



BHARAT SANCHAR NIGAM LTD.

BHARATSANCHAR NIGAM LIMITED

(A Govt. of India Enterprise)

Office of General Manager Telecom Leh - Ladakh
Near New Bus stand, Leh-194101

BID DOCUMENT

[TECHNICAL BID]

**E-Tender For Optical Fibre Cable Maintenance/Construction
Works In Leh SSA (Ladakh)**

NIT No. 759-I-GMT/Leh/OFC Tender Works/2017-18/1 Dated 04.07.2017

Office of General Manager Telecom Leh - Ladakh
Near New Bus stand, Leh-194101

Name of Work :

**OF cable Laying work through Trenching/Trenchless
Technology including carrying out other associated works for
faults/Protective works in the areas of Leh SSA**

FOR DETAILS VISIT US AT www.tenderwizard.com/BSNLJK

Signature and seal of the Bidder

TABLE OF CONTENTS

Section	Content	Page No.
I.	Notice Inviting Tender	3-5
II.	Bid Form	6
III.	Tenderer's profile	7-8
IV.	Instruction to Bidders	9-17
V.	General (commercial) condition of the contract	18-31
VI.	Special conditions of the contract	32-39
VII.	Scope of Work and jurisdiction of contract	40-41
VIII.	OF Cable construction Specifications	42-65
IX.	Agreement Performa	66-67
X.	Letter of authorization for attending bid opening	68
XI.	List of the documents to be submitted along with qualifying bid	69
XII.	DECLARATION REGARDING NON-RELATIONSHIP WITH BSNL EMPLOYEES	70
XIII.	Rate of Empty Cable drums	71
XIV.	Experience certificate	72
XV.	PERFORMANCE SECURITY GUARANTEE (BOND FORM)	73-74
XVI.	Financial Bids for Two Sections.	75-86

BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprise)
Office of General Manager Telecom Leh - Ladakh
Near New Bus stand, Leh-194101

NIT No. **759-I-GMT/Leh/OFC Tender Works/2017-18/4** Dated **04.07.2017**

SECTION- I

NIT FOR E-TENDER

TENDER FOR OF CABLE MAINTENANCE/CONSTRUCTION WORKS

Dated : 04/07/2017

E-tender is invited by GMTD BSNL Leh- Ladakh on behalf of BSNL from eligible /experienced contractors for OF cable Laying work through Trenching/Trenchless Technology including carrying out other associated works for faults/Protective works in the areas of Leh SSA as detailed below:-

S.No	Name of Section	Estimated cost of work in Rs	Cost of Bid Document (Non refundable in Rs)	BID security (EMD) in Rs.	Time in weeks	Total Length OFC Cable in Km
1	Leh Section Zone-I	1,46,53,850/=0	5000	3,66,346=0	52	53 Km
2	Kargil Section Zone - II	1,33,33,700/=0	5000	3,33,343=0	52	50 Km

Signature and seal of the Bidder

For e-tendering process, an amount equal to 0.05% of estimated cost of bid (With maximum Rs.5000/- and Minimum Rs.500/-) plus Service tax as applicable shall have to be paid directly to M/s ITI Ltd through on-line towards processing fees failing which the tender bid will be rejected.

1. Period of contract: - One year from the date of signing of agreement which can further be extended up to one year under same rates, terms & conditions.
2. Tender document can be obtained by downloading it from the website www.tenderwizard.com/BSNLJK
3. The bidders downloading the tender document are required to submit the tender fee amount through DD/ Banker's cheque along with their tender bid 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 "Accounts Officer (Cash) O/o GMTD BSNL, Leh payable at Leh".
4. Bid Security/EMD (2.5% of the estimated cost) can be paid in the form of Crossed Demand Draft issued by a Nationalised/scheduled bank drawn in favour of Accounts Officer (Cash) O/o GMTD Leh payable at Leh and Bank Guarantee (7.5% of the estimated cost) from a scheduled bank drawn in favour of "GMTD, BSNL, Leh- Ladakh" which should be valid for 365 days from the tender opening date.
5. i) The tender document shall be available for downloading from 06/07/2017 (dd/mm/yyyy) Onwards up to 17:00 Hrs of 26/07/2017 (dd/mm/yyyy).
ii) Tenders invited through e-tendering process, physical copy of the tender document would not be available for sale.
6. **Registration with M/s ITI Ltd:** Intending bidders are requested to register themselves with M/s. ITI Limited (if not registered earlier) through www.tenderwizard.com/BSNLJK for obtaining user-id, Digital Signature etc and deposit the Processing Fee , Tendered Cost + Service tax as applicable with MS ITI LTD Through Online Mode only.
7. Time and last date of submission of E-bid upto 13:00 Hrs on 27/07/2017.
8. Time of bid opening (Technical) at 15:00 Hrs on 27/07/2017. Opening of financial bid will be intimated later on. The bidder shall also submit the bid document along with the bid security , tender cost and other documents in physical form in tender box kept in the chamber of AGM (CFA), O/o GMTD Leh-Ladakh upto 13:00 Hrs on 26/07/2017.
9. Tender should be submitted in THREE Envelops placed in side a main cover. Namely, Bid Security, Qualifying Bid and Financial Bid. On each Envelope name of the firm and whether "Bid Security" or "Qualifying Bid" or "Financial Bid" must be clearly mentioned.
10. The Tenders which are not submitted in above mentioned manner shall be summarily rejected.
11. The Tenderer's will be bound by all terms, condition and specification as detailed in the tender documents.
12. The tenderer has to submit the bank solvency and experience as per section IV clause-7 of the Bid Document.
13. The tender, which is not accompanied by the requisite Bid Security, shall be summarily rejected. Tender will not be accepted / received after expiry of date and time The GMTD Leh- Ladakh reserves the right to reject any or all tenders without assigning any reason what- so-ever.

AGM (CFA)

O/o GMTD BSNL, Leh-Ladakh

Signature and seal of the Bidder

Note:

- 1. The contractor shall obtain / provide at his own cost all easements, permits and license necessary to do work. However for which the payment to the concerned authorities shall be made by BSNL against the demand note/estimate raised by the concerned department. Appropriate provisions have been made in Schedule of Rates for this activity.**
- 2. No any extra charges will be paid to the contractors for pursuance of easements, permits etc. from the different local authorities. It shall be responsibility of the bidder to quote the rates for execution of the work keeping in view such aspects.**
- 3. Since the work is of top priority and to be carried out in stipulated time, only contractors having sufficient resources to complete the work in time need to participate.**
- 4. Successful bidder may be asked to carry out 25% of the estimated work at any site under the jurisdiction of the GMTD Leh- Ladakh at the approved rates with mutual consent**

SECTION II BID FORM

Tender No. -----

Dated: -----

To
The GMTD, Leh- Ladakh.

Dear Sir,

Having examined the conditions of contract and specification including addenda NO.... the receipt of which is hereby duly acknowledged. We, undersigned, offer to execute the work of Optical Fiber cable Maintenance/Construction Work on in conformity with said drawings, condition of contract and specification as may be ascertained in accordance with the schedule of prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, we will execute the work in accordance with specification, time limits & terms and conditions in the tender document.

If our Bid is accepted, we shall submit the securities as per the condition mentioned in the contract.

We agree to abide by this Bid for a period of 365 days from the date fixed for Bid opening (Qualifying Bid) and it shall remain binding upon us and may be accepted at any time before the expiry of that period.

Until a formal Agreement is prepared and executed, this Bid together with your written acceptance thereof in your notification of award shall constitute a binding contract between us.

Bid submitted by us is properly sealed and prepared so as to prevent any subsequent alteration and replacement.

Date this.....day of**(the year)**

Signature of Authorized Signatory.....
In capacity of

Duly authorized to sign the bid for and on behalf of.....

Witness.....

Address.....

Signature.....

Signature and seal of the Bidder

Passport size
photograph of the
tenderer/authorized
signatory holding
power of Attorney

1. Name of the tenderer/firm :
2. Name of person submitting the tender whose Photograph
is affixed Shri/Smt.

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. Tenderer's Enlistment certificate details or
Experience Certificate not below the rank of DE

- a. Category _____

- b. Number _____

- c. Issuing Telecom Circle _____

- d. Issued on _____

- e. Valid up to _____

- f. Experience I) Kms -----II) Financial Year ----- III) Authority-----

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

Signature and seal of the Bidder

9. Tenderer'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. Infrastructure capabilities:

- a. Capacity of trenching per day (in meters)
 b. Capacity of pipe laying per day (in meters)
 c. Capacity of pulling cable through duct/pipe per day (in meters)
 d. Capacity of engaging mazdoors per day
 e. Particulars of vehicles available with the tenderer:

Type of Vehicle(s)	Registration number
.....
.....
.....

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

.....

12. Details of Technical and supervisory Staff:

.....

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

Place:

Date:

Signature of tenderer/Authorized signatory.....

Name of the tenderer.....

Seal of the tenderer

Section IV INSTRUCTION TO BIDDERS

A. INTRODUCTION:

1. DEFINITIONS

- a. **President of India:** The President of India means the President of India and his successors.
- b. **Government of India:** The Government or Government of India shall mean the President of India.
- c. **Department:** The department means the Department of Telecommunications/BSNL or any other Department under the Ministry of Communications, which invites the tenders on behalf of Bharat Sanchar Nigam Limited. All references of:

Department
Chief General Manager
Principal General Manager
General Manager
General Manager / Area Manager / Director / Telecom Distt. Manager /
Director (Projects)
Asstt. General Manager/ Divisional Engineer (Projects)
Sub Divisional Engineer
Junior Telecom Officer
DGM (Finance)
Chief Accounts Officer
Accounts Officer
Assistant Accounts Officer
Junior Accounts Officer

Including other officers 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. l) **The GMTD Leh- Ladakh** means the Head of Telecom District Leh and his successors.
- e. l) **The jurisdiction of the GMTD Leh- Ladakh means** Leh & Kargil District which coincides geographically with **Revenue District (Leh & Kargil) in entire Ladakh region.**
- f. **Representative of the GMTD Leh- Ladakh:** Representative of **the GMTD Leh- Ladakh** means Officer and staff for the time being in Leh- Ladakh SSA deputed by the **GMTD Leh- Ladakh** for inspecting or supervising the work or testing etc.
- g. **Engineer – in-charge:** The Engineer –in-charge means the Engineering Officer nominated by the BSNL to supervise the work, under the contract (Minimum Divisional Engineer level Officer).
- h. **Site Engineer:** Site Engineer shall mean an SDE of the Department who may be placed by the **GMTD Leh- Ladakh** 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 Department.
- j. **A/T Officer:** An officer authorized by **(the GMTD Leh- Ladakh) / T&D Circle** to conduct A/T.

k. Contract:

The term contract means, the documents forming the tender and acceptance there of and the format agreement executed between the competent authority on behalf of the President of India and the contractor, together with the documents referred 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 constructions, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.

- l. **Contractor:** The contractor shall mean the individual, firm or company, enlisted with Bharat Sanchar Nigam Limited 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.

Signature and seal of the Bidder

- m. **Works:** The expression “**works**” shall unless there be something either in the subject or context repugnant to such construction be construct and taken to mean the works 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, 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 are 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 Government 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 government 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 Enlisted or experienced contractor as mentioned in NIT of this tender document.

B. THE BID DOCUMENT

3. BID DOCUMENTS:

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

Qualifying Bid

- | | |
|----------|--|
| 3.1.1.1 | Notice Inviting Tender. |
| 3.1.1.2 | Bid Form. |
| 3.1.1.3 | Tender's Profile. |
| 3.1.1.4 | Instruction to Bidders. |
| 3.1.1.5 | General (Commercial) Conditions of the contract. |
| 3.1.1.6 | Special Conditions of Contract. |
| 3.1.1.7 | Scope of Work and jurisdiction of the contract. |
| 3.1.1.8 | OF Cable Construction Specifications. |
| 3.1.1.9 | Material Security Bond Form. |
| 3.1.1.10 | Agreement (Sample). |
| 3.1.1.11 | Letter of Authorization for Attending Bid Opening. |
| 3.1.1.12 | List of Documents to be submitted along with the Qualifying bid. |
| 3.1.1.13 | Rates of Empty Cable Drums. |

Financial Bid

- 3.1.2.1 Schedule of rates-for Maintenance/constructions,

- 3.2 The Bidder is expected to examine all instructions, forms, terms and specifications 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 Documents shall notify the BSNL in writing or by fax or cable at the BSNL's mailing address indicated in the invitation for Bids. The BSNL 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 BSNL shall be sent to all the prospective

Signature and seal of the Bidder

bidder's who have purchased the bid documents and all such clarifications issued by the BSNL will form part of the bid document.

5 AMENDMENT OF BID DOCUMENTS:

At any time, prior to the date for submission of bids, the BSNL may, for any reason whether suo motto or in response to a clarification requested by a prospective bidder, modify the bid documents by amendments.

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 BSNL and these amendments will be binding on them. In order to afford prospective bidders reasonable time to take the amendments into account in preparing their bids, the BSNL may, at its discretion, extend the deadline for the submission/opening of bids suitably. **(Please keep watching the e-tendering website**

www.tenderwizard.com/BSNL.

C. PREPARATION OF BIDS

6. Cost of Bidding:

The bidder shall bear all costs associated with the preparation and submission of the bid. The BSNL, will in no case, be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

7. DOCUMENT ESTABLISHING BIDDER'S ELIGIBILITY AND QUALIFICATIONS:

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

- i) The contractor should be experienced contractor of Central/State Govt./TCIL/Army/PSU/ (Central or State)./Any other licensed Telecom Service Provider.
- ii) The contractor should have experience in the execution of UG Cable/OFC laying works and should have successfully completed Similar works during the last 5 (five) years ending last day of the month previous to one in which the applications are invited either of the followings.
 - ii) 3 (Three) similar completed works costing not less than the amount equal to 40 % of the Estimated cost
Or
 - b) 2 (Two) similar completed works costing not less than the amount equal to 50 % of the Estimated cost
Or
 - c) 1 (One) similar completed works costing not less than the amount equal to 80 % of the Estimated cost.

The experience certificate for above should be issued by Divisional Engineer level officer or equivalent level officer. In case of Contractors having executed similar works with licensed telecom service providers, he shall furnish the documents of any invoice(s) paid for the works executed and proof of payment thereof.

- iii) The tenderer should be an EPF code holder and should have ESI registration number or its exemption thereof and having experience of completion of more than 1/3rd of tendered quantity (Section wise) of OF cable laying underground in PLB pipe during the last three consecutive financial years i.e. 2014-15, 2015-16 & 2016-17 for HDD/trenching work in BSNL/MTNL/PSU/Govt. department OR
He should have valid registration for category A1,A,B or C with BSNL for underground cable/OF cable works issued by the Competent Authority.

- iv) Experience certificate of HDD/trenching work mentioned above should be signed not below the rank of DE Level or equivalent of above Organisations.

- v) Bid Security in accordance to clause no. 8.

- vi) Tender document (s), in original, duly filled in and signed by tendered or his authorized representative along with seal on each page. All corrections and overwriting must be initialed with date by the tenderer or his authorized representative.

- vii) PAN Card copy & Latest income tax return of the firm/proprietor.

- viii) (a)The registration of the firm.

- (b) Authenticated copy of partnership deed in case of partnership firm.

- (c) Attested copy of Articles of Associations duly registered with Registrar of Company affairs, in case of Limited/Pvt. Limited company

- (d) Proprietor certificate from the Proprietor of the firm that he is the sole Proprietor of the firm on firm letter head or the same certificate issued by the notary public on non-judiciary stamp paper, in case of Proprietary firm.

- ix) Bid Form, duly filled in, as per section II.

- x) Tenderer's profile, duly filled in, as per section III of the tender document.

- xi) Original "Power of Attorney "** in case person other than the tenderer has signed the tender documents.

- xii) List of qualified experienced personnel, who are working for the tenderer, who will be deployed for the work.

- xiii) If HDD works are involved in the particular sections, documents relating to concerned machine such as

- (a) Make,Capacity,Serial Number of the HDD.

- (b)Bill of Lading.

Signature and seal of the Bidder

(c) Custom Clearance receipt to verify the ownership in case of those who own HDD Machine. Those having HDD machines on lease should enclose lease deed which should be valid for atleast 365 days from the date of opening of the tender. The HDD Machine should be of 10 Tonnes pull back capacity (i.e. capable of boring 200 meter in a single stretch. **(A copy of lease agreement must be enclosed)**

xiv) He should hold valid Service Tax Registration in favour of the Firm/Proprietor.

xv) The tenderer should have EPF Registration of the firm and submit evidence of EPF contribution (last paid receipt not older than December 2016) in respect of labours/employees employed by the contractor for the execution of works.

NOTE 1: The financial bids will be opened Route wise. The financial bid of a bidder would not be opened if his financial bids in earlier two sections are L-I.

NOTE 2: The bidder is required to deposit sectionwise EMD for only those sections for which he is submitting his bid.

NOTE 3: Separate Tender document and Financial Bid is to be submitted for each section and Tender No. and Section No/name should be mentioned in all envelopes containing Tender Documents. EMD as specified in above table and cost of tender documents must be in separate DD for each section.

8. **BID SECURITY:**

8.1. The Bidder shall furnish, as part of his bid, a bid of security (EMD) for an amount specified for each zone in the NIT on page no.03 of this tender document. No interest shall be paid by the company on the bid security for any period, what so ever.

8.2. The bid security is required to protect the Department 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 a scheduled bank, drawn in favour of Accounts Officer (Cash), O/O GMTD Leh, payable at Leh.

8.4. **A bid not secured in accordance with para 8.1. & 8.3 shall be rejected by the Department as non responsive.**

8.5. The bid security of the unsuccessful bidder will be refunded as promptly as possible but not later than 30 days after the expiry of the period of bid validity prescribed by the Department.

8.6. The successful bidder's bid will compulsorily be converted to part Performance security deposit in accordance with clause 2.8.

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 department or

8.7.3. In case of successful bidders, if the bidder fails to execute the works as per the terms and conditions of the tender/fails to execute the agreement within stipulated period and non-furnishing of Performance Security Deposit.

8.7.4. **If a bidder intends to bid for more than one zone, then for each such zones separate bid documents are to be submitted. All such bid documents should invariably accompanied by the cost of bid document and EMD separate for each zone.**

9 **Material Security:**

9.1 The Successful tenderer will have to deposit material security for Rs. 1 lakh in the form of bank guarantee valid upto 18 months from the date of agreement from a scheduled bank. Material security can also be submitted in the form of Crossed Demand Draft drawn in favour of BSNL in the similar manner as specified for EMD. The Material security will be a non-interest bearing deposit, for any period what so ever.

9.2 The contractor at any point of time will not be issued stores costing more than materials security deposit. If due to any reason more store has to be issued to the contractor, then the material security will be suitably enhanced. In this regard the decision of the General Manager, BSNL Leh shall be final and binding.

9.3 The proceeds of the material security shall be payable to the Corporation as a compensation for any loss resulting from the contractor's failure to handle properly the material issued to him under the contract.

9.4 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".

Signature and seal of the Bidder

10. BID PRICES:

- 10.1 The bidder shall give the total composite price inclusive of all levies and taxes, packing, forwarding, freight and insurance in case of materials to be supplied and **inclusive of all taxes (including WCT of J&K State) & duties except Service Tax, which will be paid on work amount at applicable rates subject to the condition that contractor has**

a) **Valid Service Tax registration &**

b) **Submits an undertaking of depositing the received Service Tax with Service Tax deptt.**

The contractor shall be responsible for transporting the materials, to be supplied by the BSNL (the Telecom Store) or otherwise to execute the work under the contract, to site at his/their own lost. The costs of transportation are subsumed in the standard Schedule Rates and therefore no separate charges are payable on this account. The offer shall be firm in Indian Rupees.

- 10.2 Prices shall be quoted by the bidder as percentage **below/above/at par** the schedule of rates given in schedule of rates (Financial Bid). Prices quoted at any other place shall not be considered.

- 10.3 The 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.

- 10.4 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.

11. PERIOD OF VALIDITY OF BIDS:

- 11.1 Bid shall remain valid for 365 day from date of opening of the bid (Qualifying Bid). **A BID VALID FOR A SHORTER PERIOD SHALL BE REJECTED BY THE BSNL AS NON-RESPONSIVE.**

- 11.2 The BSNL 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.**

12. SIGNING OF BID:

- 12.1 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 tenderer is advised to keep a photocopy (at his own cost) of the bid documents for his own reference.)
- 12.2 The bid shall contain no inter-lineation, 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.
- 12.3 Bid for each tender should be submitted in **three** envelopes placed inside a main cover.
- 12.4 These envelopes should contain the following;

Envelope	Marked on the Cover	Contents of Envelope
"AA"	Document Cost	For down loaded document from web
First	Bid Security	Containing Bid security as per clause 8.
Second	Qualifying Bid	Containing documents as per clause 7 except bid security.

On all these envelopes the name of the firm and whether "Document Cost" OR "Bid Security" OR " Qualifying Bid" must be clearly mentioned and should be properly sealed (with sealing wax/Packing PVC tape). These envelopes are to be placed inside an outer envelope written as "Downloaded/Direct Purchase" and properly sealed (with sealing wax/Packing PVC tape). **The tenders which are not submitted in above mentioned manner shall be summarily rejected.**

- 12.5 All envelopes (3 inner & one outer) must bear the following;

Tender for OF Cable Maintenance/Construction Works
"NOT TO OPEN BEFORE (DUE DATE OF TENDER)"
(Tender no.-----)
(Full Address of the Tendering Authority)

Signature and seal of the Bidder

12.6 The tenderer will be bound by all terms, conditions & specifications as detailed in the tender documents.

12.7 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 conditions will be permitted after the tender is opened.

D) SUBMISSION OF BIDS:

13 Method of preparation of bid:

13.1 Bid for each tender should be submitted in **three** envelopes placed inside a main cover. These envelopes should contain the following :

Envelops	Marked on the Cover	Contents of Envelops
First	Bid Security	Containing Bid Security as per clause 8
Second	Qualifying Bid	Containing documents as per clause 7 except bid security.
Third	Financial Bid	Rates duly quoted by the tenderer in the prescribed format.

On all these envelopes the names of the firm and whether " Bid Security" OR "Qualifying " OR "Financial" bid must be clearly mentioned and should be properly sealed (with sealing wax/ Packing PVC tape) . These envelopes are to be placed inside an outer envelope and properly sealed (with sealing wax/Packing PVC tape). **The tenders, which are not submitted in above, mentioned manner should be summarily rejected.**

13.2. All envelopes (3 inner & one outer) must bear the following :

Tender for Petty UG Cable Construction Works Under GMTD Leh- Ladakh

"NOT TO OPEN BEFORE (DUE DATE OF TENDER)

(Tender no.-.....)

(Name of subdivision.....Zone No.....)

The tenderers will be bound by all terms, conditions & specifications as detailed in the tender documents.

13.3 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 conditions will be permitted after the tender is opened.

13.4 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 conditions will be permitted after the tender is opened.

13.5 SUBMISSION OF BIDS:

Tender should be sent through **registered post / speed post / by hand in tender box** (and not by a private courier) addressed to the **AGM (CFA)% G.M.T.BSNL, Near new bus stand, Leh**, before the closing (date & time) of tender, as mentioned in NIT. The tenderer is to ensure the delivery of the bids at the correct address. The company shall not be held responsible for delivery of the bid to wrong address. Any tender presented in person will not be received by G.M.T..**BSNL Leh-Ladakh** or by any subordinate. Tenders through private courier / in person will not be accepted.

13.6 Postponement of Tender opening: Whenever it is considered necessary to postpone the opening date of tender, quick decision must be taken, The reasons for postponing the tender shall be recorded in writing. Such notice of extension of date of opening shall also be put up on the notice board and also published in the newspapers in which original NITs have been published. If the date of opening of bids is declared as holiday, the bids will be opened on the next working date at the same time and venue.

13.7 The Government of India if subsequently declares date fixed for opening of bids as holiday, the revised schedule will be notified. However, in absence of such notification the bids will be opened on next working day, time and venue remaining unaltered.

14 LATE BIDS:

14.6 Tenders will not be received after the specified time of closing of the tender and same shall be rejected and **returned unopened to the bidder**. It is the sole responsibility of the tenderer that he should ensure timely submission of tender.

Signature and seal of the Bidder

15 MODIFICATIONS AND WITHDRAWAL OF BIDS:

- 15.1 The bidder may modify or withdraw his bid after submission and before opening, provided that the intimation is deposited by the bidder in a properly sealed envelope (With Wax/packing PVC tape) in the tender box, before the scheduled time & date for closing of tender.
- 15.2 No bid shall be modified subsequent to the deadline for submission of bids.

BID OPENING AND EVALUATION:**16. OPENING OF BIDS THE DEPARTMENT :**

- 16.1 The BSNL shall open the bids in the presence of bidders or his authorized representatives who choose to attend, at prescribed time in NIT on due date. The bidder's representative who are present, shall sign on attendance register. The bidder shall submit authority letter to this effect before they are allowed to participate in the bid opening (A format is given in **section-X**).
- 16.2 A maximum of two (2) representatives for any bidder shall be authorized and permitted to attend the bid opening.
- 16.3 The bid shall be opened in the following manner:
- 16.3.1 The bid opening committee shall count the number of bids and assign serial numbers to the bids. For example if 10 tenders have been received the bids shall be numbered as 1 of 10, 2 of 10 Etc. All the members shall initial on the outer envelopes of all the bids with date.
- 16.3.2 The envelopes containing the tender offer and not properly sealed, as required vide Para 19.3.1 shall not be opened and shall be rejected outright. **Closing the cover by gum will not be treated as sealed cover.** The reasons for not opening such tender offers shall be recorded on the face of the envelope and all the members of bid opening committee shall initial with date
- 16.3.3 First the outer envelope containing the three envelope be opened. The bid opening committee shall initial with date on all the three envelopes.
- 16.3.4 Among these three envelopes, the envelope, marked "**BID SECURITY**" shall be opened first and examined.
- 16.3.5 The bidders who have submitted proper bid security as per tender document, their "**QUALIFYING BID** " shall be opened and papers/documents submitted by the bidder shall be examined and recorded by the TOC. After opening the qualifying bid , all the documents contained therein shall be serially numbered and signed by the bid opening committee members.
- 16.3.6 The Financial e-bid shall be opened in the following manner:
- 16.3.7 The **Financial e-Bid**, will be opened only for qualified tender in "**Qualifying bid**".
- 16.3.8 The date and time of opening of "Financial e-bid" shall be conveyed to all the bidders who have qualified in Qualifying Bid and their representative shall be allowed to attend the financial bid opening.
- 16.3.9 After opening the "Financial e-Bid" the bidder's name, bid prices, modifications, bid withdrawals and such other details as the BSNL at its discretion, may consider appropriate; will be announced at the opening.
- 16.3.10 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.

17. CLARIFICATION OF BID BY THE BSNL:

To assist in examination , evaluation and comparison of bids, the BSNL 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.

18. PRELIMINARY EVALUATION:

- 18.1 BSNL 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.
- 18.2 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.
- 18.3 Prior to the detailed evaluation, pursuant to clause 21, the BSNL 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 BSNL's determination of bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- 18.4 A bid, determined as substantially non-responsive will be rejected by the BSNL and shall not subsequent to the bid opening be made responsive by the bidder by correction of the non-conformity.
- 18.5 The BSNL 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.

19. EVALUATION AND COMPARISON OF SUBSTANTIALLY RESPONSIVE BIDS

- 19.1 The BSNL shall evaluate in detail and compare the bids previously determines to be substantially responsive pursuant to clause 18.
- 19.2 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.
- 19.3 A firm (which is eligible technically, commercially & financially) shall be allotted/awarded work for a maximum 40% of total sections in a station/tender but the allotted sections will be a nearest whole number. For example, if a tender contains 4 sections, the maximum that can be awarded to one contractor will be 2 sections and if a tender contains 3 sections, the maximum that can be awarded to one contractor will be 1 sections.

20. CONTACTING THE BSNL:

- 20.1 Subject to clause 17 no bidder shall try to influence the BSNL on any matter relating to its bid, from the time of bid opening till the time the contract is awarded.
- 20.2 Any effort by the bidder to modify his bid or Influence the BSNL in the BSNL's bid evaluation, bid comparison or the contract award decisions shall result in the rejection of the bid.

21 BSNL RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BID :

The BSNL 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-sever and without thereby incurring any liability to the affected bidder or bidder on the grounds for the BSNL's Action.

22. ISSUE OF LETTER OF INTENT:

- 22.1 The issue of letter of intent shall constitute the intention of the BSNL to enter in to the contract with the bidder. Letter of intent will be issued as offer to the successful bidder.
- 22.2 The bidder shall within 21 days of issue of letter of intent, give his acceptance along with material security in conformity with clause 5.(i) section-III, provided with the bid documents.

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23. SIGNING OF AGREEMENT:

- 23.1 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 within a week of submission of material security as per clause 24.2 above.
- 23.2 As soon as the tender is approved by the competent authority, the bid Security deposited by the successful bidder shall be compulsorily converted into the performance security deposit which will be held by the BSNL till the completion of warranty period.

24. ANNULMENT OF AWARD:

Failure of the successful bidder to comply with the requirement of clause 28 shall constitute sufficient ground for the annulment of the award and forfeiture of the bid security, in which event, the BSNL may make the award to any other bidder at the discretion of the BSNL or call for new bids.

25. If a contractor fails in starting of the awarded work/completing the work in stipulated period, the same work will be rescinded and straightway given to other approved contractor at his risk and cost.

26. E-TENDERING INSTRUCTIONS TO BIDDER

Special Instructions (for e-Tendering) as supplement 'Instruction to Bidders': Submission of Bids through online process is mandatory for this Tender. For conducting electronic tendering, NTR Jammu BSNL is using the portal <http://www.tenderwizard.com/BSNL> of M/s ITI Ltd, a Government of India Undertaking.

Broad outline of activities from Bidders prospective:

- (i) Procure a Digital Signing Certificate (DSC).
- (ii) Register on tenderwizard portal.
- (iii) View Notice Inviting Tender (NIT) on tenderwizard portal.
- (iv) Download official copy of Tender Documents from tenderwizard portal.
- (v) Bid-Submission on tenderwizard portal.
- (vii) Opening of Financial-part (Only for Technical Responsive Bidders).

Digital Certificates:

It is mandatory for all the bidders to have class-III Digital Signature Certificate (in the name of person who will sign the Bid) from any of the licensed Certifying Agency.

SECTION V

GENERAL (COMMERCIAL) CONDITIONS OF THE CONTRACT

1. APPLICATION:

The General condition shall apply in contracts made by the BSNL for execution of OF cable construction works.

2. STANDARDS:-

The works to be executed under the contract shall conform to the standards prescribed in the OF 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.

Prices once fixed will remain valid for the period of contract. Increase & decrease of taxes/duties will not affect the price during this period.

The rates should be inclusive of all State & Central taxes (like WCT, TDS etc.).

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:

- a. The contractor shall deposit an amount to the tune of 10.0 % of approved cost in form of DD/FDR in favour of Accounts Officer (Cash) O/O The GMTD Leh, issued by a schedule bank and payable at Leh at the time of agreement. The Contractor may convert the sum already deposited as EMD (2.5%) into security deposit & deposit the additional 7.5% amount totaling 10.0% as Security Deposit.
- b. The proceeds of the security deposit shall be payable to the BSNL as compensation for any loss resulting from the contractor's failure to complete its obligations under the contract.
- c. The 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. AWARD OF CONTRACT:

6.1 The BSNL shall consider award of contract only to those eligible bidders whose offers have been found technically, commercially and financially acceptable.

6.2 The work order shall be issued so as to include all items of works for the section a

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allotted to the contractor as put in the NIT.

- 6.3 The work orders shall be issued by the Divisional Engineer in-charge of trenching and pipe laying works immediately after examining the technical and planning details of the works to be executed.
- 6.4 The work orders shall be issued by the Divisional Engineer in-charge of trenching and pipe laying works immediately after examining the technical and planning details of the works to be executed.
- 6.5 If due to any reason partial work order is to be issued then the same shall be issued with the approval of an officer not below the rank of General Manager.
- 6.6 The Corporation 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 or the General Manager, the contractor is not executing the work at the required pace.
- 6.7 The work is likely to be available throughout the year but BSNL will be at liberty to award work at any time of commencing of contract depending on the availability of stores & other reasons.

7. **Time of Completion & ROW**

- (a) The time of completion will be on the basis of formula given below:
 - (i) 4(four) weeks time will be provisioned for ROW/permissions and organizing initial setup to start the work.
 - (ii) Apart from above, the time of completion of work would be calculated on the basis of 1(one) Km per 2 weeks, to be rounded off
- (b) Right of Way (ROW) is to be obtained by the contractor from the concerned Road/ Forest/ Civic authorities etc, including permission for working from Police/ District/ Civic authorities. For this, the contractor shall have to coordinate with various authorities on behalf of BSNL. No separate rates will be applicable for getting permission. However, the payment of ROW/ Permission charges for reinstatement to Government agencies concerned will be made by BSNL.

8. **Progress of work:**

- i) The time allowed for carrying out the work as entered in the tender shall be strictly observed by the Contractor and shall be reckoned from the SEVENTH DAY after the date on which the work order is issued to the contractor.
- ii) The time allowed for carrying out the work as entered in the tender shall be strictly observed by the Contractor and shall be reckoned from the SEVENTH DAY after the date on which the work order is issued to the contractor.
- iii) To ensure good progress of work during the execution of the work, the contractor shall be bound to complete ONE-THIRD of the whole of the work before ONE-HALF of the whole time allowed under the contract has elapsed, TWO-THIRD of the work before the WHOLE time allowed under the contract has elapsed. The slow progress during the initial period is allowed in consideration with the time required for arranging the initial set-up for work
- iv) If the contractor fails to start the work by the due date, after the issue of work order, or does not maintain the progress as mentioned above, the tender is liable to be terminated by BSNL without waiting for completion of the whole time allowed as "Time is the essence of the contract", and BSNL desires no time overrun in completion of the project.

9. **Extension of the Time Limit:**

- i) 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 the work order, or an earlier date if work is urgently required, and indicated in the work order.
- ii) 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.

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- iii) 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 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 competent authority (an Officer of the rank of General Manager level in-charge of trenching and pipe laying work) with his detailed report and photocopy of the hindrance register 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.
- iv) The Application contains the ground(s), which hindered the contractor in execution of work.
- v) The Engineer-in-charge is of the opinion that the grounds shown for extension of time are reasonable.
- vi) 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 grounds for granting such extension and the reasons for delay are not ascribable to the contractor.
- vii) The Competent Authority may also grant extension of time for completion of work in cases where reasons for delay are ascribable to the contractor, but such extension of time shall be with LD Charges dealing with penalty for delays in execution of works.
- viii) The competent authority shall grant EOT with time period for completion of work expressly mentioned.
 - ix) 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.
 - x) 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.

10. **BSNL's RIGHT TO VARY QUANTUM OF WORK:**

The BSNL, 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.

11. **MEASUREMENT, INSPECTION, TESTING AND ACCEPTANCE TESTING:**

11.1 **Measurement:**

- 11.1.1 The measurement books are to be maintained by the officer in-charge of the work or his immediate engineering subordinates not below the rank of Junior Telecom Officer. 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.
- 11.1.2 **Responsibility of taking and recording measurements:** The measurements of various items of work shall be taken and recorded in the measurements book issued with each work order. The measurements shall be taken and recorded by an officer not below the rank of Junior Telecom Officer, supervisor 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 Sub Divisional Engineer where Junior Telecom Officer is supervising officer shall be responsible for conducting test check of **50%** of measurements. The Divisional Engineer shall be responsible for conducting test check of **10%** of measurements.
- 11.1.3 **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 measurement but corresponding item code as provided, shall be used.
- 11.1.4 **Method of measurement:** The measurement of the work shall be done for activity-wise

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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 75 meters, the POMs shall be at 0 M, 10 M, 20 M, 30 M, 40 M, 50 M, 60 M, and 70 M. The last POM shall be at 75th 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.

If standard depth in tender is 165 /150cms, then scale of payment will be as follows:

Depth between	Reduction in rate
< 165 cms to >= 150 cms	5%
< 150 cms to >= 130 cms	12.5% of approved rates
< 130 cms to >= 100 cms	25% of approved rates
Below 100 cms	40% of approved rates

If standard depth in tender is 140 cms, then scale of payment will be as follows:

Depth between	Reduction in rate
< 140 cms to >= 125 cms	5% of approved rates
< 125 cms to >= 105 cms	15% of approved rates
Below 105 cms	40% of approved rates

If standard depth is 120 cms, then scale of payment will be as follows:

Depth between	Reduction in rate
< 120 cms to >= 105 cms	5%
Below 105 cms	40% of approved rates

If standard depth is 100 cms, then scale of payment will be as follows:

Depth between	Reduction in rate
< 100 cms to >= 70 cms	5%
< 70 cms to >= 50 cms	15% of approved rates
Below 50 cms	40% of approved rates

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

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

P = Payment for one meter.

ROR = Reduction in rate in percent as applicable as per table given above

RA = Approved rate of Trenching per meter

D = Actual depth achieved in cms.

ND = Nominal depth of Trench 165 cms for which Tender has been floated.

Measurement of lengths and profiles of strata and protection

The measurements of length of trenches are on running meter basis, irrespective of type of soil encountered while digging.

The type of protection provided (item code – wise) in a 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/ Measuring Tape. The length

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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 or Pre Cast RCC type.

Fixing, Painting and sign writing of route/joint indicators

Termination of Cable in equipment room and no. of joints.

- 11.1.5 The contractor shall sign all the measurement 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 any such events the measurements taken by Engineer-in-charge or by the 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.
- 11.1.6 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 as specified in document procedures for underground 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 labour 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.
- 11.1.7 Measurement of the work of cable pulling through pipe/duct will be taken equal to the length of the pipe/ duct through which the cable has been pulled and not the total length of the cable pulled through pipe/duct.

11.2 Inspection, and Quality Control:

- 11.2.1 **The Quality of Works:** The importance of quality of Optical Fibre Cable Construction works cannot be over-emphasized. The quality and availability of long distance media and efficiency of the reliable media connectivity to exchanges depends upon quality of laying of Optical Fibre Cable. Further, the OF cables are vulnerable to damages due to work of other agencies.
- 11.2.2 The quality of O.F. cable plant depends upon the quality of individual items of work involved viz Depth of Cables laid, care while paying & laying, Protection, Jointing of Cables and Terminations in equipment room and at last but not the least on documentation of cable network. In order to ensure quality in Cable Construction Work, each component of work needs attention. The works shall be carried out strictly in accordance with specifications laid down to achieve the requisite quality aim.
- 11.2.3 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 work are carried out as per specifications and with due diligence and in a professional manner. The contractor shall satisfy himself/themselves that the work conforms to the quality specifications before offering the same to A.T. Wing for Acceptance and Testing.
- 11.2.4 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).
- 11.2.5 In addition to Acceptance Testing being carried out by A.T. Wing and supervision by Maintenance/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.
- 11.2.6 **Site Order Book:** The site order book is one of the primary records to be maintained by the JTO supervising the work during the course of execution of works. The noting made by officers as well as contractors, will form as basis for

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operation of many contractual clauses. The contractor shall remove all the defects pointed out by the BSNL 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.

12 **Testing and Acceptance Testing:**

- 12.1.1 The works 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 provided test/ measurement tools and testers for conducting various tests.
- 12.1.2 **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 taking 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.
- 12.1.3 **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. The work shall be offered for A.T. as soon as part of work is complete in all respects. The work against any work order can be offered for A.T. in a number of stages.
- 12.1.4 The contractor shall provide labour, if demanded by the A/T officer for digging of test pits and other necessary infrastructure for carrying out the A/T work. No extra payment will be made for the digging of test pit.

13 **WARRANTY:**

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 the 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 who shall state in writing in what respect the stores are faulty. This warranty shall survive inspection or payment for, and acceptance of goods, but shall expire except in respect of complaints notified prior to such date, twelve months after the acceptance testing.

If it becomes necessary for the contractor to replace or renew any defective portion/portions of the material under this clause, the provisions of the clause shall apply to the portion / portions material so replaced or renewed or until the end of the above mentioned period of twelve months, whichever may be later. If any defect not remedied within a reasonable time, as prescribed by the BSNL, the BSNL may proceed to do the work at the contractor's risk and costs, but without prejudice to any other rights which the BSNL may have against the contractor in respect of such defects.

The Cable joint shall be guaranteed for a period of ONE year from the date of closing of joint. In case of failure of the joint due to poor workmanship i.e. failure of joint without external damage, with in the stipulated period of guarantee the contractor shall repair the joint(s) at his own cost within 24 hours of informing him, failing which the BSNL may carry out the repairs and penalty equivalent to five times of the approved rate of the jointing work plus the cost of materials used shall be recovered from the contractor from his pending bill/SD or any amount due to him without prejudice to any other action as per terms and conditions of the tender. The cost of jointing kit, supplied by the BSNL, so used to revive the joint shall be deducted from the bills of the contractor pending for payment or from security if all bills have been settled.

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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.

14 AUDIT AND TECHNICAL EXAMINATION:

- 14.1 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 been overpaid in respect of any work done by the 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.
- 14.2 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 **GMTD, Leh- Ladakh** or his subordinate officer.
- 14.3 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.

15 PAYMENT TERMS:

15.1 Procedure for Preparation and settlement of bills:

- 15.1.2 All items of work involved in the work order shall be completed in all respect before preferring the bills for the work. The provision of running bill has been not made in this tender. The procedure for preparation of final bills is enumerated as under:

15.1.2.1 Procedure for preparation, processing and payment of bills:

The contractor shall prepare the bills in triplicate ensuring execution of full work as per work order in its 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 prepared accurately and as per measurements recorded in the measurement book. The S.D.E. in-charge shall record the certificate on the bill that the site order books have been consulted before signing the bills. This would enable the S.D.E. to ensure whether the defects pointed out during execution have been rectified or not. The S.D.E. in-charge of work shall scrutinize the bills and accord necessary certificates and submit the 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 sheets. (Not for Payment)

- 15.1.2.2 The Divisional Engineer shall exercise the prescribed checks on the bills and accord

Signature and seal of the Bidder

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 relevant higher office for processing of bills and release of payment.

- 15.1.2.3 The office cell dealing with OFC bills shall process the bill in estimate file of the concerned work and scrutinize the bills vis-à-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. 7.5% 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 final 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 of the planning Cell.

- 15.2 **Procedure for preparation, processing and payment of final bill:** The contractor shall prepare the final bill in triplicate & acceptance and testing of all the works and submit the same to S.D.E. in-charge of work within 30 days of acceptance and testing and payment shall be made within three months if the amount of the contract is up to Rs two lac and in six months if the same exceed Rs. two lacs, of the submission of such bill. The final bill shall be prepared for all the measurements of all items involved in execution of complete work order. 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 received against previous bills if any.

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 go down as surplus with requisite verification from store in-charge/SDE in-charge of work.

Letters of grant of E.O.T(s) if work could not be completed within stipulated time.

Six set of bound documentation.

- 15.2.1 The S.D.E. 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 specification and terms and condition of the contract. The S.D.E. shall verify the quantities of items of work with reference to measurement recorded in the measurement book (and also A/T reports in case of any deviation noted by A/T officer). The S.D.E. in – charge of work shall submit the final bills, along with other documents mentioned above, with the document as mentioned hereunder to the Division Engineer, in- charge of work.

Bill prepared by the contractor.

Material reconciliation statement

Measurement Book.

A/T Certificate.

The site order Book.

The hindrance register.

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.

Details of empty cable drums cost which needs to be recovered from the bill.

- 15.2.2 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 document submitted by S.D.E. along with the bills as above to the higher officer for processing and final payment.
- 15.2.3 The office cell dealing with OFC bills shall process the bills in the estimate file of the concerned work and scrutinize the bills vis-à-vis work order issued, sanctioned provisions in the estimate etc. The office cell shall also scrutinize the bill to recover all liabilities of the contractor and statutory taxes besides 7.5% payments against security deposit. The bill shall be passed, after necessary scrutiny by Work Section, by the officer competent to pass the final bill.

15.2 Procedure for payment for sub standard works:

- 15.3.1 The contractors are required to execute all works satisfactorily and in accordance with the specification. 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 or 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 Division Engineer in – charge shall make a demand in writing specifying the work, materials or articles about which there is a complaint.
- 15.3.2 **Timely action by Construction officer:** 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. A 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 the contractor fails to rectify/ replace/ remove the sub standard items, the defects shall be got rectified/replaced/removed departmentally or through some other agency at the risk and cost of the contractor.
- 15.3.3 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 the 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.
- 15.3.4 **Authority and procedure to accept sub standard work and payment there of :** There may be certain items of work pointed out as sub standard which may be difficult to rectify and in the opinion of the GM (Mtce), the items in question will not materially deteriorate the quality of service provided by the construction, the GM (Mtce), 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 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.
- 15.3.5 **Record of sub standard work:** The items adjudged as sub standard shall be entered into the measurement book with red ink.

16 DISPOSAL OF EMPTY CABLE DRUMS:

- 16.1 The contractor shall be responsible to dispose off the empty cable drums after laying of the cable. The competent authority taking in to account the prevailing market rates has fixed the cost of Optical Fibre cable drums. The cost of empty cable drums shall be deducted from the bill for the work on which the cable along with the drum has been issued or any other amount due to the contractor or from security deposit.
- 16.2 Rates fixed for Optical Fibre cable drums are given in Tender Document (Qualifying Bid). The rates are fixed and there is no percentage above or below applicable on these rates.
- 16.3 The contractor shall be responsible for the accounting of the cable drums issued and shall mention the number cable drums in the bill so that the amount is deducted from the bills due.
- 16.4 The contractor shall not be allowed to dump the empty cable drums in Govt/public place, which may cause inconvenience to Govt/Public. If the contractor does not dispose off the empty cable drums within 3 days of becoming empty, the BSNL is at liberty to dispose off the drum in any manner deemed fit and also recover the amount fixed in this contract for empty cable drums along with the transportation charges (to be decided by GMTD Leh- Ladakh from the bill/security deposit/any other amount due to the contractor).

17 PENALTY CLAUSE:**Delays in the contractor's performance :**

- 17.1 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 Corporation or an earlier day if specified in the work order.** 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 **0.25 percent of the estimated amount per day of delay** in completion of work, subject to a maximum of 10 (ten) percent of the cost of the work awarded.
- 17.2 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 for realisation of penalty for delay at a higher rate as may be agreed between the Divisional Engineer and contractor.
- 17.3 Penalty for delay in completion of the work shall be recoverable from the bills of the contractor and /or from the bills of any other contract or at the time of final settlement of bills on completion of work.
- 17.4 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 work, the General Manager 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. All such payments shall be recovered from the contractor's pending bills or security deposit.
- 17.5 The General Manager Leh reserves the right to 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.

18.1 Penalty for causing inconvenience to the Public :

- 18.1.1 To ensure progress during the execution of work and to cause minimum inconvenience to the public, the contractor shall not dig a trench of more than 200 meters at a stretch in a route at a time. He shall cause to lay cable and close such trenches expeditiously. Under any circumstances a stretch of trench of maximum 200 meters shall not be kept open for more than 4 days in case of cable laying by digging paved surfaces. In the event of contractor failing to comply with, these conditions, a penalty of **recovery up to**

Rs. 300/- per day the trench is kept open beyond the time limit allowed may be imposed by the BSNL. This penalty will be in addition to that payable for delay or slow work.

18.1.2 The contractor shall not be allowed to dump the empty cable drums/waste materials in Govt/public place, which may cause inconvenience to Govt/ Public. If the contractor does not dispose off the empty cable drums/waste materials within 3 days of becoming empty, the BSNL is at liberty to dispose off the drum in any manner deemed fit and also recover the amount fixed in this contract for empty cable drums/waste materials from the bill/security deposit/along with the costs incurred by the BSNL in disposing off such materials. The BSNL may also levy a penalty up to Rs one thousand for each such default.

18.1.3 If any such penalty is levied on a contractor for more than 2 occasions, then his/her contract could be terminated. In this regard the decision of GMTD Leh- Ladakh shall be final and binding.

18.2 Penalty for cutting/damaging the old cable :

18.2.1 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 bills;

Size of existing UG/OF cables Cut/damaged	Amount of penalty per cut/damage
Up to 100 pairs cable	Rs 500.00 (Five Hundred)
Above 100 pairs & up to 400 pairs	Rs 1,000.00 (One thousand)
Above 400 pairs	Rs 2,000.00 (Two thousand)
OF Cable of any size (BSNL)	Rs 50,000.00 (Fifty thousand)
OF Cable of any size (Other operators)	Rs 1,50,000.00 (One Lac Fifty thousand)

Besides the above penalty, the contractor shall carry out such repairs for restoration of the damaged cable free of charge. The cost of jointing kit shall also be borne by the contractor. If contractor fails to repair the damage, the cost of repair (including cost of labour + Jointing kit) shall be recovered from the contractor.

18.3 Penalty to damage stores/materials supplied by the BSNL while laying :

18.3.1 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.

18.3.2 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.

18.4 Penalty for cutting/damaging the old Pipeline/Cable/OF Cable of other Agencies:

18.4.1 In case of the damage to Pipeline/Cable/OF Cable of any other Agency/Authority (other than BSNL) during excavation of trench, the Contractor will be responsible to pay on demand any Damage charges/Repair Charges levied by such Agency/Authority on BSNL.

19 Rescission/Termination of contract

19.1 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.

19.2 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

19.3 Measurement of Works executed since the date of last measurement and up-to the date of rescission of contract shall be taken in the presence of the contractor or his authorized representative who shall sign the same in the MB. If the contractor or his authorized representative do not turn up for joint measurement, the measurement shall be taken by the officer authorized for this purpose after expiry of due date given for joint measurement. The measurement taken by the officer so authorized shall be final and no further request for joint measurement shall be entertained.

19.4 The unused material (Supplied by the BSNL) available at site , shall be transported back by the BSNL to the NTR 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.

19.5 **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 the approved rate of that section. If the work was awarded on single tender basis then the BSNL shall get the unexecuted work completed through any other contractor approved in GMTD Leh- Ladakh at the approved rates of that particular section or to execute the work departmentally, as is convenient or expedient to the BSNL at the risk and cost of the contractor. In such a event no compensation shall be payable by the BSNL to the contractor towards 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 GMTD, Leh- Ladakh shall be final and binding. In all these cases, expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him shall be borne & 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 any where in the BSNL or from a security deposit.**

19.6 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.

Termination for Insolvency :

19.7 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

Optional Termination by BSNL (other than due to default of the Contractor):

19.8 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.

19.9 In the event of the termination of the contract, the contractor shall forthwith clear 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.

19.10 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.

20 Issuance of Notice :

- 20.1 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.
- 20.2 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 the final notice :
- 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.
 - 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.
 - No new construction beneficial to the contractor shall be allowed.
 - 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.

21 INDEMNITIES :

- 15.1 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 document. 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.
- 15.2 The contractor shall at his own cost at the BSNL 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.

22 FORCE MAJEURE:

- 16.1 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, civil commotion sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts or act of God (Here in 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.
- 16.2 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.

23 ARBITRATION :

- 23.1 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 which is specifically provided under this agreement, the same shall be referred to sole arbitration of the Chief General Manager BSNL J & K Circle Jammu, 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 BSNL J & K Circle Jammu or by whatever designation such officers may be called (hereinafter referred to as the said officer) and if the Chief General Manager BSNL J & K Circle Jammu 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 Government Servant or that he has to deal with the matter to which the agreement relates or that in the course of his duties as Government 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 office or being unable to act of 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 which it was left out by his predecessors.
- 23.2 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.
- 23.3 The venue of the arbitration proceeding shall be the Office of the Chief General Manager BSNL J & K Circle Jammu or such other places as the arbitrator may decide. The Following procedure shall be followed :
- 23.3.1 In case parties are unable to reach a settlement by themselves, the dispute should be submitted or arbitration in accordance with contract agreement.
- 23.3.2 There should not be a joint submission with the contractor to the sole Arbitrator.
- 23.3.3 Each party should submit its own claim severally and may oppose the claim put forward by the other party.
- 23.3.4 The onus of establishing his claims will be left to the contractor.
- 23.3.5 Once a claim has been included in the submission by the contractor, a reiteration or modification thereof will be opposed.
- 17.3.6 The "points of defense" will be based on actual conditions of the contract.
- 17.3.7 Claims in the nature of ex-gratia payments shall not be entertained by the Arbitrator as these are not contractual.
- 17.3.8 The question whether these conditions are equitable shall not receive any consideration in the preparation of "points of defense".
- 17.3.9 If the contractor included 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.

24 SET OFF :

- 24.1 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.

Signature and seal of the Bidder

SECTION VI

SPECIAL CONDITIONS OF CONTRACT

1. GENERAL :

- 1.1 The work shall be accepted only after Acceptance Testing carried out by DOT / BSNL team, designated by the Department, as per prescribed schedule and work / material passing the test successfully.
- 1.2 The department reserves the right to disqualify such bidders who have a record of not meeting contractual obligations against earlier contracts entered into with the department.
- 1.3 The department reserves the right to black list a bidder for a suitable period in case he fails to honor his bid without sufficient grounds.
- 1.4 The department reserves the right to counter offer price(s) against price(s) quoted by any bidder.
- 1.5 Any clarification issued by department in response to query raised by prospective bidders shall form an integral part of bid documents and it may amount to amendment of relevant clause 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 or 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 spilt up between two or more contractors or accept any tender in part and not entirely if considered expedient by **The GMTD Leh-Ladakh** .
- 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 desired such extension as aforesaid. In this regard decision of The GMTD Leh- Ladakh shall be final.
- 1.10 If at any time after the commencement of the work, the Department may feel that execution of whole or part of work, as specified in the tender is not required to be carried out, then the Department 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 involve any curtailment of the work as originally contemplated.
- 1.11 Whenever any claims against contractor for the payment of a sum of money arises out of or under the contract, the department shall be entitled to recover such sum by appropriating in part or whole the security deposit of the contractor, and to sell any Government promissory notes etc, forming the whole or part of such security or Final bill pending against any contract with the Department. 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 Government, should this sum be not sufficient to cover the full amount recoverable the contractor shall pay to department on demand the balance remaining due.
- 1.12 official of Gazetted rank or other Gazetted officer employed in Engineering or administrative duties in an Engineering Department or any other Department of the Government of India is allowed to work as a contractor for a period of two years after his retirement from Government service without the previous permission of Government 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 Government 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 GMTD Leh- Ladakh, 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 GMTD Leh- Ladakh on behalf of the president can terminate the contract without compensation to the contractor. However The GMTD Leh- Ladakh, at his discretion may permit contractor's heirs to perform the duties or engagement of the contractor under the contract, in case of his death. In this regard the decision of The GMTD Leh- Ladakh 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 GMTD Leh- Ladakh and the contractor shall in so far as possible by mutual consultation, try to decide upon the meaning and intent of the contract document. In- case of disagreement the matter shall be referred to The GMTD Leh- Ladakh 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.

1.2 Notification :

- 1.2.1 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/ 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 through out 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.

1.3 Shut down on account of weather conditions :

- 1.3.1 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. STORES SUPPLIED BY THE BSNL

- 2.1 At no point of time the contractor shall be issued stores of value more than the contractor's material security as per clause number 9 (i) of section IV. If at all the work requires more amount of materials to be issued to the contractor, then the security shall suitably be revised before the issue of the store and the contractor will not have any objection to it.
- 2.2 The contractor shall transport (including loading and unloading) all stores issued to him from Leh-Ladakh Store, to the site of work at his own cost. The BSNL shall not pay any transportation charges to the contractor.
- 2.3 All materials supplied to the contractor by the BSNL shall remain the absolute property of BSNL and shall not be removed from site of the work except for use in the work and shall be at all times open to inspection by the Representative of GMTD Leh- Ladakh. In –case the materials like cable and accessories are taken delivery of by the contractor and stored at the site office/store of the contractor such site office/ store will also be treated “as site” for this purpose, Any such materials remaining unused at the time of the abandonment, completion or determination of the contract shall be returned to the BSNL at a place informed to him by the BSNL, failing which the cost of the unused materials shall be deducted form the contractor's material security or any of his pending bills or from any other security.
- 2.4 The contractor shall be responsible for the transportation of store, storage and safe custody of all material supplied to him by the BSNL, which in the contractor's custody whether, or not installed in the work. The contractor shall satisfy himself regularly the quantity and quality of the materials supplied to him and he will be responsible for any subsequent deterioration and discrepancy (inclusive of theft) in the quantity/ quality of the materials.
- 2.5 The contractor shall submit a proper account every month of all the materials supplied to him by the BSNL and those consumed for items of work. Any discrepancy of difference between the materials issued to the contractor and those consumed in the work as per the BSNL calculation (which shall be final) will be charged to the contractor or deducted from his bills at 1.5 times of prevailing standard price including freight, handing charges, storage charges etc.
- 2.6 The contractor shall ensure that only the required materials are issued to him. Upon completion of work, the contractor shall return to the BSNL at the later designated store in good condition, free of charges, any unused materials that were supplied by the BSNL.

3. EASEMENTS, PERMITS, LICENCES AND OTHER FACILITIES :

- 3.1 The contractor shall obtain / provide at his own cost all easements, permits and licence necessary to do work except for the following for which the payment to the concerned authorities shall be provided by BSNL against the demand note/estimate raised by the concerned department but the liasioning with such agencies will be responsibility of the Contractor.
- 3.1.1 “Right of User” easements and permits.
- 3.1.2 Railway, Highway, Forest and other Authorities crossing permits including bridge.
- 3.1.3 Canal/stream crossing permits.

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No any extra charges will be paid to the contractors for pursuance of easements, permits etc. from the different local authorities. It shall be responsibility of the bidder to quote the rates for execution of the work keeping in view such aspects.

- 3.2 The approved bidder shall obtain way leave permission (right of way) from the concerned road authorities, including permission for working from police/ District authorities. This will include the works of preparing the requisition for permission along with the necessary drawings as required by the highway authorities, get the same duly signed by the Divisional Engineer Leh/Kargil in charge of the work, and submit the same to the road authorities. They shall peruse the case on a continuous basis and get the permission in the shortest time. The rate quoted for trenching shall also include the charges for undertaking the work to get permission. No separate rates will be applicable for getting permission.
- 3.3 The contractor shall forthwith start the process of survey, preparation and submission of application on behalf of BSNL along with relevant drawings to the concerned authority, co-ordination for getting permission. The contractor shall get the permission within 30 days of issue of work order failing which the work order is liable to be cancelled without further notice.
- 3.4 In case the permission cannot be obtained within 30 days, due to reasons beyond the contractor's control, the time frame can be further relaxed by GMTD Leh- Ladakh without imposing penalty, if the reasons are found to be genuine.
- 3.5 The permission should be obtained in the most cost effective method for BSNL. The contractors should peruse to get the least restoration/reinstatement charges, and get the lowest BT cutting charges. The permission shall be applied under the supervision of the SDE-in-charge, and after satisfaction of the DE-in –charge
- 3.6 The restoration charges shall be payable to the highways authorities directly by BSNL on obtaining the estimate along with written permission; provided
 - a) the rates are as per standard rates of the respective agency;
 - b) the stretch of BT/ Berm are not more than the actuals.
 - c) width payable shall be for ≤ 60 cm only. Where the widths being charged by the respective agency is higher the approval of GMTD Leh- Ladakh shall be taken.
- 3.7 The Contractor shall be fully responsible for angling 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.
- 3.8 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 breach and claim and shall be entitled with a copy to the Divisional Engineer.
- 3.9 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 which 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.
- 3.10 At location where the OF Cable trench is routed across or 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.

4 QUALITY OF WORK :

- 4.1 The BSNL shall be the final judge of the quality of the work and the satisfaction of the BSNL in respect there of set forth in the contract document. 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 GMTD Leh- Ladakh 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 .

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5 TAXES AND DUTIES :

- 5.1 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 there of 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.

6 PROTECTION OF LIFE AND PROPERTY AND EXISTING FACILITIES :

- 6.1 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 in compliance with the Laws of the Land. The contractor shall protect all life and property from damage or losses resulting form his construction operations and shall minimize the disturbance and inconvenience to the public.
- 6.2 If the excavation of trench alters the contours of the ground around road an highway crossing in such locations dangerous to traffic, the contractor shall at his own cost, take all necessary precautions to protect public and shall comply with all the BSNL regulations and Local Authority Regulations as to placing of warning boards (minimum size 3' x2'0, traffic signals, barricades, flags etc., at such location. If the contractor does not put the warning signal as per above directions, then a penalty of Rs 500/- per day shall be levied on the contractor, till the directions are complied by the contractor. The contractor shall take due precautions to avoid damages to other pipe lines, water mains, sewers, telephones, telegraphs and power conduits, laid wires poles and guy wires, railways, highways, bridges or other underground or above ground structure and/or property crossing or adjacent to the cable trench being excavated. Any damage caused to public/Pvt. property will be at the expense of the Contractor.
- 6.3 Attention of the contractor is drawn to the rules regarding laying of cables at road crossing, along Railways
Bridges, highways safety precautions while working in public street. The contractor in writing shall obtain the detailed engineering instructions form the Divisional Engineer of the area.
- 6.4 The contractor shall be solely responsible for location through approved non-destructive means and ensuring the safety of all existing underground pipeline, electrical cables, and or other structures.
- 6.5 The contractor shall be solely liable for all expense for and in respect of repairs and/or damages
occasioned by injury of or damage to such underground and above structures or other properties and under take to indemnify the BSNL from and against all actions, cause of actions, damages, claims and demands what-so-ever, either in law or in equity and all losses and damages and costs (inclusive between attorney and client), charges and expenses in connection therewith and/ or incidental thereto. The contractor shall take all responsibilities and risk in crossing other pipelines and cables and shall be responsible for protecting all such existing pipelines, poles, electric lines, sewers, cables or other facilities from damage by the contractor's operation in connection with the work. The contractor without cost of the BSNL shall promptly repair any damage incurred.
- 6.6 The current market value of any commodities lost as a result of any damage to the aforesaid existing facilities shall be paid by the contractor together with such additional sums necessary to liquidate the personal of property damages, resulting there from.

7. LABOUR WELFARE MEASURES AND WORKMAN COMPENSATION :

7.1 Obtaining License before commencement of work :

The contractor shall obtain a valid labour license under the Contract Labour (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 the contact arising out of the resultant non-execution of work.

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7.2 Contractors Labour Regulations :**7.2.1. Working Hours**

The Contractor/Service Provider will abide by all the laws of the land in respect of the working hours, overtime and minimum wages to the workers. Any violation will be Suitably under the provisions of the law.

7.2.2 Display of Notice Regarding Wages Etc.

The 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 wage are earned, wages periods, dates of payments of wages and other relevant information.

- 7.2.3 The contractor shall obtain from the site Engineer or any other authorized representative of the Engineer-in-Charge, as the case may be, certificate under his signature at 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 onat"

7.2.4 Fines and deductions, which may be made from wages

- 7.2.4.1 No fines should be imposed on any worker in respect of such acts and omissions on his part as have been approved of by the Labour Commissioner.
- 7.2.4.2 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.
- 7.2.4.3 Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7.2.5. Labour records

- 7.2.5.1 The contractor shall maintain a Register of Persons employed on work on contract in Form XIII of the Contract Labour (R &A) Central Rules 1971.
- 7.2.5.2 The contractor shall maintain a Muster Roll register in respect of all workmen employed by him on the work under contract in from XVI of the CL (R & A) Rules 1971.
- 7.2.5.3 The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R & A) Rules 1971.
- 7.2.5.4 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
 - 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
 - Claim required to be paid under Workmen's Compensation Act.
 - Date of payment of compensation.
 - Amount paid with details of the person to whom the same was paid
 - Authority by whom the compensation was assessed
 - Remarks.

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- 7.2.5.5 The contractor shall maintain a Register of Fines in the Form XII of the CL (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 omission for which fines can be imposed.
- 7.2.5.6 The contractor shall maintain a Register of deductions for damage or loss in Form XX of the CL (R & A) Rules 1971.
- 7.2.5.7 The contractor shall maintain a Register of Advances in Form XXIII of the CL (R & A) Rules 1971.
- 7.2.5.8 The contractor shall maintain a Register of Overtime in Form XXIII of the CL (R & A) Rules 1971.
- 7.2.6 **Attendance card –cum wage slip**
- 7.2.6.1 The contractor shall issue an Attendance card cum wage slip to each workman employed by him.
- 7.2.6.2 The card shall be valid for each wage period.
- 7.2.6.3 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.
- 7.2.6.4 The card shall remain in possession of the worker during the wage period under reference.
- 7.2.6.5 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.
- 7.2.6.6 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.
- 7.2.7 **Employment card**
The contractor shall issue an Employment Card in the Form XIV of CL (R & A) Central Rules 1971 to each worker within three days of the employment of the worker.
- 7.2.8 **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 Form XV of the CL (R & A) Central Rules 1971.
- 7.2.9 **Preservation of labour 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.
- 7.3 **Power of Labour officer to make investigations or enquiry**
The labour officer or any person authorized by the Central Government on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due & proper observance of fair wage clauses and provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor in regard to such provision.
- 7.4 **Report of Investigating officer and action thereon**
The Labour Officer or other persons authorized as aforesaid shall submit a report of result of his investigation or enquiry 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 payment to the labour concerned within 45 days from the receipt of the report from the labour Officer or the authorized officer as the case may be.

7.5 Inspection of Books And Slips

The contractor shall allow inspection of all the prescribed labour 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 Government on his behalf,

7.6 Submission of Returns

The contractor shall submit periodical returns as may be specified from time to time.

7.7 Amendments

The Central Government 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.

8.0 INSURANCE :

- 8.1 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 department of the policies 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.

9. COMPLIANCE WITH LAWS AND REGULATION :

- 9.1 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 Government, Governmental agency or BSNL municipal board, Government of other regulatory or Authorized 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 subcontractor to share 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 subcontractor to make full and proper compliance with the said by-laws, Rules, Regulations, Laws and Order and provisions as aforesaid.

10. TOOLS AND PLANTS

The contractor shall provide at his own cost all tools, plants appliances, implements, measuring instruments etc. required for proper execution of works. The contractor shall also supply without charge the requisite number of persons with the means and material 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 dewatering 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. Falling 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.

IMPORTANT INSTRUCTIONS

1. After the work commences the contractor or his authorized representative(s) shall be present at the site. The representative shall be authorized by the DET based on the contractor's request.
2. Work shall be recorded in the site register by the site Engineer. The contractor or his authorized representative shall sign in the site register held by the site Engineer.
3. Since the time provided for the work is only a few days/weeks, all the communication shall be done at the site. If the contractor or his authorized representatives shall not sign the register, then it shall be considered that nobody is present at the site. Then only written communication shall be sent through registered post.

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4. If the contractor does not provide the barricades, warning cones, warning tapes and work notice board, 5% additional penalty shall be levied. The same shall be provided by BSNL and 150% of the cost of the items shall be recovered from the contractor.
5. Any additional work, road crossings in the neighborhood of the work, when assigned by the DET in charge shall be carried out by the contractor.
6. Due to underground utilities, if the manhole cannot be constructed at the site shown, the decision of the site engineer shall be final and binding on the contractor. If it is decided to shift the manhole within the neighborhood, the contractor shall construct at the place shown by the site engineer.
7. The work will be executed as per direction and condition mentioned in clause 3 of section-VI with the conditions imposed by the corporation or traffic police. In general, the permission is available for working at night only. The probable time for allowing trench less/ HDD/ open trench is from 10PM to next day 6AM. Delay in the work and non-commencement of the work due to these reasons shall not be entertained.
8. If the work extends beyond the time given in the work order. BSNL shall not provide the Right of Way. The permissions from Corporation and Police shall be obtained by the contractor. **If the contractor finds the time allowed for completion of work to be less, he may accordingly deploy more men/machines to complete the work in time.**
9. If the work is not progressing as per the schedule, the work may be either restricted or terminated.
10. If the manhole work is abandoned after commencing, the work may be either restricted or terminated.
11. BSNL reserves the right to disqualify such bidders who have a record of not meeting the contractual obligations against earlier contracts entered into with the BSNL.
12. **In both the cases where the work is either restricted or terminated, apart from invoking necessary tender clauses, the contractor shall not be given tender document for a similar work under GMTD Leh- Ladakh, for a period of six months from the date of termination/ restriction of work.**
13. After the ducts are laid by either Open trenching method or by HDD, the duct integrity test shall be carried out by the contractor on the next day. This is to facilitate the Manhole contractor to commence the manhole work.
14. If any one or more number of ducts is found to fail the duct integrity test, additional laying/ HDD of pipe/s shall be carried out by the contractor at no extra cost. The cost of the damaged pipe(s) shall be recovered from the contractor with additional 17.5% towards Overhead charges.
15. After the re-laying of additional pipe(s), duct integrity test shall be performed in the failed segment, on all the ducts once again.
16. After the ducts are laid by either Open trenching method or by HDD, if duct integrity test is not carried out by the contractor, the test shall be carried out by BSNL and only 50% of the actual payment shall be made to the contractor for PLB pipe laying.
17. For any unfinished work BSNL shall not effect any payment.
18. The material abandoned shall be the property of BSNL. No claim in this regard from the contractor shall be entertained.
19. BSNL reserves the right to construct the manhole, from the stage at which the construction is abandoned by the contractor. This is because the pipe is already terminated at the said location.
20. Rate should be quoted in figures as well as in words and corrections should be attested, otherwise tender shall be rejected.
21. It is the responsibility of the contractor to keep the pipes inside the existing cement concrete duct, where the HDD/Open trenching commences. Duct poking shall be arranged by BSNL.
22. The contractor shall restore the cut portions of BT/Concrete roads to their original conditions immediately on completion of the pipe laying works. If the restoration work is not satisfactory with reference to the standards prescribed by the Corporation / Highways, the amount equal to the charges as claimed by the Corporation/Highways will be recovered from the contractor.
23. The contractor shall deploy as many machined as required for the timely completion of the work.
24. The fact that the contractor is working simultaneously in one or more sections, the same Division/other Divisions will not absolve him from the responsibility of completing the work in time.
25. The contractor may be asked to carry out 25% of the estimated work at any SSA location/site under the jurisdiction of the GMTD Leh- Ladakh at the approved rates with mutual consent.

SECTION VII

SCOPE OF WORK AND JURISDICTION OF CONTRACT

1. SCOPE OF WORK

1.1 The Optical Fibre Cable is laid through HDPE /PLB Pipes buried at a nominal depth of 165 cms. The steps involved in OF Cable construction are as under :

- i) Excavation of trench upto a nominal depth of 165 cms, according to Construction specification along National/State Highways/ other roads and also in city limits as mentioned in the notice inviting tender.
- ii) Laying of HDPE / PLB pipes/ Coils coupled by HDPE/ PLB sockets in excavated trenches, on bridges and culverts, drawing of 6mm Polypropylene/Para pro rope (P.P. rope) through the HDPE pipes/ coils as per Construction Specifications and sealing of HDPE/PLB pipe ends at every manhole by end caps of suitable size.
- iii) Providing of mechanical protection by R.C.C. Pipes/GI pipes and/or concreting/ chambering according to construction specifications, wherever required.
- iv) Fixing of GI pipes/troughs with clamps at culverts/bridges and/ or chambering or concreting of G.I. Pipes/troughs, wherever necessary.
- v) Back filling and dressing of the excavated trenches according to construction specifications.
- vi) Opening of Brick Chamber, Blowing of Optical Fibre Cable, sealing of HDPE/PLB Pipes by Rubber Bushes in Brick Chamber, providing HDPE/RCC/DWC Split Pipes in the Chamber & Back Filling it.
- vii) Digging of pit for jointing Chamber & making Bricks Joint Chamber having internal dimensions of 1.2 meter x1.2 meter x 1 meter (H) having wall thickness of 9" using cement mortar mix of 1:5(1: cement, 5: fine sand) to be constructed on the base of size 1.7Mx1.7mx0.15m (thickness) with cover and back filling the pit with fine sand as per BSNL specifications including cost of material and transportation.
- viii) Digging of pits for Jointing Chamber & fixing of Pre-Cast RCC Chamber complete with base plate, filling of RCC Chamber with clean sand, placing of Pre cast RCC slabs on RCC Chamber as per BSNL specifications and back filling the pit including transportation of pre cast RCC chamber from Divisional Store to work site (the Pre cast RCC Chamber will be supplied by BSNL).
- ix) Duct through test of the PLB laid and pressure test.
- x) Documentation

1.2 ALLIED ACTIVITIES :

1.2.1 Transportation of Materials : The materials required for executing the work entrusted to the contractors against a work order shall be made available at Divisional Store Depot Leh. In some cases the materials may be available at sub divisional store godown. The contractor shall be responsible for transporting the materials, to be supplied by the BSNL or otherwise to execute the work under the contract, to site at his/ their own cost. The costs of transportation are subsumed in the standard Schedule Rates and therefore no separate charges are payable on this account.

1.2.2 Disposal of Empty Cable Drums : The contractor shall be responsible to dispose of the empty cable drums after laying of the cables. The cost of various sizes of empty cable drums recoverable from the contractor has been fixed taking into account the prevailing market rates as mentioned in this document.

1.2.2.1 It shall be obligatory on part of the contractor to dispose of the empty cable drums at his/their level and the amount fixed for various empty cable drums shall be recovered from the bill for the work for which the drum (s) was/were issued or from any other amount due to the contractor or the Security Deposit.

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1.2.2.2 The contractor shall not be allowed to dump the empty cable drums in Govt./Public place which may cause inconvenience to the BSNL / public. If the contractor does not dispose of the empty cable drums within 3 days of becoming it empty, the BSNL shall be at liberty to dispose off the drums in any manner deemed fit and also recover the amount fixed in this contract from the bill/security deposit/ any other amount due to the contractor.

1.2.3 **Supply Of Materials** : There are some materials required to be supplied by the contractor for execution of work under this contract like Bricks, Cement, Wire Mesh and Steel for protection, etc., besides using other consumables which do/don't become the part of the asset. The contractor shall ensure that the materials supplied are of best quality and workmanship and shall be strictly in accordance with the specifications .

2. **COST OF WORK** : The estimated cost of work is as mentioned in the Notice Inviting Tenders which has been worked out based on standard scheduled rates mentioned in this tender document. The actual value of work may vary based on the actual requirement but generally being limited to +/- 25% of the indicated value.

Section - VIII

Optical Fibre Cable Construction Specifications

The guidelines in the form of Engineering Instructions (E.Is.) on Construction Practices of Optical Fibre Cables are issued by T & D wing of the BSNL 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. This document will need revision as and when practices undergo any revision.

1.0 General

The Optical Fibre 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 off main road by leading in O.F.C. vis-a 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 be recorded in the detailed survey register. The probable locations of joints, terminations and regenerators may also be decided and marked on the route map.

On the basis of surveys, general permission from road and rail authorities for laying the Optical Fibre 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 a 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. carries high capacity traffic and is planned for 40 years of life, it is imperative that the cable is laid after obtaining due permission from all the concerned authorities to avoid any damage/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 meter below the road surface.

The Optical Fibre Cable is laid through HDPE/PLB Pipes buried at a nominal depth of 165 cms. The steps involved in OF Cable construction are as under:

- i) Excavation of trench upto a 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.
- ii) Laying of HDPE/PLB pipes/coils coupled by sockets in excavated trenches, on bridges and culverts, drawing of 6 mm polypropylene rope (P.P. rope) through the HDPE/PLB pipes/coils as per Construction Specifications and sealing of HDPE/PLB pipe ends at every manhole by end caps of suitable size.
- iii) Providing of mechanical protection by R.C.C. Pipes/GI pipes and/or concreting/chambering according to construction specifications, wherever required.
- iv) Fixing of GI pipes/troughs with clamps at culverts/bridges and/or chambering or concreting of G.I. Pipes/troughs, wherever necessary.
- v) Back filling and dressing of the excavated trenches according to construction specifications.
- vi) Opening of manholes (of size 3 meters x 1 meters x 1.65 meters depth), replacing existing 6mm P.P. rope by 8mm P.P. rope (from manhole to manhole) for ensuring smooth passage for pulling the cable. Pulling of Optical Fibre Cable with proper tools and accessories as per construction specifications. Sealing of both ends of the manholes by hard rubber bush of suitable size to avoid entry of rodents into the HDPE/PLB pipes, putting split HDPE/PLB pipes and split RCC pipes with proper fixtures over cable in the manhole to protect the bare cable in the pulling manhole. Back filling and dressing of manholes.
- vii) Digging of pit of size 2 meter x 2 meter x 1.8 meter (depth) for construction of jointing chamber at approximately every two kilometers of internal size of 1.5 meter x 1.5 meter

- x 1.2 meter using bricks and mortar or fixing pre-cast jointing chamber of internal diameter of 1.2 meter filling of jointing chamber with clean sand, placing either pre-cast RCC cover or stone of suitable size on jointing chamber to protect the joint and back filling of jointing chamber with excavated soil.
- viii) Digging of pits 1 meter towards jungle side at every manhole and jointing chamber to a depth of 60cms., fixing of route Indicator/joint indicator, concreting and back filling of pits. Painting of route indicators with yellow colour and joint Indicator by red colour and sign writing denoting route/joint indicator number, as per construction specifications.
- ix) Duct through test of the PLB laid and pressure test.
- x) Documentation.

2.0 Specifications of Materials used:

☐ HDPE/PLB PIPE/COILS

The Optical Fibre Cable is pulled through 50mm outer diameter Pipes/Coils. 50 mm HDPE/PLB pipes of 5 meters length or 50 meters coil, should meet the specifications as given in GR no. G/CDS-OS/01 Dated December 1994 and revised up to date.

☐ HDPE Socket

For coupling HDPE/PLB pipes/coils, HDPE sockets as per IS 4984-1995 ('O' ring type) made of High Density Polyethylene 5010 or equivalent injection grade material should be used. The HDPE sockets should be black in colour and should be fitted with hard rubber rings at both ends and should conform to GR No. G/CDS-05/01 dated December, 1994 and revised upto date. 5mm x 5mm projections inside at a centre of the socket should be provided to prevent the pipes from passing through. It should weigh 150 gms. (with a tolerance of +/-5%) and should be able to withstand a pressure of 10 kg per sq. cms. without any damage/deterioration in performance.

(See figure '1' for details)

☐ PP Rope

6mm PP rope is drawn through the HDPE/PLB pipes/coils and safely tied to the end caps at either ends with hooks to facilitate pulling of the OF cables at a later stage. The PP rope used is 3 strands Polypropylene Para Pro rope having yellow colour and shall be of 6 mm diameter and it should have a minimum breaking strength of 550 kgs. The length of each coil of rope should be 205 meters and it should conform to (i) BS 4928 Part-II of 1974 (ii) IS 5175 of 1982 (iii) It should be of special grade and should have ISI certificate mark (iv) It should be manufactured out of industrial quality Polypropylene.

☐ HDPE end caps

For pulling the cable through the pipes, it is necessary to have suitable manholes at every 200M length and also at bends and corners suitably located. The pipes are laid for 200M or less at a time for the distance between two manholes. The ends of the HDPE/PLB pipes/coils are closed with HDPE End Caps. The end caps used should be suitable for closing 50mm outer diameter class V HDPE/PLB pipes. The end cap should be manufactured from High Density Polyethylene, should withstand internal pressure of 10 kg per sq. cms., should be black in colour, should have a weight of 100 gms. (with a tolerance of +/-5%) and should conform to G/CDS-05/01 dated December, 1994 and revised upto date. (See figure '2' for details). A suitable arrangement should be provided in the End Cap to tie PP Rope.

☐ MATERIALS FOR MECHANICAL PROTECTION

For lesser depths requiring mechanical protection as per specifications and in built up areas, in towns and cities falling within the municipal limits, suitable mechanical protection is provided to HDPE/PLB pipes/coils using RCC/DWC full round/split RCC/DWC pipes or GI pipes or concreting of size 25 cms x 25 cms reinforced with MS weld mesh or a combination of any of these as per the written instructions of the Engineer-in-charge.

i) RCCFULL ROUND PIPES

Reinforced cement concrete pipes (spun type) coupled with RCC collars sealed with cement mortar are used to provide mechanical protection to HDPE/PLB pipes/coils. The RCC pipes/collars should be of NP-2 class for 100 mm /150mm (internal diameter) full

round, conforming to IS standard 458-1988 revised upto date. The pipes should have a nominal length of 2 meters.

The RCC collars should be properly sealed using cement mortar 1:3 (1:53 grade cement of reputed brand, 3: fine sand without Impurities). If the mechanical protection is provided by RCC pipes, every third joint will be embedded in a concrete block of size 60 cms (L) x 40 cms (W) x 25 cms (H) of 1:2:4 cement concrete mix 1:2:4 (1: cement, 2: coarse sand, 4: stone aggregate of 20 mm nominal size) so that the alignment of RCC pipes remain firm and intact. Both ends of RCC / GI pipes will be sealed by providing concrete block of size 40 cm (L) x 40 cm (W) x 25 cm (H) of 1:2:4 cement concrete mix to avoid entry of rodents.

ii) **RCC FULL SPLIT PIPES**

Reinforced cement concrete pipes (spun type) with in-built collars are used to provide mechanical protection to HDPE/PLB pipes/coils. The RCC pipes should be of 100mm internal dia.(Spigotted), Class--NP-3, Thickness: 25mm, Length: 2Meters with inbuilt collar at one end, Conforming to ISI Specification IS: 458, 1988 with latest amendment

iii) **G.I. PIPES**

G.I. pipes should be of medium duty class having diameter of 65 mm./40mm. The G.I. Pipes should conform to IS 554/1985 (revised upto date) IS 1989 (Part-I), 1900 Sockets (revised upto date) & IS 1239 (Part-II) 1992 (revised upto date). Wherever protection by G.I. pipe is provided, it is preferable to use HDPE coils. As space on parapet wall on Bridges/culverts is limited, 40 mm GI pipes may be used with 32 mm HDPE coil drawn inside.

iv) **M.S. WELD MESH**

The HDPE/PLB pipes can also be protected by embedding it in concrete of size of 25 cms x 25 cms reinforced with MS weld mesh. The MS weld mesh used should be of 50 mm x 100 mm size, 12 SWG, 120 cms in width in rolls of 50m each. One meter of MS weld mesh caters to approx. 3 meters of concreting. (See figure '3' for details)

The strength of RCC/CC is dependent on proper curing, therefore, it is imperative that water content of CC/RCC mix does not drain out into the surrounding soil. In order to ensure this, the RCC/cc work should be carried out by covering all the sides by yellow PVC sheets of weight not less than 1 kg per 8 sq.m. to avoid seepage of water into the soil.

□ **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.

i) **Construction of brick chamber at site**

For constructing brick chamber, first a pit of size 2m x 2 m x 1.8 m 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 1.7m x 1.7 m x 0.15 m (thickness). Wall 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 9" using cement mortar mix of 1:5 (1: cement, 5: fine sand). The bricks to be used for this purpose should be of size 9" x 4.5" x 3", 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/PLB

pipe ends remain protruding minimum 5 cms inside the chamber on completion of plastering. The HDPE/PLB 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/PLB 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), 12 mm thick finished with a floating coat of complete cement as per standard. Pre-cast RCC slab with two handles to facilitate easy

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lifting, of size 0.7 m x 1.4 m and of thickness of 5 cm having one handle for each half in centre 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 6 mm 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.

ii) 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 'OFC' engraved on it. (See figure '4'). 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.

☐ **RUBBER BUSH**

To prevent entry of rodents into HDPE/PLB pipes, the ends of HDPE/PLB pipes are sealed at every manhole and joint using rodent resistant hard rubber bush (cap) after optical fibre cable is pulled. The rubber bush should be manufactured from hard rubber with grooves and holes to fit into 50 mm HDPE/PLB pipe (class V), so that it should be able to prevent the entry of insects, rodents, mud, and rainwater into the HDPE/PLB pipe. It should weight 150 gms (with a tolerance of +/- 5% . It should conform to specification No. G/CDS-05/01 dated December. 1994 and revised upto date. (Please see Figure No. 5).

☐ **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 /joint indicator made of pre-cast RCC should have the following dimensions:

Base	-	250 mm x 150 mm
Top	-	200 mm x 75 mm
Height	-	1250 mm

The word 'BSNL OFC' should be engraved on the route/joint indicators.

(See figure '6' for details)

The route indicators are painted yellow and the same are placed at 2 ft. away from the centre 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 6th route indicator after 2nd joint. Additional joints on account of faults at a later date should be given number of preceding joint with suffix A, B, C, and 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 brand should be used for painting and sign writing of route as well joint indicators.

3.0 EXCAVATION OF TRENCHES

3.1 Trenching

Location and Alignment of the Trench :

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 cutting across road with specific permissions from the concerned authorities maintaining the road (such permissions shall be obtained by the department). Outside the city limits the trench will normally follow the boundary of the roadside land. However, where the road side land is full of burrow pits or afforestation or when the cable has to cross culverts/ bridges or streams, the trench may come closer to the road edge or in some cases, over the embankment or shoulder of the Road (permissions for such deviations for cutting the embankment as well as shoulder of the road shall be obtained by the department).

The alignment of the trench will be decided by a responsible departmental official, not below the rank of a Junior Telecom Officer. Once the alignment is marked, no deviation from the alignment is permissible except with the approval of Engineer-in- charge. While marking the alignment only the centre line will be marked and the Contractor shall set out all other work to ensure that, the excavated trench is as straight as possible. The Contractor shall provide all necessary assistance and labour, at his own cost for marking the alignment. Contractor shall remove all bushes, undergrowth, stumps, rocks and other obstacles to facilitate marking the centre line without any extra charges. It is to be ensured that minimum amount of bushes and shrubs shall be removed to clear the way and the contractor shall give all, consideration to the preservation of the trees.

The line up of the trench must be such that HDPE Pipe(s) shall be laid in a straight line, both laterally as well as vertically 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.

Line-Up :

The line-up of the trench must be such that HDPE/PLB pipe(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.

Method of Excavation :

In city limits as well as in built up areas, the contractor shall resort to use of manual labour only to ensure no damage is caused to any underground or surface installations belonging to other public utility services and/or private parties.

However, along the Highways and cross country there shall be no objection to the Contractor resorting to mechanical means of excavation, provided that no underground installations exist in the path of excavation, if any, are damaged.

There shall be no objection to resort to horizontal boring to bore a hole of required size and to push through G.I. Pipe (65 mm/40mm dia) through horizontal bore at road crossing or rail crossing or small hillocks etc.

All excavation operations shall include excavation and 'getting out'. 'Getting out' shall include throwing the excavated materials at a distance of at least one meter or half the depth of excavation, whichever is more, clear off the edge of excavation. In all other cases 'getting out' shall include depositing the excavated materials as specified.

In Rocky strata excavation shall be carried out by use of electro mechanical means like breakers or by blasting wherever permissible with express permission from the competent authority. If blasting operations are prohibited or not practicable, excavation in hard rock shall be done by chiseling.

Trenching shall as far as possible be kept ahead of the laying of pipes. Contractor shall exercise due care that the soil from trenching intended to be loose for back filling is not mixed with loose debris. While trenching, the Contractor should not cause damage to any underground installations belonging to other agencies and any damage caused should be made good at his own cost and expense.

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Necessary barricades, night lamps, warning board and required watchman shall be provided by the contractor to prevent any accident to pedestrians or vehicles. While carrying out the blasting operations, the contractor shall ensure adequate safety by cautioning the vehicular and other traffic. The contractor shall employ sufficient man-power for this with caution boards, flags, sign writings etc.

The contractor should provide sufficient width at the trench at all such places, where it is likely to cave in due to soil conditions without any extra payment. A minimum free clearance of 15 cms. should be maintained above or below any existing underground installation. No extra payment will be made towards this.

In order to prevent damage to HDPE/PLB pipes over a period of time, due to the growth of trees, roots, bushes, etc., the contractor shall cut them when encountered in the path of alignment of trench without any additional charges.

In large burrow pits, excavation may be required to be carried out for more than 165 cms in depth to keep gradient of bed less than 15 degrees with horizontal. If not possible as stated above, alignment of trench shall be changed to avoid burrow pit completely.

Depth and Size of the Trench :

The depth of the trench from top of the surface shall not be less than 165 cms unless otherwise relaxation is granted by competent authority under genuine circumstances. In rocky terrain, the depth of the trench may be restricted to a depth of 100 to 140 cms. However, Engineer-in-charge in exceptional cases due to adverse site conditions encountered, may allow to lay HDPE/PLB pipes at a lesser depth with additional protection. In all cases, the slope of the trench shall not be less than 15 degrees with the horizontal surface. The width of the trench shall normally be 45 cms. at the top & 30 cms. at the bottom. In case, additional pipes (HDPE/GI/RCC Pipes) are to be laid in some stretches, the same shall be accommodated in this normal size trench.

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 will be measured accordingly. In 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. to keep the gradient less than 15 degree with horizontal. For additional depth in excess of 165 cms., additional payment of pro rata basis shall be applicable.

If excavation is not possible to the minimum depth of 165 cms., as detailed above, full facts shall be brought to the notice of the Engineer in charge in writing giving details of location and reason for not being able to excavate that particular portion to the minimum depth. Approval shall be granted by the competent authority in writing under genuine circumstances. The decision of the competent authority shall be final and binding on the contractor.

Dewatering :

The Contractor shall be responsible for all necessary arrangements to remove or pump out water from trench. The Contractor should survey the soil conditions encountered in the section and make his own assessment about dewatering arrangement that may be necessary. No extra payment shall be admissible for this.

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.

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.

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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 upto 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 authorized 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.

Trenching Near Culverts/ Bridges:

The HDPE/PLB pipes shall be laid in the bed of culvert at the depth not less than 165 cms protected by G.I. pipes and concreting as decided by Engineer- in charge.

Both ends of culverts shall be excavated more than 165 cms in depth to keep the gradient of not less than 15 degree with horizontal. The bed of trench should be as smooth as possible.

While carrying out the work on bridges and culverts, adequate arrangement for cautioning the traffic by way of caution boards during day time and danger lights at night shall be provided.

In case of small bridges and culverts, where there is a likelihood of their subsequent expansion and remodeling, the cable should be laid with some curve on both sides of the culvert or the bridge to make some extra length available for readjustment of the cable at the time of reconstruction of culvert or the bridge.

4.0 LAYING OF H.D.P.E./PLB PIPES :

After the trench is excavated to the specified depth, the bottom of the trench has to be cleared of all stones or pieces of rock and leveled up properly. A layer of soft soil/or sand (in case the excavated material contains sharp pieces of rock/stones)of not less than 5 cms is required for leveling the trench to ensure that the cable when laid will follow a straight alignment. Adequate care shall be exercised while laying so that the OF cables are not put to undue tension/pressure after being laid as this may adversely affect the optical characteristics of cables with passage of time.

The contractor shall ensure that trenching and pipe laying activities are continuous, without leaving patches or portions incomplete in between. In case intermediate patches are left, measurement of the completed portions will be taken only after work in such left over patches are also completed in all respects.

Preparatory to aligning the pipe for jointing, each length of the HDPE/PLB pipe shall be thoroughly cleaned to remove all sand, dust or any other debris that may clog, disturb or damage the optical fibre cable when it is pulled at a later stage. The ends of each pipe and inside of each Socket shall be thoroughly cleaned of any dirt or other foreign materials.

After the trench is cleaned the HDPE/PLB pipes/Coil shall be laid in the cleaned trench, jointed with "O" ring type Sockets & 6mm PP rope should be drawn through the HDPE/PLB pipes at the time of laying the pipes to facilitate cable pulling at a later stage. At every manhole approximately at every 200m or at bends or turns the PP rope will be tied to the HDPE end caps used for sealing the HDPE/PLB pipes, to avoid entry of rodents/mud etc.

At the end of each day work, the open ends of the pipes sections shall be tightly closed with end caps to prevent the entry of dirt/mud, water or any foreign matter into HDPE/PLB pipes until the work is resumed.

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In City, Town, Urban area falling within Municipal/Corporation limits, the HDPE/PLB pipes shall be laid with protection using RCC/G.I. Pipes/ Concreting reinforced with weld mesh. Moreover, in cross country routes, if depth is less than 1.2 meters, protection by using RCC/G.I. Pipe/ Concreting reinforce with weld mesh shall be provided. Engineer-in-Charges shall decide about such stretches and type of protection to be provided in view of the site requirements. Normally 100 mm RCC Pipes shall be used for protecting HDPE/PLB pipe but if more than one HDPE/PLB pipe is to be laid and protected, RCC Pipe of suitable size to accommodate the required number of HDPE Pipes shall be used.

The HDPE/PLB pipes shall be laid in RCC Full Round spun Pipes/GI Pipes as required at road crossings. The RCC pipes/GI pipes shall extend at least 3 meters on either side of the road at road crossings. At road crossings, extra GI/HDPE/PLB pipes may be laid as per the direction of the Engineer-in charge. On Rail bridges and crossings, the HDPE/PLB pipes shall be encased in suitable cast iron as prescribed by the Railway Authorities.

Wherever RCC pipes are used for protection, the gaps between the RCC collars and the RCC pipes shall be sealed using cement mortar 1:3 (1:53 grade cement of reputed brand, 3: fine sand without impurities) to bar entry of rodents. Every third collar of RCC pipes (normally of 2 meters length) and also both ends of RCC Pipes will be embedded in a concrete block of size 40 cms (L)x 40 cms (W) x 25 cms (H) of 1:2:4 cement concrete mix (1:53 grade cement of reputed brand, 2: coarse sand, 3: stone aggregate of nominal size of 20 mm) so that the alignment of RCC pipes remain firm and intact and to avoid entry of rodents.

Wherever GI pipes are used, special care should be taken to ensure that G.I. Pipes are coupled properly with the sockets so as to avoid damage to HDPE/PLB pipe and eventually the OF Cable in the event of pressure coming on the joint and G.I. Pipe joint giving its way. Rubber bushes shall be used at either ends of the GI pipes to protect HDPE/PLB pipe. Both the ends of G.I. Pipe will be embedded in a concrete block of size 40 cms (L)x 40 cms (W) x 25 cms (H) of 1:2:4 cement concrete mix (1:53 grade cement of reputed brand, 2: coarse sand, 3: stone aggregate of nominal size of 20 mm) so that the alignment of G.I. Pipes remain firm and intact and to avoid entry of rodents.

In case of protection by concreting at site, the nominal dimension of concreting shall be 250 mm x 250 mm section. Cement Concrete Mixture used shall be of 1:2:4 composition i.e. 1:53 grade Cement of a reputed company , 2: Coarse Sand, 4: Graded Coarse Stone aggregate of 20 mm nominal size, reinforced with MS weld mesh. As the RCC is cast at site, it is imperative to ensure that special care is taken to see that proper curing arrangements are made with adequate supply of water. The contractor shall invariably use mechanical mixer at site for providing RCC protection, to ensure consistency of the mix.

For carrying out concreting work in trenches, yellow PVC sheets of width not less than 1.0 M and of weight not less than 1 kg. Per 8 sq. meters shall be spread and nailed on sides of the trench to form trapezoidal section for concreting in the cleaned trench, to avoid seepage of water into the soil. A bed of cement concrete mixture of appropriate width and 75 mm thickness shall be laid on the PVC sheet, before laying HDPE pipes. The HDPE/PLB pipes shall then be laid above this bed of concrete. After laying the HDPE/PLB pipes, MS weld mesh is wrapped around and tied and concrete mix is poured to form the cross sectional dimensions as instructed by the Engineer-in- charge. The strength of RCC is dependent on proper curing, therefore, it is imperative that water content of RCC mix does not drain out into the surrounding soil. Portions where cement concreting has been carried out shall be cured with sufficient amount of water for reasonable time to harden the surface. After curing, refilling of the balance depth of the trench has to be carried out with excavated soil.

The HDPE/PLB pipes/RCC/GI Pipes shall be laid only in trenches accepted by Engineer-in-Charge or his representative. The Contractor shall exercise due care to ensure that the HDPE/PLB pipes are not subjected to any damage or strain.

Water present in the trench at the time of laying the HDPE/PLB pipes shall be pumped out by the contractor before laying the pipes in the trench to ensure that no mud or water gets into the pipes, thus choking it.

In case of nallahs, which are dry for nine months in a year, the HDPE/PLB pipes shall be laid inside the RCC Pipes/ or GI Pipes and concrete laid at a minimum depth of 165 cms., as instructed by the Engineer-in-charge. The mechanical protection shall extend at least 5 meters beyond the bed of nallah on either side.

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Notwithstanding anything contained in clauses referred above, the Engineer-in-charge may order, based on special site requirements, that the HDPE Pipes may be encased in reinforced cement concrete, as detailed, *ibid*.

While laying the pipes, a gap of 2 M is kept at convenient locations approx. 200 m apart and at the bends and turns, which will be used as manholes during OF cable pulling. Ends of the HDPE/PLB pipes at the manholes shall be sealed using end caps after tying the PP rope to the end caps to avoid choking of the pipes. In a similar manner, manholes shall be kept while approaching bridges, road crossings etc. , as instructed by the Engineer-in-charge. The location of the manholes will be decided by the Engineer-in-charge.

Laying Protection Pipes On Bridges And Culverts:

In case trenching and pipe laying is not possible in the beds of the culverts, the pipes shall be laid over the culverts/bridges after getting due permission from the competent authority. Of late the bridge construction authorities are providing ducts below the footpaths on the bridges for various services. The telecom officers need to maintain good liaison with the concerned authority to get one side of the duct allotted for Telecom Cables. In such ducts, G.I. Pipes can be coupled and laid for pulling the cables. It would be pertinent to mention here that close liaison with bridge construction authorities would be of immense advantage in ensuring provision of ducts on one or both the sides of the bridges as per future requirements. However, for laying cables on existing bridges, where duct arrangement does not exist, one of the following methods may be adopted.

Normally in the Bridges/Culverts, where there are no ducts and where the cushion on the top of the Arch is 50 cm to 100 cm or more, G.I. Pipe (Carrying HDPE/PLB pipe and cable) may be buried on the top of the Arch adjoining the parapet wall, by digging close to the wheel guards. Every precaution shall be taken to see that no damage occurs to the arch of the culvert. After burying the GI pipe, the excavated surface on the arch shall be restored.

Where the thickness of the Arch is less than 50 cms, the pipe must be buried under the wheel guard masonry and the wheel guard rebuilt.

If neither of the two methods is possible, the G.I. Pipes/GI Troughs must be clamped out side the parapet wall with the clamps supplied by the department. If necessary, the pipes may be taken through the parapet wall at the ends where the wall diverges away from the road.

In case where the methods explained in clauses referred above are not possible, the G.I. Pipe/GI 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 raw plugs and wood screws or small diameter bolts, without damaging the concrete and limiting the external diameter of the bolts to 7.5 mm. The permission for carrying out this work will be obtained from the Road Authorities by the department .

Methods cited in above clauses should be carried out under close supervision of Road authorities.

The surface to be concreted should be thoroughly cleaned and leveled before concreting. At both ends of the Bridges/Culverts, where the GI Pipes /GI Troughs slope down and get buried, the concreting should be extended to ensure that no portion of the GI Pipes/GI Troughs is exposed as ordered by the Engineer- in-charge to protect the pipe/Trough from any possible damage externally caused.

Where white wash/colour wash is existing on the Bridges/ Culverts, the same should also be carried out on the concreted portion to ensure uniformity.

5.0 Back Filling and Dressing of the Trench :

The earth used for filling shall be free from all roots. Grass, shrubs, vegetation, trees, saplings and rubbish. Provided that the HDPE/PLB pipes 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 so as to provide firm support under and above the pipes and to avoid bend or deformation of the HDPE/PLB pipes when the pipes get loaded with the back filled earth.

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At locations where the back filled materials contains stones/sharp objects which may cause injury to the HDPE/PLB pipes and where the excavated or rock fragments are intended to refill the trench in whole or in part, the trench should be initially filled, with a layer of ordinary solid or de-rocked loose earth of not less than 10 cms above the pipes.

Back filling on public, private roads, railway crossings, footpaths in city areas shall be performed immediately after laying the HDPE pipes. Back filling at such locations shall be thoroughly rammed, so as to ensure original condition and made safe for traffic. All excess soil/ material left out on road/ footpath/railway crossing shall be removed by contractor. However, along the high way and cross-country, the dug up material left out should be kept as heap above the trench while refilling.

In city limits, no part of the trench should be kept open for more than 50 meter 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.

6. CABLE PULLING AND JOINING/SPLICING :

6.1 CABLE PULLING :

Manholes marked during HDPE/PLB pipe laying of approx. size of 3m length x 1.0 m. width x 1.65 m. 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 costs. De-watering/De-gasification of the ducts, if required, will be carried out without any extra costs.

The existing 6mm PP rope shall be replaced by with PP rope of 8 mm dia between the two consecutive manholes. This is to ensure that the HDPE/PLB pipes 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 require opening of additional manholes. However, in case the cleaning rope gets stuck up during pulling, the location of clogging of HDPE/PLB pipe should be measured and located accurately. The trench at that location should be opened and the HDPE/PLB pipe should be cleaned properly or if not possible it should be changed by a clean new HDPE Pipe to facilitate easy cable pulling at a later stage without any breakage. If clogging of HDPE/PLB pipe is in the location where the pipes are

protected either by RCC Pipe or by concreting and the protection is broken for cleaning/changing the HDPE/PLB pipe, the protection thus removed should be brought back to normal by the contractor without any extra cost. However, HDPE Pipes, RCC Pipes required for this purpose will be supplied by the Department.

The Optical fibre cables are available in drums in lengths of approx. 2 kms. The cables shall be manually pulled through already laid HDPE/PLB pipes by using the 8 mm PP rope. This work is to be carried out under the strict supervision of site in-charge. At a time, maximum three persons at every manhole should be deployed to pull the cable as more tension to cable may lead to breaking of fibers. Cost of such damages will be recovered from the contractor.

After pulling of the drum is completed, both ends of the HDPE/PLB pipe in each manhole should be sealed by hard rodent resistant rubber bush, to avoid entry of rodents/mud into HDPE/PLB pipes.

The Manholes are prepared by providing 65mm split HDPE/PLB pipe of 2.5 to 3m length and closing the split HDPE/PLB pipes by providing necessary clamps/ adhesive tape as per the directions of Engineer-in- charge. Afterwards, the split/cut HDPE/PLB pipe are covered with 100 mm split RCC pipe of 2m length and sealing the ends of RCC pipe with lean cement solution for protecting bare cable in the manhole . After fixing of HDPE/RCC Split Pipes necessary back filling/reinstatement and dressing of manholes should be carried out as referred under trenching. The location of the pulling manhole should be recorded for preparation of documentation.

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6.2 Jointing/ Splicing :

The OFC cable drums are usually of 2 kms in length hence optical fibre joints will be approx. at every 2 Kms. The 6/12/24 fibers are to be spliced at every 2 kms. & 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 fibre 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 TCHQ 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 jointing/splicing of optical fibre cable is an optional item. The BSNL units which are equipped for this works should preferably carry out this work departmentally.

7.0 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.

71. Construction of brick chamber at site :

For constructing brick chamber, first a pit of size 2 m x 2 m x1.8m 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 40 mm 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 x1 m (H) should be constructed on this base having wall thickness of 9" using cement mortar mix of 1:5 (1: cement, 5: fine sand). The bricks to be used for this purpose should be of size 9" x 4.5" x3", 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 ends remain protruding minimum 5 cms inside the chamber on completion of plastering. The HDPE/PLB 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) 12 mm 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 centre 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 6 mm nominal size) reinforced with steel wire fabric 75 x 25 mm 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 should be carried out up to normal ground level and compacted.

7.2 Pre cast RCC chamber :

For fixing pre cast RCC chamber, first a pit of size 2 m x 2m 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 'OFC' engraved on it. (See figure '4') Pre cast RCC chamber (which is coming in part) should be placed in the pit and parts should be fixed by applying cement mortar. The pre cast RCC chamber will be supplied by the department. 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 should be carried out up to normal ground level and compacted.

The work of cable pulling includes the work of cable pulling up to exchange termination point and has to be carried out as per the directions of Engineer-in-charge.

8.0 Fixing of Route Indicators / Joint Indicators :

Pits shall be dug 1 M. towards jungle side at every manhole and jointing chamber for fixing of Route/Joint Indicator. In addition, Route Indicators are also required to be placed where O.F. Cable changes directions like road crossing etc.

The pits for fixing the indicator shall be dug for a size of 60 cms. x 60 cms. and 75 cms. (depth). The indicator shall be secured in upright position by ramming with stone and murrum upto a depth of 60 cms. and concreting in the ratio of 1:2:4 (1: cement, 2: coarse sand, 4 stone aggregate 20 mm nominal size) for the remaining portion of 15 cms. Necessary curing shall be carried out for the concreted structure with sufficient amount of water for reasonable time to harden the structure.

The route and joint indicator shall be painted with primer before painting with oil paint. The material used should bear ISI mark. The size of each written letter should be at least 3.5 cms. The colors of painting and sign writing is as under :

- (1) For Joint Indicator Red.
- (2) For Route Indicator Yellow.
- (3) For Letters White.

The numbering scheme for route indicators will be Joint No./Route Indicators No. for that joint. For example 2/6 indicator means 6th route indicator after 2nd joint. Additional joints on account of faults at a later date should be given number of preceding joint with suffix A, B, C and D. For example sign writing 2A on a joint indicator means, additional joint between Joint No. 2 and 3. The numbering existing route/ joint indicator should not be disturbed on account of additional joints.

9.0 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 with 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 centre of the road at every 10 meters;
 - ☐ Depth profile of Cable at every 10 meter;
 - ☐ Details of protection with type of protection depicted on it;
 - ☐ Location of culvert and bridges with their lengths and scheme of laying of HDPE/PLB pipe 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 GSM. 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)

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- 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.
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

10.0 SAFETY PRECAUTIONS :

10.1 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 alone where there are electric cables involved. At least one more man should be working near by 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 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.

10.1.1 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 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.

10.2 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.

10.2.1 Danger from falling material :

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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.

10.2.2 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. 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.

10.2.3 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.

10.2.4 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.

10.2.5 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 m 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 consciously not less than 1.25 m 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 10 m 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 jointer's 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.

10.2.6 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 by the local authorities, these should be followed.

10.2.7 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 an 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 "UP" and "DOWN" lines to avoid the possibility of any accident when trains pass or happen to cross one another near the work spot.

10.3 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 powder
- ii) Nitrate Mixture
- iii) Gilatine
- iv) Safety fuse
- v) Electric Detonator
- vi) Ordinary Detonator

10.3.1 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 which 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 license for using/storing explosives for cables trenching work. Such license will be valid for

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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.

10.3.2 Method of using :

The safest explosive is the Gilatine and electric detonator. Gilatine 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 6". First the electric detonator is to be inserted into the Gilatine and the Gilatine is to be inserted into the holes keeping the + ve and- ve wirings of electric detonators outside the holes. Again refill the holes with sand. These +ve and-ve insulated

wires of detonator are then extended and finally connected to an EXPLoder kept at a distance of not less than 100 m.

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.

10.3.3 Operation of exploder (IDL schaffler type 350 type exploder) :

The type 350 blasting machine consists of a bearing block with blasting machine system and the explosion proof light- 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 clock wise 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, " press button switch" should be pressed. This will extend the electric current to detonator and Gilatine 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 to clear the debris. If the result of the first blasting is not satisfactory, it should be repeated again on the same place.

10.3.4 Warning :

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

- a) Misfire of Gilatine 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 Gilatine. The safest way is to make a fresh hole by its side and put fresh Gilatine in that hole and blast it.

10.3.5 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 the agent of a holder of such a license duly authorized 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 authorized to possess with or without a license under these rules.

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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 lightning conductors designed and erected in accordance with the specification laid down in Indian Standard Specifications No. 2309 as amended from time to time. The connections to various parts of earth 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 appears to be imminent in the vicinity of a magazine or store house every person engaged in or a round such magazine and store 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 form 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 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 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 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.

10.3.6 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, 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 explosive 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.

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 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 locations and no extra hole has been drilled. The agent shall then prepare the necessary charge separately for each bore hole. The bore holes 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 end 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 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 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 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 other 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 this interval of half an hour, nobody shall approach the misfired holes. No driller shall work near such bore until either of the following operations has been done by the agent for the misfired boreholes.

- a) The contractor's agent shall very carefully (when the tamping is a damp clay) 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

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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 cause and steps taken in that connection.

10.3.7 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 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 from 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 returning the consignment.

10.3.8 Precaution against stray currents :

Where electrically operated equipments is 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.

☐ **HDPE Socket**

For coupling HDPE/PLB pipes/ coils, HDPE sockets as per IS 4984-1995 ('()' ring type) made of High Density Polyethylene 50') or equivalent injection trade material should be used . The HDPE sockets should be black in colour and should be fitted with hand rubber rings at both ends and should confirm to GR No. G/CDS-05/01 dated December, 1994 and revised upto date. 5mm x 5 mm projections inside at the centre of the socket should be provided to prevent the pipes from passing through. It should weigh 150 gm (with a tolerance of 1/- 5%) and should be able to withstand the pressure of 10 kg per sq. cms. Without any damage/ deterioration in performance. (See figure 'I' for details)

HDPE END CAPS

Signature and seal of the Bidder

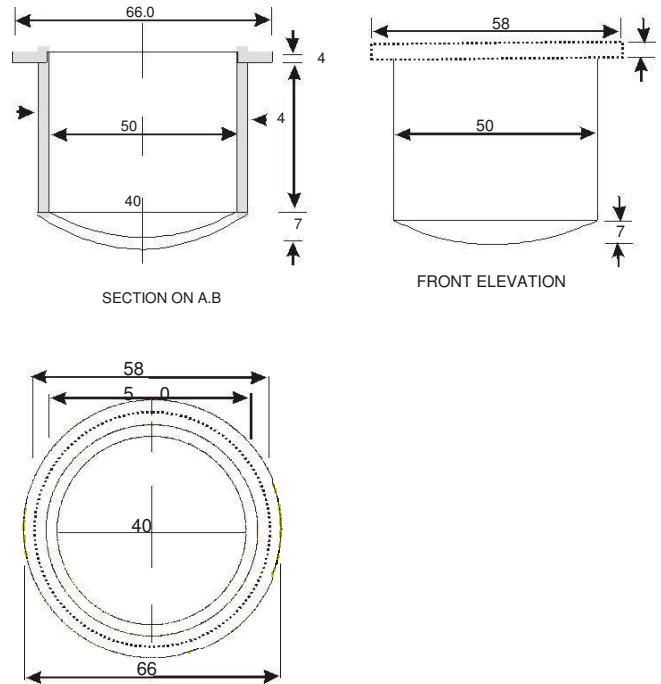
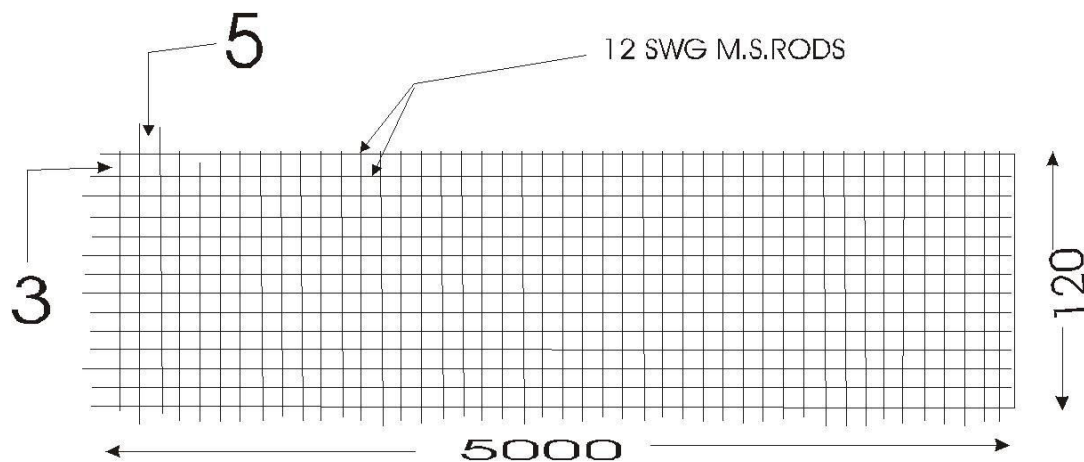


Fig. 3

□ M.S. WELDMESH

The HDPE/PLB pipes are protected by embedding it in concrete of s/c of 25 cms. 25 cms reinforced with MS weld mesh. The MS weld mesh should be of 50 mm x 100 mm size, 12 SWG of size, 120 cms in width in rolls of 50 m each. One meter of MS weld mesh caters to 3 meters of concreting. (See figure '3' for details) .

DETAILS OF 100 MM X 50 MM, 12 SWG MILD STEEL WELD MESH HAVING WIDTH OF 120 CM.



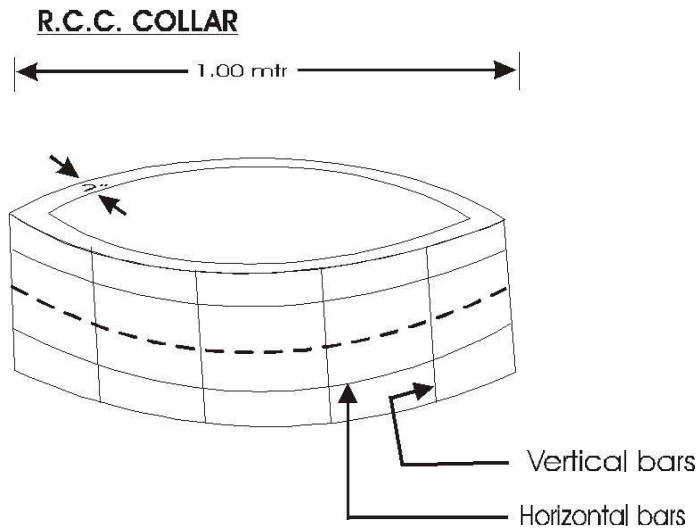
Note : All measurements are in centimeters.

Signature and seal of the Bidder

Fig.4

SPECIFICATION AND REINFORCEMENT DETAILS OF R.C.C. JOINT PROTECTION CHAMBERS

1. R.C.C. COLLAR



Specification :

1. Diameter : 1.00 Mtr.(inner side)
2. Thickness : 5 cm.
3. Height : 50 cm.
4. 6 mm Horizontal Iron round rings – 4 Nos.
5. 6 mm vertical bars Iron – 12 mm Nos.
6. 12 gauge GI wire mesh to be wrapped before reinforcing the concrete.

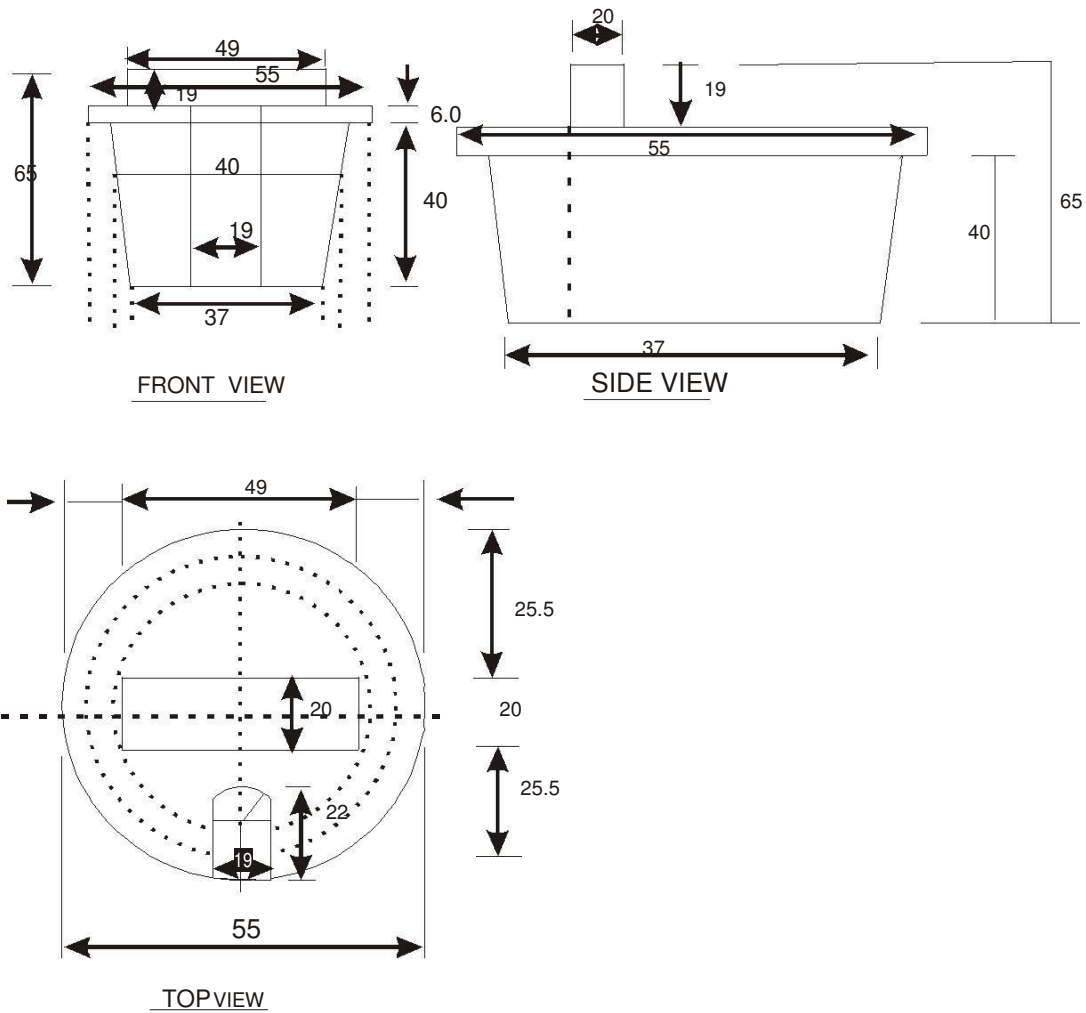
Note Please :

- a) Concrete 'Mix. 1: 2:3 (1 Cement : 2 Sand : 3 graded Stone aggregate 20 mm nominal size.
- b) Finishing : Smooth

Other conditions :

1. Prepared reinforcement to be shown to the DET OFC (P) FUNE on his representative before pouring Cement.
2. Concrete mixing to be made in his presence
3. The words O F C to be inscribed on top and bottom covers.
4. The top and bottom covers should also be reinforced and two handles should be provided for top cover & bottom covers .

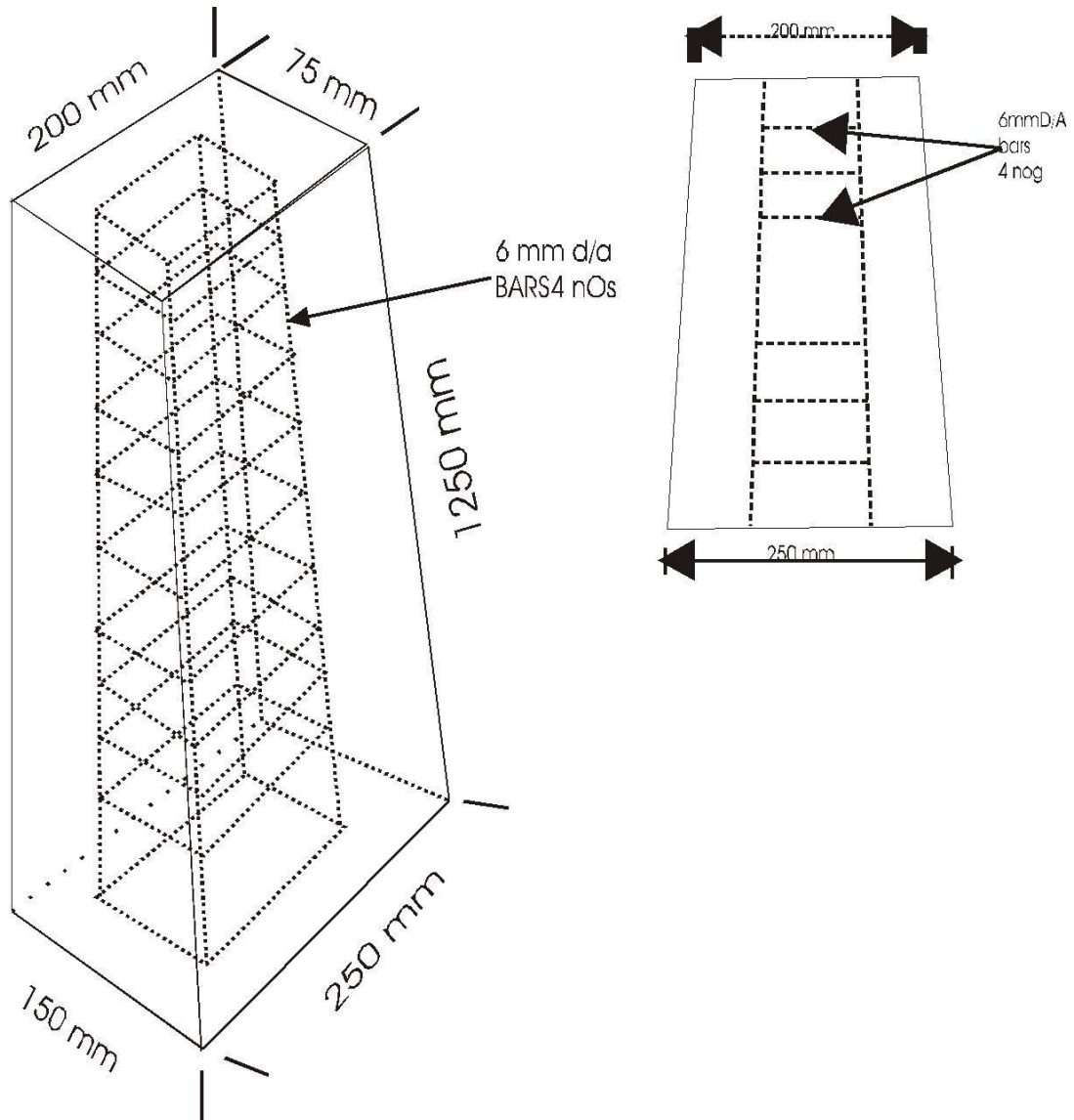
Fig.5
Rubber cork :



NOTE:

1. ALL DIMENSIONS ARE IN MM.
2. DIMENSIONS ARE ONLY FOR GUIDENCE. TAPPER SHOULD BE SUCH THAT IT SHOULD TIGHTLY FIX. INTO TYPE A & TYPE B HOPE 50 mm OO PIPES.

Fig.6

Route Indicator :

Signature and seal of the Bidder

SECTION – IX

AGREEMENT PERFORMA

The successful tenderer shall have to execute the following 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 CMD here in after referred to as the BSNL, of other part.

Where as the contractor has offered to enter into contract with the BSNL for the execution of work of trenching & pipe laying, OF cable pulling, OF cable Splicing and termination, Preparation of joint chamber, fixing, painting and sign writing of route/joint indicators and other associated works in the jurisdiction of GMTD Leh- Ladakh 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 contract that is to say fromtoor completion of work for Rs _____(in words) _____ whichever is earlier or until this contract shall be determined by such notice as is hereinafter mentioned, safely carryout, by means of labours employed at his own expenses and by means of tools, implements and equipment etc. to be supplied by him to his labour at his own expenses, all trenching , pipe laying, cable pulling, cable splicing, joint chamber preparation, fixing, painting and sign writing of route indicators and other associated work as described in tender documents (annexed to the agreement), when the BSNL or GMTD Leh- Ladakh or any other persons authorized by the GMTD Leh- Ladakh 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 requirement as demanded by exigencies of service.
- 2) The NIT (notice inviting Tender), 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 Contract” wherever herein used.
- 3) The contractor shall also supply the requisite number of workmen with means & materials as well as tools, appliances, 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 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 shall abide by the Labour Laws as under:

As per the existing one of the guidelines As per the provision of EPF & Misc. Provisions Act. 1952 & Employees Provident Fund Scheme 1952, EPF is to be deducted for each labour engaged by the contractors. For this the contractor shall have to take EPF code from the EPF/RPF Commissioner and do necessary deductions.

Signature and seal of the Bidder

To implement the said statutory requirements, the contractor should be registered with EPF/RPF Commissioner. They would have to furnish an undertaking that with in seven days of the close of every month, they will submit a statement showing recoveries of contribution in respect of employees with the certificate that the same has been deposited with PF Commissioner.

To comply the above provisions, each claim bill of contractors must accompany the i) The list showing the details of labourers/employees engaged ii) duration of their engagement iii) the amount of wages paid to such labourers/employees for the duration in question iv) amount of EPF Contributions (both employer's & employees' contribution) for the duration of engagement in question, paid to the EPF Authorities v) copies of authenticated documents of payments of such contribution to EPF authorities and vi) a declaration from the contractors regarding compliance of the conditions of EPF Act. 1952.

In witness whereof the parties presents have here into set their respective hands and seals the day and year
in _____

Above written :

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

Witness :

1.

2.

Signed & Delivered on behalf the BSNL the

Witness :

1.

2.

Signature and seal of the Bidder

SECTION X**LETTER OF AUTHORIZATION FOR ATTENDING BID OPENING**

Tender Number _____

Subject : Authorization for attending bid opening on _____(date) in the tender of

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.

Signature and seal of the Bidder

SECTION : XI

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 ;

- i) (a) Bid Security (EMD) in accordance to clause no.8 of Section IV.
(b) Tender Document Cost as per NIT.
- ii) Tender document(s), in original, duly filled in and signed by tenderer or his authorized representative along with seal on each page. All corrections and overwriting must be initialed with date by the tenderer or his authorized representative.
- iii) The self attested copy of experience certificate issued by the competent authority not below DET for last 5 years upto 2016-17.(Annexure xiv)
- iv) The copy of PAN Card & Latest income tax return filed.
- v) (a)The registration of the firm. (b)Authenticated copy of partnership deed in case of partnership firm.(c) Self Attested copy of Articles of Associations duly registered with Registrar of Company affairs, in case of Limited/Pvt. Limited company. (d) Proprietor certificate from the Proprietor of the firm that he is the sole Proprietor of the firm on firm letter head or the same certificate issued by the notary public on non-judiciary stamp paper, in case of Proprietary firm.
- vi) Bid Form, duly filled in, as per section II.
- vii) Tenderer's profile duly filled in, as per section III of the tender document.
- viii) Original "Power of Attorney " in case person other than the tenderer has signed the tender document.
- ix) List of qualified experienced personnel, who are working for the tenderer, who will be deployed for the work.
- x) The copy of EPF Registration certificate under EPF act, 1952 duly self attested.
- xi) The self attested copy of Valid Service Tax Registration Certificate in favour of the Firm/Proprietor.
- xii) Affidavit from the Tenderer that none of his/her relative working in BSNL (as per Section-XII).
- xiii) For tender of HDD works, either he should own HDD machine in his/her name/in the name of the firm or should have HDD machine on lease. The machine should be of 10 tons or above pullback capacity and should be able to bore up to 200 Meters in single stretch. The Lease of HDD Machine Should not be older than four months and should be valid for at least eight months from the date of NIT. The HDD machine should have been fitted with Ground Penetrating Radar (GPR) to avoid damage to existing underground cables/ Sewerage Pipes.

For ownership of HDD machine, the contractor should submit:

- (a) Make,Capacity,Serial Number of the HDD.
- (b) Bill of Lading.
- (c) Custom Clearance receipt to verify the ownership in case of those who own HDD Machine.Those having HDD machines on lease should enclose lease deed which should be valid for atleast 365 days from the date of opening of the tender.

xiv)The turn over of the company/contractor not less than 45% of the estimated cost of the work during the last 3 financial year upto 2016-17.

xv)The solvency certificate issued from the scheduled/nationalized bank should not be less than 40% of the estimated cost of each section for which the bidder is filing the bids. The Solvency certificate shall not be older than one year of the date of issue of NIT.

Example: If the bidder intends to file bid for section I (estimated cost Rs 1,84,00,000/-) then bidder has to submit solvency certificate for Rs. 73,60,000/-

Signature and seal of the Bidder

SECTION : XII

DECLARATION REGARDING NON-RELATIONSHIP WITH BSNL EMPLOYEES

(On Rs100/- Non judicial stamp paper)

(To be executed by bidder attested by Public Notary and submitted in original)

I/We _____ Prop. /Part. /Director M/s
_____ declare

1. That I/we or any of my / our partner(s) is/are neither working in any capacity in any units of BSNL (J&K Telecom. Circle) or in the Department of telecommunications within the jurisdiction of CTDM in J&K circle nor removed/dismissed from service of BSNL: or DOT unit.
2. **That I/we or any of my / our partner(s)/ relatives (as defined note below) are neither employed in any capacity nor removed / dismissed from J&K Telecom Circle or from DOT within the jurisdiction J&K Circle.**
3. That in case of change of partners or change in the constitution of the firm, I/we shall abide by condition 1&2 above and shall bring any change to the knowledge of GMT Leh Ladakh immediately.
4. i) That I/we shall intimate the names of the persons who are working with me/us at J&K Circle in any capacity or subsequently employed by me/us.
ii) That none of my /our employees is a removed / dismissed employee of either J&K Telecom. Circle or of any unit of DOT.
5. That I/we have not been debarred /black listed by any government / public sector /autonomous agencies/department/organization. Further /we also confirm that the works awarded to us have been completed to the satisfaction of the awarding agencies and that there had been no premature termination of contract for non performance of delayed execution on my /our part.
6. That I/we am/are aware that any breach of the above condition would render me /us liable to removed from the approved list of contractors of J&K Circle along with cancellation of existing contract and forfeiting of my/our earnest money deposit/ security deposit held by GMT BSNL Leh Ladakh.

STATION:

Name of the tenderer

With signature and capacity in which he is signing
(Office Seal)

Note: i) The term relative(s) means wife /husband /parents and grand parents /children /grand Children/ /brother /sisters /uncles /aunts /cousins and their corresponding in laws.
ii) If at any time it transpires that the information in the appendix is incorrect / wrong the contract is liable to be terminated forthwith without assigning any reason, besides forfeiting the EMD /SD any liable for initiating action for debarring the firm from entering into further contracts

Signature and seal of the Bidder

SECTION - XIII**RATES OF 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.

Sl. No.	Size of drums	Rate of disposal
1.	Optical Fibre cable drum	400/-

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

Signature and seal of the Bidder

SECTION – XIV**Experience certificate**

(To be issued by Divisional Engineer or above rank officer of BSNL/MTNL/DOT/HCL/TCIL/ITI/ITES/MES/PGCIL or any other Government/ Semi-Government/Autonomous/ Government undertaking organization who are executing U/G telephone cable / OFC cable laying works)

This is to certify that

M/S.....

.....

...

has successfully executed the U/G telephone cable/ OF cable laying work as under.

S.N	Name of work and route	Year of completion	Length in KMs
1			
2			
3			
4			
	Total length in km		

Date: -.....

Station: -.....

Signature and seal of issuing authority

NOTE: The contractor has to submit experience certificate for a quantity equal to $1/3^{\text{rd}}$ (33 1/3%) of the total quantum of work, in the zone for which he is submitting his bid, in the last five years. The experience certificate shall be signed by any officer not less than the rank of DE.

Example: If the contractor intends to bid for Zone II, for which the total quantum of work involved is 50 KMs, then the bidder shall have experience for at least 17 KMs, which he should have executed during the last five years i.e., 2016-17,2015-16,2014-15,2013-14,and 2012-13.

Signature and seal of the Bidder

SECTION -XV**(Not applicable as to be submitted in shape of FDR)****PERFORMANCE SECURITY GUARANTEE (BOND FORM)**

1. In consideration of the CMD Bharat Sanchar Nigam Limited (hereinafter called "BSNL") having agreed to exempt.....(hereinafter called "Bidder") from the demand, under the terms and conditions of an agreement/ (purchase order) No.....dated.....made between.....and.....for the supply of.....(hereinafter called "the said AGREEMENT") of Security Deposit for the due fulfillment by the bidder of the terms and conditions contained in the said Agreement, on production of the Bank Guarantee for.....we, (name of the Bank).....(hereinafter referred to as "the Bank") at the request of(Bidder) 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 of any breach by bidder 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 demure, merely on a demand from the BSNL by reason of breach by the said bidder of any of terms or conditions contained in the said agreement or by reasons of the bidder's failure to perform the said agreement. Any such demand made on the bank shall be conclusive as regard 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 bidder in any suit or proceeding pending 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 bidder 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

Signature and seal of the Bidder

or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till (office/department) BSNL certifies that the terms and conditions of the said agreement have been fully or properly carried out by bidder and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the expiry of(period as specified in PO) from the date hereof, we shall be discharged from all liabilities 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 obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the bidder from time to time or to postpone for any time or from time to time any of the powers exercisable by the BSNL against bidder 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 bidder or for any forbearance, act or omission on the part of BSNL or any indulgence by the BSNL to bidder or by any such matter or thing whatsoever which under the law relating to the sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to change in the constitution of the Bank or bidder.

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 Day of

For

(Indicate the name of bank)

SECTION -XVI

BID DOCUMENT
[FINANCIAL BID]

**E-Tender For Optical Fibre Cable
Maintenance/Construction Works**

NIT No. **759-I-GMT/Leh/OFC Tender Works/2017-18/1**

Dated 04.07.2017

Office of General Manager Telecom Leh - Ladakh
Near New Bus stand, Leh-194101

Name of Work : Leh (Sec –I)

**OF cable Laying work through Trenching/Trenchless
Technology including carrying out other associated works for
faults/Protective works in the areas of Leh SSA**



BHARAT SANGHAR NIGAM LTD.

Quotation of Rates

To

The G.M.T. BSNL Leh-Ladakh.

Subject: Our Financial Bid for Leh (Zone-I) for laying PLB Pipes /Coils
by Open Trenching/ Trenchless Technology including carrying out other
associated works in jurisdiction of G.M.T. BSNL Leh-Ladakh

NIT No. 759-I-GMT/Leh/OFC Tender Works/2017-18/1

Dated 04/07/2017

Dear Sir,

Having examined the tender document, terms and conditions stipulated therein, specification of works etc., we the undersigned offer to execute the OFC Trenching Works in conformity with the said specifications and condition of contract at the percentage (Below/At Par/Above) on standard schedule rates quoted as under:

BELOW	In figures -----% In words ----- percent
--------------	---

OR

AT PAR	<div style="display: flex; justify-content: space-between;"> -----figures % </div> <div style="display: flex; justify-content: space-between;"> In words----- percent </div>
---------------	--

OR

ABOVE	<div style="display: flex; justify-content: space-between;"> -----figures % </div> <div style="display: flex; justify-content: space-between;"> In words----- percent </div>
--------------	--

If our Bid is accepted, we shall submit the securities as per the condition mentioned in the contract.

We agree to abide by this Bid for a period of 365 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.

I/We here by undertake to give progress of at least one Km per week.

I/We have seen the clause-3 of Section-VI regarding obtaining the easements, permits & license from various concerned authorities which is necessary to do the work as per the work order as well as I understand the responsibility for quoting the rates for execution of work keeping in view of clause-3 in Section-VI of tender Document.

Dated-----/-----/-----

Signature of the tenderer-----

Name of the tenderer-----

Signature and seal of the Bidder

STANDARD SCHEDULE OF RATES FOR OF. CABLE CONSTRUCTION WORKS
Tender for O F Cable maintenance/construction works in Leh SDCA
(Zone-1).

S.No.	Description of Work	Unit	Rate (In Rs.)	Quantity	Amount (In Rs.)
1.	Excavating trenches of dimentions (width 0.45m top and 0.30 bottom) upto a depth of 165com, dressing sides.bed leveling and dewatering of rain water and back filling the excavated trenches after laying the HDPE pipe with or without protection including diversion for traffic, night signals, fixing of caution boards, watching, fencing, cutting trees and bushes etc. and sundries lump sum.				
	A. Non-Rocky soil (Soft soil)/Kachcha Soil	Per Mtr	100	5000	500000
	B. Rocky-soft soil (Soft Rock)/Pucca Soil	Per Mtr	251	48000	12048000
	For description of soils as per Points A., B. and C. above refer Section VIII under sub-clause 4.1 Page No. 59 and Page No. 60				
1.2	Trenchless digging with HDD machine to lay PLB pipes, including PLB pipe laying (HDD machine having a capacity more than 10 Tonn pull-back and should be able to bore upto 200 meters in a single stretch) as per construction specification of the tender to a depth of 1.65 Mtrs in bituminized/concrete set stone and avoiding any damage to the existing under ground cables/public property				
	A. Laying of PLB pipe/coils (single pipe)	Per Mtr	180	0	0
	B. Laying of PLB pipe/coils (02-03 pipes)	Per Mtr	240	0	0
	C. Laying of PLB pipe/coils (04-07)	Per Mtr	300	0	0
BSNL will supply HDPE pipes in size 5m or coils, HDPE sockets, and caps only. All other material and equipment/tools required for executing the said work are to be supplied by the contractor					
2	Laying of HDPE pipes/coils coupled with HDPE sockets and drawing 6mm PP rope including carriage from stores	Per Mtr	7	53000	371000
2.1	Laying of PLB pipe/GI pipe duct through horizontal manual boring method for Road/rail crossing including transportation of GI pipe for laying of 40mm PLB pipe. (The GI pipe of 65mm dia will be supplied by BSNL)	Per Mtr	130	0	0
2.2	Laying and fixing 65 mm/40 mm GI pipes in trenches with HDPE pipes/coils inside and drawing PP rope.	Per Mtr	20.25	0	0
BSNL will supply GI pipes in lengths approximately 6m, HDPE pipes/coils. All other material and equipment/tools required for executing the said work are to be supplied by the contractor					
2.3	A. Laying and fixing 65 mm/40 mm GI pipeson bridges and culverts with HDPE pipes/coils inside and drawing PP rope rope.	Per Mtr	20.25	0	0
BSNL will supply GI pipes in lengths approximately 6m, HDPE pipes/coils and clamps only. All other material and equipment/tools required for executing the said work are to be supplied by the contractor					

Signature and seal of the Bidder

2.4	A. Laying full round RCC pipes in trenches in HDPE pipes/coils inside and drawing PP rope including fixing and sealing.	Per Mtr	Nil	0	0
	B. Laying full round DWC pipes in trenches in HDPE pipes/coils inside and drawing PP rope including fixing and sealing.	Per Mtr	12	20000	240000
2.4	A. Laying RCC split pipes in trenches in HDPE pipes/coils inside and drawing PP rope including fixing and sealing.	Per Mtr	Nil	0	0
	B. Laying DWC split pipes in trenches in HDPE pipes/coils inside and drawing PP rope including fixing and sealing.	Per Mtr	Nil	0	0
2.5	A. Providing RCC,1:2:4, protection at site to HDPE or GI pipes and drawing PP rope	Per Mtr	200	1000	200000
	B. Cleaning and clearing of duct	Per Mtr	Nil	0	0
	C. Dewatering of man holes located in existing ducts (Per number)	Per Man hole	Nil	0	0
BSNL will supply HDPE pipes/GI pipes. All other material required for concreting including water for curing required for the work and also the equipment required for executing the work shall be arranged by the contractor					
3	A. Opening of man holes, replacing 6mm PP rope by 8mm PP rope, pulling of OF cable, sealing HDPE pipes/rubber bushes in man holes, providing HDPE/RCC split pipes in man holes/back filling of man hole.	Per Mtr	20	60000	1200000
	B. Pulling of cable by blowing method	Per Mtr	Nil	0	0
	C. Cable pulling in old ducts.	Per Mtr	Nil	0	0
BSNL will supply OF cable, rubber bush, split RCC/HDPE pipes, clamps. All other material and equipment required for executing the work shall be arranged by the contractor					
4	Splicing of all the fibres of OF cable laid at every joint and making termination at the ends.				
	a) 6 Fibres	Per Joint/termination	Nil	0	0
	b) 12 Fibres	Per Joint	Nil	0	0
	c) 6 Fibre/12 Fibre/24 Fibres	Per Joint	3300	28	92400
	d) 48 Fibres	Per Joint	3300	0	0
	e) 96 Fibres	Per Joint	6400	0	0
BSNL will supply jointing kits only. All other material and equipment including splicing machine required for the work shall be arranged by the contractor					
5	Digging of pit for jointing chamber, construction of brick chamber, filling of brick chamber with clean sand, supply and placing of precast RCC slabs (cm thickness) on brick chamber and back filling of jointing pit.	Per Chamber	Nil	0	0
The contractor shall arrange all materials and equipment required for the work					

Signature and seal of the Bidder

5.1	Digging of pit for jointing chamber, supply and fixing of precast RCC rings filling of RCC chamber with clean sand, supply and placing of precast RCC slabs on RCC chamber and back filling of jointing pit.	Per jointing Chamber	5000	0	0
The contractor shall arrange all materials and equipment required for the work					
6	Digging of pit 1 m (size 0.6mx0.6mx0.75m) towards jungle side on each manhole/joint chamber, for fixing of route/joint indicator, fixing and concreting of routes/joint indicator. Painting and sign writing of route/joint indicators. The RCC should have the dimensions viz, base 250mmx150mm, top-200mmx75mm height-1250mm	Per Indicator	620	0	0
The contractor shall arrange all materials required for the work including Joint Indicators					
7	Documentation (one set comprises of four hard copies and two soft copies of documents for each route/section)	Per Km.(set of six copies)	250	53	13250
The contractor shall arrange all materials including equipment required for the work					
8	Cost of empty cable drums of size 6/12/24 fibers (be recovered from the contractor)	Per drum	400	27	-10800

Say Rs 1,46,53,850=00

Signature and seal of the Bidder

Terms and conditions

- 1(i). It will be the responsibility of contractor to obtain ROW /Permission. Keeping in view the trenching rates have been suitably raised for this purpose the contractor shall have to coordinate with various authorities on behalf of the BSNL.
- (ii). The payment of the ROW/ Permission charges such as the reinstatement charges to Govt. Agencies concerned will however be made by BSNL.
2. BSNL will supply the PLB /HDPE /GI /RCC /DWC Pipes, OF cable, PLB pipe couplers, end cap etc.
3. All the stores to be supplied by BSNL are to be transported by the contractor from the divisional store of the concerned DET OFC in charge of the work.
4. The contractor will have to lay DWC split or DWC full /RCC split / RCC full or slabs as a protection depending upon the availability of the store and as per site conditions. The rates for laying shall be paid as per the schedule mentioned above.
5. The items as per the serial No. 10 is optional, the contractor will have to provide it, if not supplied by BSNL.
6. The instructions applicable for DOT/BSNL regarding the subject matter should be followed strictly.
7. The quantities mentioned from S.No. 1 to 15 may be vary however the rates will remain the same.
8. Rates of open trenching have been calculated on the basis of surface survey. The quantity depths is approximate and will be considered at the time of actual execution of work by the site incharge/AGM LEH.
9. In HDD portions the hand holes / chambers are to be provided at length of 400 Mtrs each to keep the spare cable for use in maintenance purpose.
10. The rates should be inclusive of all State & Central taxes (like WCT, TDS etc.)

BID DOCUMENT

[FINANCIAL BID]

E-Tender For Optical Fibre Cable Maintenance/Construction Works

NIT No. **759-I-GMT/Leh/OFC Tender Works/2017-18/1**

Dated 04.07.2017

Office of General Manager Telecom Leh - Ladakh
Near New Bus stand, Leh-194101

Name of Work : Kargil (Sec –II)

**OF cable Laying work through Trenching/Trenchless
Technology including carrying out other associated works for
faults/Protective works in the areas of Leh SSA**



Quotation of Rates

To

The G.M.T. BSNL Leh-Ladakh.

Subject: Our Financial Bid for Kargil (Sec-II) for laying PLB Pipes /Coils
by Open Trenching/ Trenchless Technology including carrying out other
associated works in jurisdiction of G.M.T. BSNL Leh-Ladakh

NIT No. 759-I-GMT/Leh/OFC Tender Works/2017-18/1
dated 04/07/2017

Dear Sir,

Having examined the tender document, terms and conditions stipulated therein, specification of works etc., we the undersigned offer to execute the OFC Trenching Works in conformity with the said specifications and condition of contract at the percentage (Below/At Par/Above) on standard schedule rates quoted as under:

BELOW	In figures -----% In words percent
--------------	--

OR

AT PAR	<div style="display: flex; justify-content: space-between;"> -----In figures % </div> <div style="display: flex; justify-content: space-between;"> In words----- percent </div>
---------------	---

OR

ABOVE	<div style="display: flex; justify-content: space-between;"> -----In figures % </div> <div style="display: flex; justify-content: space-between;"> In words----- percent </div>
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If our Bid is accepted, we shall submit the securities as per the condition mentioned in the contract.

We agree to abide by this Bid for a period of 365 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.

I/We here by undertake to give progress of at least one Km per week.

I/We have seen the clause-3 of Section-VI regarding obtaining the easements, permits & license from various concerned authorities which is necessary to do the work as per the work order as well as I understand the responsibility for quoting the rates for execution of work keeping in view of clause-3 in Section-VI of tender Document.

Dated-----/-----/-----

Signature of the tenderer-----

Name of the tenderer-----

Signature and seal of the Bidder

STANDARD SCHEDULE OF RATES FOR OF. CABLE CONSTRUCTION WORKS
Tender for OF Cable maintenance/construction works in Kargil SDCA
(Zone-II).

S.No.	Description of Work	Unit	Rate (In Rs.)	Quantity	Amount (In Rs.)
1.	Excavating trenches of dimentions (width 0.45m top and 0.30 bottom) upto a depth of 165com, dressing sides.bed leveling and dewatering of rain water and back filling the excavated trenches after laying the HDPE pipe with or without protection including diversion for traffic, night signals, fixing of caution boards, watching, fencing, cutting trees and bushes etc. and sundries lump sum.				
	A. Non-Rocky soil (Soft soil)/Kachcha Soil	Per Mtr	100	8000	800000
	B. Rocky-soft soil (Soft Rock)/Pucca Soil	Per Mtr	251	42000	10542000
	For description of soils as per Points A., B. and C. above refer Section VIII under sub-clause 4.1 Page No. 59 and Page No. 60				
1.2	Trenchless digging with HDD machine to lay PLB pipes, including PLB pipe laying (HDD machine having a capacity more than 10 Tonn pull-back and should be able to bore upto 200 meters in a single stretch) as per construction specification of the tender to a depth of 1.65 Mtrs in bituminized/concrete set stone and avoiding any damage to the existing under ground cables/public property				
	A. Laying of PLB pipe/coils (single pipe)	Per Mtr	180	0	0
	B. Laying of PLB pipe/coils (02-03 pipes)	Per Mtr	240	0	0
	C. Laying of PLB pipe/coils (04-07)	Per Mtr	300	0	0
BSNL will supply HDPE pipes in size 5m or coils, HDPE sockets, and caps only. All other material and equipment/tools required for executing the said work are to be supplied by the contractor					
2	Laying of HDPE pipes/coils coupled with HDPE sockets and drawing 6mm PP rope including carriage from stores	Per Mtr	7	50000	350000
2.1	Laying of PLB pipe/GI pipe duct through horizontal manual boring method for Road/rail crossing including transportation of GI pipe for laying of 40mm PLB pipe. (The GI pipe of 65mm dia will be supplied by BSNL)	Per Mtr	130	0	0
2.2	Laying and fixing 65 mm/40 mm GI pipes in trenches with HDPE pipes/coils inside and drawing PP rope.	Per Mtr	20.25	0	0
BSNL will supply GI pipes in lengths approximately 6m, HDPE pipes/coils. All other material and equipment/tools required for executing the said work are to be supplied by the contractor					
2.3	A. Laying and fixing 65 mm/40 mm GI pipeson bridges and culverts with HDPE pipes/coils inside and drawing PP rope rope.	Per Mtr	20.25	0	0
BSNL will supply GI pipes in lengths approximately 6m, HDPE pipes/coils and clamps only. All other material and equipment/tools required for executing the said work are to be supplied by the contractor					

Signature and seal of the Bidder

2.4	A. Laying full round RCC pipes in trenches in HDPE pipes/coils inside and drawing PP rope including fixing and sealing.	Per Mtr	Nil	0	0
	B. Laying full round DWC pipes in trenches in HDPE pipes/coils inside and drawing PP rope including fixing and sealing.	Per Mtr	12	20000	240000
2.4	A. Laying RCC split pipes in trenches in HDPE pipes/coils inside and drawing PP rope including fixing and sealing.	Per Mtr	Nil	0	0
	B. Laying DWC split pipes in trenches in HDPE pipes/coils inside and drawing PP rope including fixing and sealing.	Per Mtr	Nil	0	0
2.5	A. Providing RCC,1:2:4, protection at site to HDPE or GI pipes and drawing PP rope	Per Mtr	200	1000	200000
	B. Cleaning and clearing of duct	Per Mtr	Nil	0	0
	C. Dewatering of man holes located in existing ducts (Per number)	Per Man hole	Nil	0	0
BSNL will supply HDPE pipes/GI pipes. All other material required for concreting including water for curing required for the work and also the equipment required for executing the work shall be arranged by the contractor					
3	A. Opening of man holes, replacing 6mm PP rope by 8mm PP rope, pulling of OF cable, sealing HDPE pipes/rubber bushes in man holes, providing HDPE/RCC split pipes in man holes/back filling of man hole.	Per Mtr	20	56000	1120000
	B. Pulling of cable by blowing method	Per Mtr	Nil	0	0
	C. Cable pulling in old ducts.	Per Mtr	Nil	0	0
BSNL will supply OF cable, rubber bush, split RCC/HDPE pipes, clamps. All other material and equipment required for executing the work shall be arranged by the contractor					
4	Splicing of all the fibres of OF cable laid at every joint and making termination at the ends.				
	a) 6 Fibres	Per Joint/termination	Nil	0	0
	b) 12 Fibres	Per Joint	Nil	0	0
	c) 6 Fibre/12 Fibre/24 Fibres	Per Joint	3300	24	79200
	d) 48 Fibres	Per Joint	3300	0	0
	e) 96 Fibres	Per Joint	6400	0	0
BSNL will supply jointing kits only. All other material and equipment including splicing machine required for the work shall be arranged by the contractor					
5	Digging of pit for jointing chamber, construction of brick chamber, filling of brick chamber with clean sand, supply and placing of precast RCC slabs (cm thickness) on brick chamber and back filling of jointing pit.	Per Chamber	Nil	0	0
The contractor shall arrange all materials and equipment required for the work					

Signature and seal of the Bidder

5.1	Digging of pit for jointing chamber, supply and fixing of precast RCC rings filling of RCC chamber with clean sand, supply and placing of precast RCC slabs on RCC chamber and back filling of jointing pit.	Per jointing Chamber	5000	0	0
The contractor shall arrange all materials and equipment required for the work					
6	Digging of pit 1 m (size 0.6mx0.6mx0.75m) towards jungle side on each manhole/joint chamber, for fixing of route/joint indicator, fixing and concreting of routes/joint indicator. Painting and sign writing of route/joint indicators. The RCC should have the dimensions viz, base 250mmx150mm, top-200mmx75mm height-1250mm	Per Indicator	620	0	0
The contractor shall arrange all materials required for the work including Joint Indicators					
7	Documentation (one set comprises of four hard copies and two soft copies of documents for each route/section)	Per Km.(set of six copies)	250	50	12500
The contractor shall arrange all materials including equipment required for the work					
8	Cost of empty cable drums of size 6/12/24 fibers (be recovered from the contractor)	Per drum	400	25	-10000

Say Rs 1,33,33,700=00

Signature and seal of the Bidder

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