenching:**

In areas where the cable trench cannot be done manually on account of boulders and rocks, it is necessary to blast the rocks by using suitable explosives. The quality of explosive to be used depends on the nature of the rocks and the kind of boulders. A few types of explosive fuses and detonators normally used for making trenches for cable works are detailed below:

- i) Gun power
- ii) Nitrate Mixture
- iii) Gelatin
- iv) Safety fuses
- v) Electric Detonator
- vi) Ordinary Detonator

**25.1 Procedure:**

A detailed survey of the route is to be done to assess the length of the section where trenching is to be done with the help of blasting. A route diagram of the rocky section may be prepared indicating the length of the route where the explosives are to be used. For the purpose of obtaining license, a longer length of route should be given in the application as in many cases, after digging, rocks appear where blasting was not initially anticipated.

Next a license will have to be obtained for use and storing of explosive in that section. If the area falls under a police commissioner, the authority for granting such license is the police commissioner of the concerned area. When the route does not fall in the jurisdiction of a police commissioner, the authority for issuing license is the District Magistrate.

The concerned authority should be applied in prescribed form with a route map. The concerned authority will make an enquiry and issue a license for using / storing explosives for cables trenching work. Such license will be valid for 15 days only. The license should be got renewed if the blasting operation needs to be extended. Once the license is granted, it is the responsibility of the holders of the license for the proper use of explosives, its transportation and storing

### 25.2 Method of using:

The safest explosive is the gelatin and electric detonator. Gelatin is in the form of a stick. Electric detonator is a type of fuse used for firing the explosive electrically. Holes are made at suitable intervals on rocky terrain or boulders either by air compressor or by manual chipping. The depth of the holes should be 2 to 3 ft. Fill up the holes with small quantity of sand for about 6ö. First the electric detonator is to be inserted into the gelatin and the gelatin is to be inserted into the holders keeping the + ve and ö ve wirings of electric detonators outside the holes. Again refill the holes with sand. These + ve and ö ve insulated wires or detonator are then extended and finally connected to an EXPLODER kept at a distance of not less than 100m.

Now the explosive is ready for blasting. But, before connecting wires to exploder for blasting, all necessary precautions for stopping the traffic, use of red flags, exchange of caution signals, etc. should be completed and only then Exploder should be connected and operated.

### 25.3 Operation of exploder (IDL shuffler type 350 type exploder):

The type 350 blasting machine consists of a bearing block with blasting machine system and the explosion proof light ö alloy injection molded housing. The exploder is held with the left hand. The twist handle is applied to the drive pin, clapped with the right hand turned in the clockwise direction in continuous measurements at the highest speed from the initial position until it reached to a stop. At this stage an indication lamp will glow. When the indication lamp glows, öpress button switchö should be pressed. This will extend the electric current to detonator and gelatin will be detonated. The rock will be blasted out of the trench. Number of holes can be blasted in a single stroke by connecting all such detonators in series connection and finally to the exploder. After blasting, again mazdoors are engaged on the work of clear the debris. If the result of the first blasting is not satisfactory, it should be repeated again on the same place.

### 25.1 Warning:

There may be two reasons for unsatisfactory results of the blasting:

- a) Misfire of gelatin due to leakage of current from detonator.
- b) Over loading because of overburdens.

Never pull the broken wire pieces from the holes in such cases. Attempt should not be made to re -blast the misfired gelatin. The safest way is to make a fresh hole by its side and put fresh gelatin in that hole and blast it.

### 25.2 Precautions:

The abstract of Explosives Rules 1983 which are relevant to our work is given below:

#### Restriction of delivery and dispatch of explosives:

No person shall deliver or dispatch any explosives to anyone other than a person who.

- a) is the holder of a license to possess the explosives or against of a holder of which a license duly authorised by him in writing on his behalf.

OR

- b) is entitled under these rules to possess the explosives without a license.

The explosives so delivered or dispatched shall in no case exceed the quantity, which the person to whom they are delivered or dispatched is authorised to possess with or without a license under these rules. No person shall receive explosives from any person other than the holder of a license granted under these rules. No person shall receive from or transfer explosives to any person for a temporary storage or safe custody in a licensed premise unless prior approval is obtained from the Chief Controller.

A person holding license for possession of explosives granted under these rules shall store the explosives only in premises specified in the license.

- **Protection from Lightning During Storing:**

Every magazine shall have attached there to one or more efficient lightening conductors designed and erected in accordance with the specifications laid down in Indian Standard Specifications No.2309 as amended from time to time. The connections to various parts of earth resistance of the lightening conductor terminal on the building to the earth shall be tested

at least once in every year by a qualified electrical engineer or any other competent person holding a certificate of competency in this behalf from the State Electricity Department. A certificate showing the results of such tests and the date of the last test shall be hung up in conspicuous place in the building.

- **Precautions during thunder-storm:**

When a thunder storm appears to be imminent in the vicinity of a magazine or store house every person engaged in or around such magazine and stores house shall be withdrawn to a safe distance from such magazine or store house and the magazine and store house shall be kept closed and locked until the thunder storm has ceased or the threat of it has passed.

**Maintenance of records:**

Every person holding a license granted under these rules for possession, sale or use of explosives shall maintain records in the prescribed forms and shall produce such record on demand to an Inspection Officer.

**Explosives not to be kept in damaged boxes:**

The licensee of every magazine or storehouse shall ensure that, the explosives are always kept in their original outer package. In case, the outer package gets damaged so that the explosive contained therein cannot be stored or transported, such explosives shall be repacked only after the same are examined by controller of explosives.

**Storage of explosives in excess of the licensed quantity:**

The quantity of any kind of explosives kept in any licensed magazine or storehouse shall not exceed the quantity entered in the license against such kind of explosives. No explosives in excess of the licensed quantity shall be stored in the magazine or storehouse unless a permit in this behalf is obtained from the licensing authority by a letter or telegram.

**26 Precautions to be observed at Site:**

The electric power at the blasting site shall be discontinued as far as practicable before charging the explosives. No work other than that associated with the charging operations shall be carried out within 10 meters of the holes unless otherwise specified to the contrary by the licensing authority.

When charging is completed, the surplus explosive detonators and fuses shall be removed from the vicinity of the hole and stored at a distance which should prevent accidental detonation in the event of a charge detonating prematurely in any hole. The holes, which have been charged with explosives, shall not be left unattended till the blasting is completed. Care shall be taken to ensure that fuse or wires connections to the detonation are not damaged during the placing of stemming material and tamping.

- **Suitable warning procedure to be maintained:**

The licensee or a person appointed by the licensee to be in charge of the use of explosives at the site shall lay down a clear warning procedure consisting of warning signs and suitable signals and all persons employed in the area shall be made fully conversant with such signs and signals.

- **Precautions to be observed while firing:**

The end of the safety fuse (if used in place of a detonator should be freshly cut before being lighted. The exploders shall be regularly tested and maintained in a fit condition for use in firing. An exploder shall not be used for firing a circuit above its rated capacity. The electric circuits shall be tested for continuity before firing. All persons other than the shot-firer and his assistant, if any, shall be withdrawn from the site before testing the continuity.

For the purpose of jointing, the ends of all wires and cables should have the insulation removed for a maximum length of 5 cms. and should, then be made clear and bright for a minimum length of 2.5 cms. and the ends to be joined should be twisted together so as to have a positive metal contact. Then these should be taped with insulation to avoid leakage when in contact with earth.

In case of blasting with dynamite or any other high explosive, the position of all the boreholes to be drilled shall be marked in circles with white paint. These shall be inspected by the Contractor's agent. Bore holes shall be of a size that the cartridge can easily pass down. After the drilling operation, the agent shall inspect

the holes to ensure that drilling has been done only at the marked locations and no extra hole has been drilled. The agent shall then prepare the necessary charge separately for each borehole. The boreholes shall be thoroughly cleaned before a cartridge is inserted. Only cylindrical wooden tamping rods shall be used for tamping. Metal rods or rods having pointed ends shall never be used for tamping. One cartridge shall be placed in the borehole and gently pressed but not rammed down. Other cartridges shall then be added as may be required to make up the necessary charge for the borehole. The top most cartridges shall be connected to the detonator that shall in turn be connected to the safety fuses of required length. All fuses shall be cut to the length required before being inserted into the holes. Joints in fuses shall be avoided. Where joints are unavoidable, a semi-circular niche shall be cut in one piece inserted into the niche. The two pieces shall then be wrapped together with string. All joints exposed to dampness shall be wrapped with rubber tape.

The maximum of eight boreholes shall be loaded and fired at once occasion. the charges shall be fired successively and not simultaneously. Immediately before firing, warning shall be given and the agent shall see that all persons have retired to a place of safety. The safety fuses of the charged holes shall be ignited in the presence of the agent, who shall see that all the fuses are properly ignited.

Careful count shall be kept by the agent and others of each blast as it explodes. In case all the charged bore holes have exploded, the agent shall inspect the site soon after the blast but in case of misfire the agent shall inspect the site after half an hour and mark red crosses (X) over the holes which have not exploded. During his interval of half an hour, nobody shall approach the misfired holes. No driller shall work near such bore until either of the following operation has been done by the agent for the misfired boreholes.

- a) The contractor's agent shall very carefully (when the tamping is damp clay) extract the tamping with a wooden scrapper and withdraw the primer and detonator.
- b) The holes shall be cleaned for 30 cm of tamping and its direction ascertained by placing a stick in the hole. Another hole shall then be drilled 15cm away and parallel to it. This hole shall be charged and fired. The misfired holes shall also explode along with the new one.

Before leaving the site of work, the agent of one shift shall inform the another agent relieving him for the next shift, of any case of misfire and each such location shall be jointly inspected and the action to be taken in the matter shall be explained to the relieving agent.

The Engineer-in-Charge shall also be informed by the agent of all cases of misfire, their causes and steps taken in that connection.

## 27 **General Precautions:**

For the safety of persons red flags shall be prominently displayed around the area where blasting operations are to be carried out. All the workers at site, except those who actually ignite the fuse, shall withdraw to a safe distance of at least 200 meters from the blasting site. Audio warning by blowing whistle shall be given before igniting the fuse.

Blasting work shall be done under careful supervision and trained personnel shall be employed. Blasting shall not be done within 200 meters of an existing structure, unless specifically permitted by the Engineer-in-Charge in writing.

### **Precautions against misfire:**

The safety fuse shall be cut in an oblique direction with a knife. All saw dust should be cleared from inside of the detonator. This can be done by blowing down the detonator and tapping the open end. No tools shall be inserted into the detonator for this purpose.

If there is water present or if the borehole is damp, the junction of the fuse and detonator shall be made water tight by means of tough grease or any other suitable materials. The detonator shall be inserted into the cartridge so that about one third of the copper tube is left exposed outside the explosive. The safety fuse just above the detonator shall be securely tied in position in the cartridge. Waterproof fuse only shall be used in the damp borehole or when water is present in the borehole.

If a misfire has been found to be due to defective fuse, detonator or dynamite, the entire consignment from which the fuse, detonator or dynamite was taken shall be got inspected by the Engineer -in-Charge or his authorised representative before resuming the blasting or returning the consignment.

**28. Precautions against stray currents:**

Where electrically operated equipments are used in locations having conductive ground or continuous metal objects, tests shall be made for stray current to ensure that electrical firing can proceed safely.

## SECTION – VIII

### SAFETY PRECAUTIONS

1. **Safety Precautions when excavating or working in excavations close to electric cables:** The Engineer-in-charge of the work should get full information from Electricity undertaking regarding any electric cables, which are known or suspected to exist near the proposed excavation and unless this is done, excavation should not be carried out in the section concerned. The electricity undertaking should be asked to send a representative and work should be preceded with close consultation with them.

Only wooden handled hand tools should be used until the electric cables have been completely exposed. Power Cables not laid in conduits are usually protected from above by a cover slab of concrete, brick or stone. They may or may not be protected on the sides. It is safer, therefore, always to drive the point of the pickaxe downwards then uncovering a cable, so that there is less chance of missing such warning slabs. No workman should be permitted to work at one where there are electric cables involved. At least one more man should be working nearby so that help can be given quickly in case of an accident. If disconnection of power could be arranged in that section it will be better. No electric cables shall be moved or altered without the consent of the Electric Authority and they should be reported to the Electric Authority and any warning bricks disturbed during excavation should be replaced while back filling the trench. Before driving a spike into the ground, the presence of other underground properties should be checked. Information on plans regarding the location of power cables need not to be assumed as wholly accurate. Full precautions should be taken in the vicinity until the power cable is uncovered. All electric cables should be regarded as being live and consequently dangerous. Any power is generally dangerous, even low voltage proving fatal in several cases.

1. **Electric Shock-Action and treatment:** Free the victim from the contact as quickly as possible. He should be jerked away from the live conductors by dry timber, dry rope or dry clothing. Care should be taken not to touch with bare hands as his body may be energized while in contact. Artificial respiration should begin immediately to restore breathing even if life appears to be extinct. Every moment of delay is serious, so, in the meanwhile, a doctor should be called for.
2. **Safety precautions while working in public street and along railway lines:** Where a road or footpath is to be opened up in the course of work, special care should be taken to see that proper protection is provided to prevent any accidents from occurring. Excavation work should be done in such a manner that it would not unduly cause inconvenience to pedestrians or occupants of buildings or obstruct road traffic. Suitable bridges over open trenches should be so planned that these are required for the minimum possible time. Where bridges are constructed to accommodate vehicular traffic and is done near or on railway property, it should be with the full consent and knowledge of the competent railway authorities.

**Danger from falling material:** Care should be taken to see that apparatus, tools or other excavating implements or excavated materials are not left in a dangerous or insecure position so as to fall or be knocked into the trench thereby injuring any workman who may be working inside the trench.

**Care when working in Excavations:** Jumping into a trench is dangerous. If it is deep, workmen should be encouraged to lower themselves. Workers should work at safe distance so as to avoid striking each other accidentally with tools. If the walls of the trench contain glass bits, corroded wire or sharp objects they should be removed carefully. If an obstruction is encountered, it should be carefully uncovered and protected if necessary. Care must be taken to see that excavated material is not left in such a position that it is likely to cause any accident or obstruction to a roadway or waterway. If possible the excavated material should be put between the workmen and the traffic without encroaching too much on the road.

3. **Danger of cave in:** When working in deep trenches in loose soil, timbering up/shoring the sides will prevent soil subsidence, The excavated material should be kept at sufficient distance from the edge of the trench or pit. Vehicles or heavy equipment must not be permitted to approach too close to the excavation. When making tunneled opening, it should be ensured that the soil is compact enough to prevent cave in even under adverse conditions of traffic. Extra care should be taken while excavating near the foundations of buildings or retaining walls. In such cases, excavation should be done gradually and as far as possible in the presence of the owners of the property.
4. **Protection of Excavations:** Excavations in populated areas, which are not likely to be filled up on the same

day should be protected by barriers or other effective means of preventing accidents and the location of all such openings must in any event be indicated by red flags or other suitable warning signs. During the hours from dusk to dawn, adequate number of red warning lamps should be displayed. Supervisory officers should ensure that all excavations are adequately protected in this manner as serious risk and responsibility is involved. Notwithstanding adoption of the above mentioned precautions, works involving excavations should be so arranged as to keep the extent of opened ground and the time to open it to a minimum.

5. **Precautions while working on roads:** The period between half an hour after sun-set and half an hour before sunrise, and any period of fog or abnormal darkness may also be considered as night for the purpose of these instructions, for the purpose of providing the warning signs. Excavation liable to cause danger to vehicles or the public must at all times be protected with fencing of rope tied to strong uprights or bamboo poles at a suitable height or by some other effective means. Any such temporary erection which is likely to cause obstructions and which is not readily visible should be marked by posts carrying red flags or boards with a red background by day and by continuously lighted lamps at night.

The flags and the lamps should be placed in conspicuous positions so as to indicate the pedestrians and drivers of vehicles the full expanse i.e. both width and length of the obstruction. The distance between lamps or between floors should not generally exceed 1.25 mtrs. Along the width and 6 mtrs. Along length of the obstruction in non-congested areas, but 4 meters along the length in congested areas. If the excavation is extensive sufficient notice to give adequate warning of the danger, should be displayed conspicuously not less than 1.25 mtrs. Above the ground and close to the excavation. Where any excavation is not clearly visible for a distance of 25 mtrs. To traffic approaching from any direction or any part of the carriage way of the road in which the excavation exists, a warning notice should be placed on the kerb or edge of all such roads from which the excavation or as near the distance as is practicable but not less than 10 mtrs. From the junction of an entering or intersecting road in which the excavation exists. All warnings, in these should exhibit a red light, but white lights may be used in addition to facilitate working at night. Wherever required a passage for pedestrians with footbridge should be provided. At excavations, cable drums, tools and all materials likely to offer obstructions should be properly folded round and protected. This applies to jointerø tents as well. Leads, hoses etc. stretched and across the carriage way should be guarded adequately for their own protection and also that of the public.

6. **Traffic Control:**

The police authorities are normally responsible for the control of traffic and may require the setting up of traffic controls to reduce the inconvenience occasioned by establishment of a single line of traffic due to restriction in road width or any other form of obstruction caused by the work. As far as possible, such arrangements should be settled in advance. If there are any specific regulations imposed b the local authorities, these should be followed.

7. **Work along Railway Lines:**

Normally all works at Railway crossing is to be done under supervision of the railway authorities concerned, but it is to be borne in mind that use of white, red or green flags by the Departmental staff is positively forbidden to be used when working along a railway line as this practice may cause and accident through engine drivers mistaking them for railway signals. When working along a double line of railway, the men should be warned to keep a sharp look on both the öUPö and öDOWNö lines to avoid the possibility of any accident when trains pass or happen to cross one another near the work spot.

8. **Procedure and Safety precautions for use of explosives during blasting for Trenching:**

In areas where the cable trench cannot be done manually on account of boulders and rocks, it is necessary to blast the rocks by using suitable explosives. The quality of explosive to be used depends on the nature of the rocks and the kind of boulders. A few types of explosive fuses and detonators normally used for making trenches for cable works are detailed below:

- i) Gun power
- ii) Nitrate Mixture
- iii) Gelatin
- iv) Safety fuses
- v) Electric Detonator
- vi) Ordinary Detonator

9. **Procedure:**

A detailed survey of the route is to be done to assess the length of the section where trenching is to be done with the help of blasting. A route diagram of the rocky section may be prepared indicating the length of the route where the explosive is to be used. For the purpose of obtaining license, longer length of route should be given the application as in many cases, after digging, rocks appear where blasting was not initially anticipated. Next a license will have to be obtained for use and storing of explosive in that section. If the area falls under a police commissioner, the authority for granting such license is the police commissioner, the authority for issuing license is the district magistrate.

The concerned authority should be applied in prescribed form with the route map. The concerned authority will make an inquiry and issue a license for using/storing explosives for cable trenching works. Such license will be valid for 15 days only. The license should be renewed if the blasting operation needs to be extended. Once the license is granted, it is the responsibility of the holder of the license for the proper use of explosive, its transportation and storing.

**Method of using:**

The safest explosive is the Gelatin and electric detonator. Gelatin is in the form of a stick. Electric detonator is a type of fuse used for firing the explosive electrically. Holes are made at suitable interval on rocky terrain boulder either by air compressor and by manual chipping. The depth of the hole should be 2 to 3 ft. Fill up the hole with small quantity of sand for about 60. First the electric detonator is to be inserted into the Gelatin and the Gelatin is to be inserted into the holes keeping the +ve and -ve wiring of electric detonator outside the holes. Again refill the hole by sand. These +ve and -ve insulated wire of detonator are then extended and finally connected to an exploder kept at a distance of not less than 100mtrs. Now the explosive is ready for blasting. But before connecting wires to exploder for blasting, all necessary precaution for stopping the traffic, use of red flags, exchange of caution signals, etc., should be completed and only then Exploder should be connected and operated. Operation of exploder (IDL Schaffer type 350 type exploder): The type 350 blasting machine consists of a bearing block with blasting machine system and the explosion proof light alloy injected molded housing. The exploder is held with the left hand. The twist handle is applied to the drive pin, dapped with the right hand turned in the clock wise direction in continued measurement at the height speed from the initial position until it reached to a stop. At the stage an indication lamp will glow. When the indication lamp glow, the press button switch should be pressed. This will extend the electric current to detonator and Gelatin will be detonated. The rock will be blasted out of the trench. Number of holes can be blasted in a single stroke by connecting all such detonator in series connection and finally to the exploder. After blasting, again mazdoors are engaged on the work to clear the debris. If the result of the first blasting is not satisfactory, it should be repeated again on the same place.

**Warning**

There may be two reasons for unsatisfactory result of the blasting. Misfire of Gelatin due to leakage of current from detonator. Over loading because of overburdens. Never pull the broken wire pieces from the holes in such cases, Attempts should not be made to re-blast the misfired Gelatin. The safest way is to make a fresh hole but its side and put fresh Gelatin in those holes and blast it.

**Precautions**

The abstract of explosives Rules 1983 that are relevant to our work is given below: Restriction of delivery and dispatch of explosive:

No person shall deliver or dispatch any explosives to anyone other than a person who.

Is the holder of a license to possess the explosives or the agent of a holder of such a license duly authorized by him in writing on his behalf.

OR

Is entitled under these rules to possess the explosive without the license.

The explosive so delivered or dispatched shall in no case exceed the quality, which the person to whom they are delivered or dispatched is authorized to possess with or without a license under these rules.

No person shall receive explosive from any person other than the holder of a license granted under these rules. No person shall receive from or transfer explosives to any person for a temporary storage or safe custody in a license premise unless prior approval is obtained from the chief controller.

A person holding license for possession of explosives granted under these rules shall store the explosives only in premises specified in the license.

**Protection from Lightning During Storing:**



Every magazine shall have attached there to one or more efficient lightning conductors designed and erected in accordance with the specification laid down in Indian standard specification No. 2309 as amended from time to time. The connection to various parts of ear the resistance of the lightning conductor terminal on the building to the earth shall be tested at least once in every year by a qualified electrical; engineer or any other competent person holding a certificate of competency in this behalf from the state electricity Department. A certificate showing the results of such tests and the date of the last test shall be hung up in conspicuous place in the building.

**Precautions during thunder-storm:**

When a thunder-storm as pear to be imminent in the vicinity of a magazine or store house every person engaged in or around such magazine and store house shall be withdrawn to a safe distance from such distance from such magazine and store house and the magazine and store house shall be closed or locked until the thunder storm has ceased or the threat of it has passed.

**Maintenance of records:**

Every person holding a license granted under these rules for possession, sale or use of explosives shall maintain records in the prescribed forms and shall produce such record on demand to an inspection Officers.

**Explosives not to be kept in damaged boxes:**

The license of every magazine or store house shall ensure that, the explosives are always kept in their original outer package. In case, the outer package gets damaged so that the ex plusive contained therein cannot be stored or transported, such explosive shall be repackage only after the same are examined by controller of explosives.

**Stored of explosives in excess of the licensed quantity:**

The quantity of any kind of explosives kept in any licensed magazine as store house shall not exceed the quantity entered in the license against such kind of explosives. No explosives in excess of the licensed quantity shall be stored in the magazine or store house unless a permit in this behalf is obtained from the licensing authority by a letter or telegram.

**10. Precautions to be observed at site:**

The electric power at the blasting site shall be discontinued as far as practicable before charging the explosives. No work other than associated with the charging operations shall be carried out within 10 meters of the holes unless otherwise specified to the contrary by the licensing authority.

When charging is completed, any surplus explosive detonators and fuses shall be removed from the vicinity of the hole and stored. At a distance which should prevent accidental detonation in the event of a charge detonating prematurely in any hole. The holes which have been charged with explosives shall not be left unattended till the blasting is completed. Care shall be taken to ensure that fuse or wires connected to the detonation are not damaged during the placing of stemming materials and tamping.

**\* Suitable warning procedure to be maintained: -**

The licensee or a person appointed by the licensee to be in charge of the use of explosives at the site shall lay down a clear warning procedure consisting of warning signs and suitable signals and all persons employed in the area shall be made fully conversant with such signs and signals.

**\* Precautions to be observed while firing: -**

The end of the safety fuse if used in place of a detonator should be freshly cut before being lighted. The exploders shall be regularly tested and maintained in a fit condition for use in firing. An exploder shall not be used for firing a circuit above its rated capacity. The electric circuits shall be tested for continuity before firing. All persons other than the shot-firer and his assistant, if any shall be withdrawn from the site before testing the continuity.

In case of blasting with dynamite or any other high explosive, the position of all the bore holes to be drilled shall be marked in circles with white paint. These shall be inspected by the contractor's agent. Bore holes shall be of a size that the cartridge can easily pass down. After the drilling operation, the agent shall inspect the holes to ensure that drilling has been done only at the marked location and no extra hole has been drilled.

The agent shall then prepare the necessary charge separately for each bore hole. The bore ho les shall be thoroughly cleaned before a cartridge is inserted. Only cylindrical wooden tamping rods shall be used for tamping. Metal rods or rods having pointed ends shall never be used for tamping. One cartridge shall be placed in the bore hole and gently pressed but not rammed down. Other cartridges shall then be added as may be required to make up the necessary charge for the bore. Hole. The top most cartridge shall be connected to the detonator which shall in turn be connected to the safety fuses for required length. All

fuses shall be cut to the length required before being inserted into the holes. Joints in fuses shall be avoided. Where joints are unavoidable, a semi-circular niche shall be cut in one piece inserted into the niche. The two pieces shall then be wrapped together with string. All joints exposed to dampness shall be wrapped with rubber tape.

The maximum of eight bore holes shall be loaded and fired at one occasion. The charges shall be fired successively and not simultaneously. Immediately before firing, warning shall be given and the agent shall see that all persons have retired to a place of safety. The safety fuses of the charged holes shall be ignited in the presence of the agent, who shall see that all the fuses are properly ignited.

Careful count shall be kept by the agent and others of each blast as it explodes. In case all the charged bore holes have exploded, the agent shall inspect the site soon after the blast but in case of misfire the agent shall inspect the site after half an hour and mark red crosses (X) over the holes which have not exploded. During his interval of half an hour, nobody shall approach the misfired holes. No dealer shall work near such bore until either of the following operations have been done by the agent for the misfired bore holes.

- a) The contractor's agent shall very carefully (when the tamping is a damp day) extract the tamping with a wooden scraper and withdraw the primer and detonator.
- b) The holes shall be cleaned for 30 cm of tamping and its direction ascertained by placing a stick in the hole. Another hole shall then be drilled 15 cm away and parallel to it. This hole shall be charged and fired. The misfired holes shall also explode along with the new one.

Before leaving the site of work, the agent of one shift shall inform the another agent relieving him for the next shift, of any case of misfire and each such location shall be jointly inspected and the action to be taken in the matter shall be explained to the relieving agent.

The Engineer-in-Charge shall also be informed by the agent of all cases of misfire, their causes and steps taken in that connection.

11. **General Precautions:** For the safety of persons red flags shall be prominently displayed around the area where blasting operations are to be carried out. All the workers at site, except those who actually ignite the fuse, shall withdraw to a safe distance of at least 200 meter from the blasting site. Audio warning by blowing whistle shall be given before igniting the fuse.

Blasting work shall be done under careful supervision and trained personnel shall be employed. Blasting shall not be done within 200 meters of an existing structure, unless specifically permitted by the Engineer-in-Charge in writing.

**Precautions against misfire:** The safety fuse shall be cut in an oblique direction with a knife. All saw dust shall be cleared from inside of the detonator. This can be done by blowing down the detonator and tapping the open end. No tools shall be inserted into the detonator for this purpose.

If there is water present or if the borehole is damp, the junction of the fuse and detonator shall be made water tight by means of tough grease or any other suitable material. The detonator shall be inserted into the cartridge so that about one-third of the copper tube is left exposed outside the explosive. The safety fuse just above the detonator shall be securely tied in position in the cartridge. Water proof fuse only shall be used in the damp borehole or when water is present in the borehole.

If a misfire has been found to be due to defective fuse, detonator or dynamite, the entire consignment form which the fuse, detonator or dynamite was taken shall be got inspected by the Engineer-in-Charge or his authorized representative before resuming the blasting or resuming the consignment.

12. **Precautions against stray currents:**

Where electrically operated equipment is used in locations having conductive ground or continuous metal objects, tested shall be made for stray current to ensure that electrical firing can proceed safely.

## SECTION – IX

### FORMAT OF AGREEMENT

This agreement made on this \_\_\_\_\_ day of (month) \_\_\_\_\_ (year) \_\_\_\_\_ between M/s \_\_\_\_\_, herein after called "The Contractor" ( Which expression shall unless excluded by or repugnant to the context , include its successors , heir, executors, administrative representative and assignee) of the one part & the BHARAT SANCHAR NIGAM LIMITED here in after referred to as the BSNL, of other part.

Whereas the contractor has offered to enter into contract: with the said BSNL for the execution of work of OPTICAL FIBRE cable laying and associated works in TDM RAIGARH wing on the terms and conditions herein contained and the rates approved by the BSNL (copy of Rates annexed) have been duly accepted and where as the necessary security deposits have been furnished in accordance with the provisions of the tender document and whereas no interest will be claimed on the security deposits.

Now these presents witness and it is hereby agreed and declared by and between the parties to these presents as follows.

- 1) The contractor shall, during the period of this contact: that is to say from \_\_\_\_\_ to \_\_\_\_\_ or completion of work for Rs. \_\_\_\_\_ (In words) \_\_\_\_\_ whichever is earlier or until this contact: shall be determined by such notice as is hereinafter mentioned, safely carryout, by means of labourers employed at his own expenses and by means of tools, implements and equipment etc. to be supplied by him to his labor at his own expenses, all trenching, cable laying other associated works as described in documents (annexed to the agreement), when the BSNL or AGM (P) or any other persons authorized by AGM ( P) in that behalf require. It is understood by the contractor that the quantity of work mentioned on the schedule is likely to change as per actual requirements as demanded by exigencies of service.
- 2) The Bid documents (Qualifying and Financial), letter of intent, approved rates, annexed hereto and such other additional particulars, Instructions, drawings, work orders as may be found requisite to be given during execution of the work shall be deemed and taken to be an integral part of the contract and shall also be deemed to be included in the expression "The Agreement" or "The Contractö wherever herein used.
- 3) The contractor shall also supply the requisite number of workmen with means & materials as well as tools, appliances, machines, implements, vehicles for transportation, cartage etc. required for the proper execution of work within the time prescribed in the work orders.
- 4) The contractor hereby declares that nobody connected with or in the employment of the BSNL of Telecommunications/DTS is not/shall not ever be admitted as partner in the contract:.
- 5) The contractor shall abide by the terms and conditions, rules, guidelines, construction practices, safety precautions etc. stipulated in the tender document including any correspondence between the contractor and the BSNL having bearing on execution of work and payments of work to be done under the contract.
- 6) The Contractor will solely be responsible for getting the Right of Way permission from other agencies like Road authorities, Forest Authorities, Corporations, Panchayats ETC . The compensation amount to these authorities will be paid by BSNL. The contractor will have no claim on BSNL in terms of time and Money for any delay in permission from these authorities.
- 7) Copies of authenticated documents of payments of EPF contribution paid for the last month should be attached along with the bill.

In witness whereof the parties present have here into set their respective hands and seals the clay and year in

\_\_\_\_\_  
**Above written :**

**Signed sealed & Delivered by**  
the above named Contractor in  
the presence of.

Witness :

- 1.
- 2.

Witness :

**Signed & Delivered on behalf**  
of the BSNL of India by the

**SECTION X**

**LETTER OF AUTHORISATION FOR ATTENDING BID OPENING**

**No No.:** TDM-RIH/W-20-721/OFC Laying (FTTH/E.B. & Other) /18-19/13 **Dated:** 05.12.18

**Subject:** Authorization for attending bid opening on \_\_\_\_\_(date) in the tender of \_\_\_\_\_

The following persons are hereby authorized to attend the bid opening for the tender mentioned above on behalf of (Bidder) in order of preference given below.

|                     |      |                     |
|---------------------|------|---------------------|
| Order of Preference | Name | Specimen Signatures |
|---------------------|------|---------------------|

I II

Alternate Representative

Signatures of bidder

**or**

Officer authorized to sign the bid documents on behalf of the bidder.

No.

- 1 Maximum of two representatives will be permitted to attend bid opening. In cases where it is restricted to one, first preference will be allowed. Alternate representative will be permitted when regular representatives are not able to attend.
2. Permission for entry to the hall where bids are opened may be refused in case authorization as prescribed above is not recovered.

**SECTION: XI**

**PART – A**

**MATERIAL SECURITY BOND FORM**

Whereas ..... (hereinafter called "the Contractor") has been awarded the contract of construction work, as per tender number \_\_\_\_\_  
KNOW ALL MEN by these Presents that WE ..... OF ..... having our registered office  
At \_\_\_\_\_ (hereinafter called the "the Contractor") are bound unto  
..... (hereinafter called "the BSNL ") in the sum of ..... for which payment will and truly  
to be made of the said BSNL , the Bank binds itself, its successors and assign!;  
by these presents .

**THE CONDITIONS** of the obligation are:

1. If the Contractor is unable to keep stores issued to him, property, i.e. the store provided to the contractor, by the BSNL are damaged **or**
2. The stores issued to the contractor by the BSNL are stolen **or**
3. The Contractor is not able to provide proper amount of the stores issued to him/her/them by the BSNL .

We undertake to pay to the BSNL up to the above amount upon receipt of its first written demand without the BSNL having to substantiate its demand, provided that in its demand, the BSNL will note that the amount claimed by it is due to It owing to the occurrence of one or two or all of three conditions specifying the occurred condition or conditions.

This guarantee will remain in force up to and including One hundred and eighty (180) days after the Period of Contract validity, and any demand in respect thereof should reach the Bank not later than the above date.

Signature of the Bank

Signature of the *Witness*

Name of Witness

Adress of Witness

**SECTION: XI**

**PART – B**

**DECLARATION-I**  
**(No Near Relative Declaration)**

---

**NIT No.: TDM-RIH/W-20-721/OFC Laying (FTTH/E.B. & Other) /18-19/13    **Dated: 05.12.18****

I ..... S/o..... R/o  
....., hereby certify that none of my relative(s) as defined below is/are employed in BSNL/DOT unit. In case at any stage, it is found that the information given by me is false/incorrect, BSNL shall have the absolute right to take any action as deemed fit without any prior intimation to me.

Note: The near relatives for this purpose are defined as:

1. Members of a Hindu Undivided family,
2. They are husband and wife,
3. The one is related to the other in the manner as father, mother, son(s) & son's wife (daughter-in-law), daughter(s) & daughter's husband (son-in-law), brother(s) & brother's wife, sister(s) & sister's husband (brother-in-law).

Station:

Name of the contractor  
(Capacity in which signing)

Date:

**Note-:**

- This Declaration is required to be submitted in original for this tender.
- The above certificate is to be signed by :
  - ✓ The Proprietor in case of Proprietorship firm
  - ✓ All the partners in case of Partnership firm
  - ✓ All the directors in case of Limited Company

**DECLARATION-II**  
(Non Blacklisting/ Non Debar Declaration)

NIT No.: TDM-RIH/W-20-721/OFC Laying (FTTH/E.B. & Other) /18-19/13    **Dated:** 05.12.18

I/We hereby declare that my/our firm has/have not been declared blacklisted / debar for taking part in tender any where in the unit of BHARAT SANCHAR NIGAM LIMITED. I/We am/are aware that any breach of this condition would result in immediate termination of contract/cancellation of the existing contract/contracts and also forfeiting of my/our security deposit held by BSNL CG .

Signature of BIDDER

Name of the BIDDER  
(Capacity in which

signing) Station:

Date:

**Note:-**

- This Declaration is required to be submitted in original for this tender.
- The above certificate is to be signed by :
  - ✓ The Proprietor in case of Proprietorship firm
  - ✓ All the partners in case of Partnership firm
  - ✓ All the directors in case of Limited company

**DECLARATION-III**

**(PAYMENT INSULATION UNDERTAKING)**

NIT No.: TDM-RIH/W-20-721/OFC Laying (FTTH/E.B. & Other) /18-19/13 **Dated: 05.12.18**

I/We undertake that I/We have sufficient capital resources to carry out operations and will make due payment to our firms labour / employees assigned to execution of the this tender of BSNL CG RAIPUR as per laws every month insulating it from payments from BSNL. I/We also undertake to perform in faithful & efficient manner the work of this tender without linking it to payments from BSNL.

(Signature of BIDDER/Authorized signatory)

Name of the BIDDER with seal  
(Capacity in which

signing) Station:

Date:

**Note:-**

- This Declaration is required to be submitted in original for this tender.
- The above certificate is to be signed by :
  - ✓ The Proprietor in case of Proprietorship firm
  - ✓ All the partners in case of Partnership firm
  - ✓ All the directors in case of Limited company



## SECTION: XI

**PART – C**  
**BHARAT SANCHAT NIGAM LIMITED**  
**OFFICE OF THE TELECOM DISTRICT MANAGER RAIGARH(C.G.)**

**WORK ORDER**

To,

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

No.\_\_\_\_Dated at \_\_\_\_\_ the \_\_\_\_\_

The following work / works are /are awarded to you for execution.

1. Name / Details of the work (s) : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. Estimate No. :
3. Specification / Detailed instruction / Instructions. : As per latest Departmental Engineering Specification of contract.
4. Terms & Conditions : As agreed upon vide letter no. \_\_\_\_\_  
 \_\_\_\_\_ dated \_\_\_\_\_  
 with \_\_\_\_\_
1. Maximum Time limit for execution / completion w. e. f. Date of Issue of this work order :  
 a) Time for 25% of work :  
 b) Time for 50% of work :  
 c) Time for 75% of work :  
 d) Time for 100% of work :

Note:- Liquidated Damages shall be imposed as per clause No.2 schedule III of Tender Document.

It is requested that the work / works be executed strictly as per latest Departmental Engineering Instruction within the stipulated period. Intimation regarding completion of work be given to work ó ordering authority as soon as the work is completed for arranging the Acceptance Testing.

**AGM (A&p).**

Copy to :-

The DGM (TXIP) RAIPUR for information, Please.

Shri \_\_\_\_\_ Junior Telecom Officer( \_\_\_\_\_ )  
 \_\_\_\_\_ with instruction to supervise and get the work /  
 works executed as per departmental instructions / standards & sanctioned estimate. Concerned file  
 \_\_\_\_\_.

SECTION: XI

PART – D

Form no..6 see rules 154(5)

Application for grant of license to possess explosive for own use

I hereby apply for a license to possess explosive as mentioned below for my own use for removal of tree stumps/leveling of ground/digging or new well/deepening of existing well/the use of a certificate .Dtdí .required under sub -rule(8) of rule of 155 of the explosive rules 1983 are enclosed. Replies to be given in this column.

- 1. Name of the applicant
- 2. Age of the applicant
- 3. Residential Address of the applicant
- 4. Location of the premises which shall be used
- 5. Mode of storage.
- 6. Location of the premises where the explosive shall be stored.
- 7. Quantity of explosive proposed to be stored
  - a. Gun powder
  - b. Nitrate Mixture
  - c. Nitro compound
  - d. Safety Fuse
  - e. Electric Detonator
  - f. Ordinary Detonator

- 12. Particulars of the license obtained by the applicant during two years.
  - a) Has the applicant been convicted under any law or ordered to execute bond under Chapter VII of code of Criminal Procedure 1973 during the last ten years. b) If yes. Give details
- 13. a) Particulars of license held by the applicant under Explosive Act. 1884, during the last ten years.
  - b) Was any license canceled/not renewed?
  - c) If yes give details.
- 14. Any other information

I certify that the information given to me above is correct.

Place: Signature of the applicant: Date:

- Note: (1) The applicant should attach site plan and construction plan of the premises where the explosives shall be stored.
- (2) Delete whichever is not applicable

(End of Annexure-II)

## SECTION: XI

### PART – E

## LIST OF THE DOCUMENTS TO BE SUBMITTED ALONG WITH QUALIFYING BID

The bidder will have to submit the following documents/deposits with the Technical Bid. Any bid not accompanying the below mentioned documents / deposits will be liable to be rejected:

#### **Documents to be submitted Off line.**

1. EMD ó Bid security (original copy) as per DNIT.
2. Cost of tender document as per DNIT.
3. Power of Attorney and authorization for executing the power of Attorney if applicable.
4. PASS PHRASE for both part (Technical and Financial) in separately sealed envelopes.
5. Any other document mentioned in NIT/Bid Document

#### **Documents to be submitted On line.**

1. Tender document (s), in original, duly filled in digitally signed by bidder or his authorized representative .
2. The Firm registration certificate issued by the competent authority.
3. Latest Income tax return filed copy and Valid PAN No.
4. Authenticated copy of partnership deed in cases of partnership firm.
5. Bid Form, duly filled in the tender document.
6. Bidders profile, duly filled in the tender document.
7. Original "Power of Attorney" in case person other than the bidder has signed the tender documents.
8. List of qualified experienced personnel, who are working for the bidder, who will be deployed for the work.
9. Copy of Registration with EPF, ESIC & Central Labour as per the provisions of EPF Act, ESIC Act & Central Labour Laws..
10. **Experience certificate of OFC laying** and associated works as mentioned in NIT.
11. GST registration certificate of the firm.
12. Solvency certificate **of Rs 5,00,000/-** from any scheduled bank. The solvency certificate shall not be older than one year from the date of issue of NIT.
13. Undertaking regarding No Near Relative(Declaration-I), Non Black Listing(Declaration-II) & Payment Insulation Certificate(Declaration-III) in the given format in bid document.

#### **14. Documents of Valid Certification from MSME for the tendered Items if applicable.**

**SECTION: XI**  
**PART – F**  
**BID SECURITY FORM**

Whereas .....(hereinafter called "the Bidder") has submitted its bid dated..... for the work of .....as per Tender No. ....  
..... KNOW ALL MEN by these Presents that WE..... OF  
.....  
having out registered office at ..... (here in after called "the Bank") are bound unto  
..... (herein after called the "the Purchase") in the sum of ..... for  
which payment will and truly to be made of the said Purchase, the Bank binds itself, its successors  
and assigns by these presents.

THE CONDITIONS of the obligation are:

1. If the Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid form; or
2. If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the Period of Bid validity.
  - a). fails, or refuses to execute the Contract, if required, or
  - b). fails or refuses to furnish performance security, in accordance with the Instructions to Bidders.

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand, the Purchaser will note that the amount claimed by it is owing to the occurrence of one or all of three conditions, specifying the occurred condition or conditions.

This guarantee will remain in force as specified in clauses 10 and 25 of section IV of the Bid Document up to and including Thirty (30) days after the period of Bid validity, and any demand in respect thereof should reach the Bank not later than the specified date/dates.

Signature of the Bank

Name.....

- Signed in capacity of
- Name of Witness
- Signature of Witness
- Address of Witness
- Full Address of Branch
- STD Code & Telephone No. of Branch
- FAX No. of Branch

Signature of Bidder

## SECTION: XI

### PART – G

#### PERFORMANCE SECURITY GUARANTEE (BOND FORM)

In consideration of the CMD ,Bharat Sanchar Nigam Ltd having agreed to exempt . . . . .  
 . . . . . hereinafter called the "Contractor(s) "] from the demand, under the terms and conditions of  
 an agreement/Purchaser Order) No. . . . . í í ... Dated.....made between ..... and  
 .....for .....forth supply of . . . . . (hereinafter called the "the said  
 agreement"), of security deposit for the due fulfillment by the said Contractor (s) of the terms and  
 conditions contained in the said Agreement, on production of a bank guarantee for.....  
 we,(Name of the Bank).....(Herein after referred to as "the Bank") at the request of . . . . .  
 . . . . (contractor(s) do hereby undertake to pay to the BSNL an amount not exceeding . . . . .  
 . . . against any loss or damage caused to or suffered or would be caused to or suffered by the BSNL  
 by reason or any breach by the said Contractor(s) of any of the terms or conditions contained in the  
 said Agreement.

2. We (Name of the Bank) . . . . . do hereby undertake to pay the amounts due and  
 payable under this guarantee without any demur, merely on a demand from the BSNL stating that he  
 amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the  
 BSNL by reason of breach by the said contractor(s) of any of terms or conditions contained in the  
 said Agreement or by reason of the contractor (s) failure to perform the said Agreement. Any such  
 demand made on the bank shall be conclusive as regards the amount due and payable by the Bank  
 under this guarantee where the decision of the BSNL in these counts shall be final and binding on  
 the bank. However, our liability under this guarantee shall be restricted to an amount not exceeding .  
 . . . . .

3. We undertake to pay to the BSNL any money so demanded notwithstanding any dispute or  
 disputes raised by the Contractor(s) / suppliers in any suit or proceeding before any court or tribunal  
 relating thereto our liability under this present being absolute and unequivocal. The Payment so  
 made by us under this bond shall be valid discharge of our liability for payment there under and the  
 contractor(s) / supplier(s) shall have no claim against us for making such payment.

4. We (name of the Bank) . . . . . further agree that the guarantee herein contained shall  
 remain in full force and effect during the period that would be taken for the performance of the said  
 agreement and that it shall continue to be enforceable till all the dues of the BSNL under or by virtue  
 of the said Agreement have been fully paid and its claims satisfied or discharged or till.....  
 .... (Office/BSNL) .....Certifies that the terms

and conditions of the said Agreement have been fully and properly carried out by the said  
 contractor(s) and accordingly discharge this guarantee. Unless a demand or claim under this  
 guarantee is made on us in writing or  
 before the expiry of THREE YEARS from the date hereof, we shall be discharged from all liability  
 under this guarantee thereafter.

5. We (name of the Bank) . . . . . further agree with the BSNL that the BSNL shall  
 have the fullest liberty without our consent and without affecting in any manner our obligations  
 hereunder to vary any of the terms and conditions of the said Agreement or to extend time of  
 performance by the said contractor(s) from time to time or to postpone for any time or from time to  
 time any of the powers exercisable by the BSNL against the said contractor(s) and to forbear or  
 enforce any of the terms and conditions relating to the said agreement and we shall not be relieved  
 from our liability by reason of any such variation, or extension being granted to the said  
 Contractor(s) or for any forbearance, act or omission on the part of the BSNL or any indulgence by

the BSNL to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s) / supplier(s).

7. We (Name of the Bank) . . . . . Lastly undertake not to revoke this guarantee during its currency except with the previous consent of the BSNL in writing.

Dated the.....date .....

For .....

(Indicate the name of the Bank)

Signature of Bidder



**BHARAT SANCHAR NIGAM LIMITED  
TELECOM DISTRICT RAIGARH**

**BID DOCUMENT  
FINANCIAL**

**TENDER FOR  
OPTICAL FIBRE CABLE LAYING AND ASSOCIATED  
WORKS FOR E.B. PROJECT / FTTH & OTHER WORKS IN  
RAIGARH SSA**

**No.: TDM-RIH/W-20-721/OFC Laying (FTTH/E.B. & Other) /18-19/13    Dated: 05.12.18**

**OFFICE OF THE TELECOM DISTRICT MANAGER RAIGARH**

## Section- XII

### RATES FOR DIFFERENT ALLIED WORKS TO BE CARRIED OUT BY THE CONTRACTOR

**No.:** TDM-RIH/W-20-721/OFC Laying (FTTH/E.B. & Other) /18-19/13 **Dated:** 05.12.18

Following rates shall be payable to the contractors for the satisfactory completion of the works and are fixed and no revision in these rates shall be permitted during the currency of validity of tender. Bidder shall quote the rate in financial bids accordingly. All material shall be available from Raigarh store and contractor shall arrange to lift the store to their respected sites at their own cost and no separate payment will be made by the BSNL for such transportation of stores.

| Sr. No.  | Description of item | Schedule Rates inclusive of all Taxes in Rs.   | Unit    |           |
|--|---------------------|--|---------|-----------|
| 2.0  | -                   | Laying of HDPE pipes/PLB Coils, coupled with HDPE socket and drawing 6 mm PP rope.   | 3.00    | Per meter |
| The BSNL will supply HDPE Pipes in sizes of 5 meters or PLB pipe coils, HDPE Sockets, PP rope, End caps.   |                     |  |         |           |
| 2.1.A  | -                   | Road/Rail crossing through horizontal boring method and inserting 65/40 dia G.I. Pipes and pushing HDPE pipes/PLB coils inside and drawing 6 mm PP rope. Or laying of PLB HDPE duct by HDD method at a depth of 1.6 cm or more (for single PLB pipe) | 322.00  | Per meter |
| The BSNL will supply G.I. Pipes in length of approx. 6m, HDPE pipes/PLB coils and PP Rope.   |                     |  |         |           |
| 2.2  | -                   | Laying and fixing of 65 mm/40mm G.I. Pipes in trenches with HDPE Pipe/Coils inside and drawing PP rope.  | 10.50   | Per meter |
| The BSNL will supply GI Pipes in lengths of approx. 6m HDPE pipes/PLB coils and PP Rope.   |                     |  |         |           |
| 2.3  | -                   | Laying & fixing of 65mm/40mm GI Pipes/G.I. troughs on bridges and Culverts with HDPE pipes/PLB coils inside and drawing PP rope.   | 18.00   | Per meter |
| The BSNL will supply GI Pipes in lengths of approx. 6m HDPE pipes/PLB coils and PP Rope.   |                     |  |         |           |
| 2.4A   | -                   | Laying half round RCC Pipes in trenches with HDPE pipes/PLB coils inside and drawing PP rope.  | 2.70    | Per meter |
| 2.4B   | -                   | Laying full round RCC Pipes in trenches with HDPE pipes/PLB coils inside and drawing PP rope.  | 8.10    | Per meter |
| The BSNL will supply half/full round RCC Pipes in lengths of 1 or 2 M with collars, HDPE PIPE/Coil, PP Ropes, Materials required for sealing the couplings of RCC Pipes will be arranged by the contractor               |                     |  |         |           |
| 2.5  | -                   | Providing RCC Protection at Site to HDPE OR G.I. Pipes reinforced by Weld Mesh & Drawing of P.P. Rope.   | 4500.00 | Per cu.m. |
| HDPE Pipes G.I. Pipes reinforced by Weld Mesh & Drawing of P.P. Rope will be supplied by the BSNL. The materials required for concreting including water for curing required for work will be arranged by the contractor |                     |  |         |           |
| 3.0  | -                   | Opening of Manholes, replacing 6mm PP Rope, Pulling of O.F. Cable, Sealing of HDPE Pipes by Rubber Bushes in Manholes, providing HDPE/RCC Split Pipes in   | 3375    | Per km    |



|  |   |  |         |                      |
|--|---|--|---------|----------------------|
|  |   | manholes/Back filing of Manholes.  |         |                      |
| 3.1  |   | Opening of Manholes, Blowing of O.F. Cable, Sealing of HDPE Pipes by Rubber Bushes in Manholes, providing HDPE/RCC Split Pipes in manholes/Back filing of Manholes.  | 8400    | Per km               |
| The BSNL will supply O.F. Cable, 8mm PP Rope, Rubber Bush, Split RCC/HDPE Pipes, and Clamps. The contractor shall arrange all other materials required for the work. |   |  |         |                      |
| 4.0  |   | Digging of pit for jointing chamber, construction of brick Chamber, filling of brick chamber with clean sand, supply and placing of Pre-cast RCC Slabs on brick chamber, and back filling of jointing pit.   | 3000.00 | Per jointing chamber |
| The contractor shall arrange all materials required for the work.  |   |  |         |                      |
| 4.1  |   | Digging of pit for jointing chamber, Fixing of Pre-cast RCC chamber, filling of RCC chamber with clean sand, placing of pre-caste RCC slabs on RCC joint chamber, and backfilling of jointing pit.   | 1000.00 | Per jointing chamber |
| The BSNL will supply Pre-cast RCC Chamber with cover.  |   |  |         |                      |
| 5.0  |   | Supply & fixing of RCC/stone route/joint indicator   | 240.00  | Per Indicator        |
| 6.0  |   | Construction of retaining walls, at site, with rubble masonry as per specifications.   | 1806    | Per cu.m.            |
| All materials required for the work shall be arranged by the contractor  |   |  |         |                      |
| 7.0  |   | Documentation (6 copies of documents for each route/section = one set)   | 2000.00 | Per set              |
| All materials required for the work shall be arranged by the contractor  |   |  |         |                      |
| 8.0  |   | Splicing of cable in joints/termination (12F/24F) when department will supply jointing material, splicing machine and vehicle.   | 100.00  | Per Fiber            |
|  |   | Splicing of cable in joints/termination (12F/24F) when contractor will supply jointing material, splicing machine and vehicle.   | 200.00  | Per Fiber            |
| 9.0  | - | Road restoration work with bituminous for semi grouting 50 mm thick & premix carpet surfacing 25 mm thick over the grouted surface (total upto 75 mm thick), including supply of asphalt etc. to evenly match the road, including consolidation & rolling as per standard specification of DSR 1997. | 90.00   | Per meter            |
| 10.0   | - | Road restortion work with cement 1:4:8 mix for thickness varying from 150 mm, including supply of concrete to evenly match the road.   | 1600.00 | Per Cu M             |
| The infrastructure required for cable splicing i.e. Splicing machine, Air condition Van, OTDR, Talk set, tool kit etc shall be arranged by the bidder)               |   |  |         |                      |

**Note: GST will be paid extra as applicable.**

## EMPTY CABLE DRUMS

These are the rates of the empty cable drums, which have to be deducted from contractor's bills as per tender document if cable pulling is to be carried out by the same contractor.

| Sl.no. | Size of drum                        | Rate of disposal |
|--------|-------------------------------------|------------------|
| 1.     | Optical Fiber cable drum 6F/12F/24F | Rs 300 per drum. |

**Note: These are fixed rates and no variation shall be acceptable from these rates.**

**SECTION XIII**  
**FINANCIAL BID FOR OFC TRENCHING WORKS**

NIT No.: TDM-RIH/W-20-721/OFC Laying (FTTH/E.B. & Other) /18-19/13 **Dated: 05.12.18**

**Financial Bid**

To

The A.G.M. (A & P)  
O/o TDM RAIGARH  
1<sup>st</sup> Floor, City Telephone Exchange,  
RAIGARH (C.G.)

**Subject: Our Financial Bid for OFC Laying & Associated works in Raigarh SSA**

**Reference NIT No:-TDM-RIH/W-20-721/OFC Laying (FTTH/E.B. & Other) /18-19/13 **Dated: 05.12.18****

Dear Sir,

Having examined the Bid documents, terms and conditions stipulated therein, specifications of work etc., we the under signed offer to execute the Cable Construction Works in conformity with the said specifications and conditions of contract at the rates quoted as under:

**The material will be made available from SDE (Plg) O/o TDM Raigarh at Raigarh SSA stores/ concebed sub division store.**

| Sr. No. | Item code | Description of item   | Rate in fig (inclusive of all Taxes except service tax) | Rate in words   |
|---------|-----------|---|---|---|
| 1.0     | 10FCT     | Through rate for excavating trenches up to a depth as mentioned in NIT and back filling the excavated trenches after laying the HDPE pipe with or without protection. | Rs 00 ..000 .<br>0000000000<br>0000000000<br>00 /Mtr    | Rs<br>0000 ...00000000000000<br>00000000000000000000<br>00000000000000000000<br>00000000000000000000<br>00000000000000000000<br>00000000000000 ..00 ..00 /Mtr |

Rate to be quoted with transportation from Raigarh Stores and including all taxes as applicable except GST(GST will be paid extra as applicable).If our Bid is accepted, We shall submit the securities as per the conditions mentioned in the contract.

We agree to abide by this Bid for a period of 240 days from the date of opening of financial bid and it shall remain binding upon us and may be accepted at any time before the expiry of that period.

Dated \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Signature of the Bidder \_\_\_\_\_

Name of Bidder \_\_\_\_\_

## SECTIONXIV

**No.: TDM-RIH/W-20-721/OFC Laying (FTTH/E.B. & Other) /18-19/13    **Dated: 05.12.18****

### Scope of work.

Total Route Length = 30.00 Km (approx.)

| S.N. | Route detail  | Route Length(km) | Remark |
|------|---|------------------|--------|
| 1    | Nearest Joint- SBI Keradih Branch                                       | 0.9              |        |
| 2    | Nearest Joint- SBI Sarabkombo Branch                                    | 0.3              |        |
| 3    | Nearest Joint- SBI Manora Branch  | 0.3              |        |
| 4    | Nearest Joint- SBI Ganjiyadih   | 1.5              |        |
| 5    | Nearest Joint- Chidipal Colony  | 3.5              |        |
| 6    | Other Location for FTTH connectivity(as per requirement)                | 1.5              |        |
| 7    | OFC connectivity for CHIPS project(as per requirement)                  | 2                |        |
| 8    | Other upcoming EB projects in Raigarh SSA(as per requirement)           | 14               |        |
| 9    | Miscellaneous unforeseen cases (other than EB/FTTH)(as per requirement) | 6                |        |

Note: Routes can modified/removed and some new routes can be added as per BSNL's requirement. In this regard BSNL's decision will be final .

**Assistant General Manager (P)**  
**O/o the TDM RAIGARH**