



RAILTEL CORPORATION OF INDIA LIMITED

6A, 6th Floor, Gumidelli Towers, Opp: Shoppers Shop, Begumpet, Hyderabad - 16

ELECTRONIC TENDER DOCUMENT

SPECIAL LIMITED TENDER NO: RailTel/SR/SC/SLT/2025-26/25

Dt. 25-03-2026

Name of the Work

“HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable in Visakhapatnam.”

Download of Tender document and submission of offer at e-tender portal:

www.https://railtel.enivida.com

Submission of offers

- 1) Submission of offers - Online along with all scanned copies (as per tenderer data sheet).**
- 2) Submission of documents as per tender document – Online only (as per tenderer data sheet). (EMD, Technical & Financial Eligibility documents, other details and Affidavit submission)**



RailTel Corporation of India Limited

A Government of India (Ministry of Railways) Undertaking

Southern Region Head Quarters, 6A, 6th Floor, Gumidelli Towers, Opp: Shoppers Shop, Begumpet, Hyderabad – 16, visit www.railtelindia.com, Tel: 040-27821134 Fax: 27820682

SPECIAL LIMITED TENDER NOTICE / खुली निविदा सूचना

E-SLT Notice No: RailTel/SR/SC/SLT/2025-26/25

Date: 25-03-2026

RailTel Corporation of India Ltd., Secunderabad invites Bids for special limited tender from established contractors with proven experience for the work of "HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable in Visakhapatnam" as detailed below.

रेलटेल कॉर्पोरेशन ऑफ इंडिया लिमिटेड, सिकंदराबाद "विशाखापत्तनम में ऑप्टिकल फाइबर केबल के एचडीडी, ट्रेचिंग, बिछाने, स्प्लिसिंग, समाप्ति, परीक्षण और कमीशनिंग" के काम के लिए सिद्ध अनुभव वाले स्थापित ठेकेदारों से विशेष सीमित निविदा के लिए ई-बोलियां आमंत्रित करता है। नीचे।

a)	Tender Document available for download / निविदा दस्तावेज डाउनलोड के लिए उपलब्ध	25-03-2026
b)	Last date and time for submission of tender documents & online offers/ निविदा दस्तावेज & ऑनलाइन ऑफ़र जमा करने की अंतिम तिथि और समय	08-04-2026 on or before 15.00 hrs.
c)	Opening date and time of tender documents / निविदा दस्तावेजों के खुलने की तिथि और समय	08-04-2026 at 15.30 hrs.
d)	Approx. Estimated Cost of Tender / लगभग निविदा की अनुमानित लागत	₹ 1,56,35,037/-
e)	Earnest Money Deposit (EMD) # / बयाना राशि जमा (ईएमडी) #	₹ 3,12,800/-
f)	Validity of offer	20 days from the date of opening of tender
g)	Completion period	85 days from the date of issue of LOA

Bidders are requested to submit all e-tender related documents / supporting copies along with all necessary formats duly filled at <https://railtel.enivida.com> only. No offline bids allowed.

बोलीदाताओं से अनुरोध है कि वे सभी ई-निविदा संबंधी दस्तावेज/समर्थन प्रतियाँ सभी आवश्यक प्रारूपों के साथ विधिवत भरे हुए <https://railtel.enivida.com> पर ही जमा करें। कोई ऑफ़लाइन बोली की अनुमति नहीं है।

Note: This notice is being published for information only and is not an open invitation to quote in this Special limited tender. Participation in this tender is by invitation only and is limited to the selected firms. Unsolicited offers are liable to be ignored."

Eligibility Criteria / पात्रता मापदंड: not applicable

**** Note / ध्यान दें:**

1. Works contracts are not covered under purview of Public Procurement Policy for MSEs order 2012 and instant tender is works contract tender. Accordingly exemption is not applicable to MSEs for submission of EMD. **Hence, tenderers should submit EMD along with bid failing which their bid will not be considered for evaluation and summarily rejected.**
2. Only class-I local suppliers will be considered. Quantities are not divisible between Class-I and Class-II local suppliers.
3. The bidder shall bear all costs associated with the preparation, submission/participation in the bid. Purchaser in no way will be responsible or liable for these costs regardless of the conduct or outcome of

the bidding process. / बोलीदाता को बोली तैयार करने, प्रस्तुत करने/बोली में भाग लेने से संबंधित सभी लागतों को वहन करना होगा। बोली प्रक्रिया के आचरण या परिणाम की परवाह किए बिना इन लागतों के लिए खरीदार किसी भी तरह से जिम्मेदार या उत्तरदायी नहीं होगा

Tender Notice and Tender Document are available and can be downloaded from the e-Tendering portal www.https://railtel.enivida.com. For online bid submission the tenderer will have to necessarily download an official online copy of the tender documents from e-procurement portal All future Information viz. corrigendum /addendum/ amendments etc. for this Tender shall be posted on the e-Tendering Portal only. Printed copy of Tender document will not be sold from RailTel office.

The tender offers are deemed to be valid for acceptance for a period of 20 days from the date of opening of the tender. Late/delayed/ incomplete tenders and tender bids without submission of EMD /with insufficient EMD will be summarily rejected.

Sd/-
TM/BZA

RailTel Corporation of India Limited, Begumpet, Hyderabad
रेलटेल कॉर्पोरेशन ऑफ इंडिया लिमिटेड



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Section Online
Chapter -1
E-Tendering Instructions to Tenderers

e-Tendering/Bid Receipt (Online/Offline Activities Explained)

Availability of e-Tender Document:

Tender Notice and Tender Document are available on RailTel's website and can be downloaded from www.railtelindia.com (or) from the e-Tendering portal <https://railtel.enivida.com>. Printed copy of Tender document will not be sold from RailTel office.

1. Submission of Bids only through online process is mandatory for this Tender

E-Tendering is a new methodology for conducting Public Procurement in a transparent and secured manner. Now, the Government of India has made e-tendering mandatory. Suppliers/Vendors will be the biggest beneficiaries of this new system of procurement. For conducting electronic tendering, RailTel has decided to use the portal <https://railtel.enivida.com> E-Procurement system (E-NIVIDA). Benefits to Suppliers are outlined on the Home-page of the portal. Bidders are advised to visit the E-NIVIDA Portal for details related to E-Tender i.e. Registration, FAQ, Helpdesk, Learning Center etc

2. Tender Bidding Methodology:

Sealed Bid System - 'Single Stage - Single Envelope': In this, bidder has to submit the Technical as well as financial bid / Price Bid in single envelope **"ONLINE"**.

E-NIVIDA Helpdesk

Please visit Helpdesk section on E-NIVIDA Portal.

Phone No.: - 011-49606060 / 9205898228

Mail id: - eprocurement@RailTelindia.com

RailTel's Contact Person & Designation

Shri DEVENDRA DATT KANSWAL

AGM/O&M/CITY ACCESS/SC/RCIL

Mobile : 9794846140 E-Mail Id: devendra@railtelindia.com

3. Broad outline of submissions are as follows:

- I. Submission of Tender document cost (if applicable) & EMD.
- II. Submission of digitally signed copy of Tender Documents/Addenda
- III. Tenderer has to submit both Technical and Financial bid as Single Packet
- IV. Online response to Terms & Conditions of Tender.

NOTE: Bidder must ensure that the bid must be successfully submitted online as per instructions of E-Nivida Portal.

GUIDELINES FOR REGISTRATION

Bidders are required to enroll on the e-Procurement Portal (<https://railtel.enivida.combidderRegistration/newRegistration>) or click on the link "Bidder Enrolment" available on the home page of e-tender Portal by paying the Registration fee of Rs.2000/-+Applicable GST or as mentioned in the portal.

As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication with the bidders.

Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Only Class III Certificates with signing + encryption key usage) issued by any Certifying Authority recognized by CCA India (e.g., Sify / TCS / nCode / eMudhra etc.), with their profile.

Only valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.

Bidder then logs in to the site through the secured log-in by entering their user ID /password and the password of the DSC /e-Token.

The scanned copies of all original documents should be uploaded in pdf format on e-tender portal.

After completion of registration payment, bidders need to send their acknowledgement copy on our help desk mail id eprourement@RailTelindia.com for activation of account.

SEARCHING FOR TENDER DOCUMENTS

There are various search options built in the e-tender Portal, to facilitate bidders to search active tenders by several parameters.

Once the bidders have selected the tenders they are interested in, they can pay the Tender fee and processing fee (NOT REFUNDABLE) by net-banking / Debit / Credit card then you may download the required documents / tender schedules, Bid documents etc. Once you pay both fee tenders will be moved to the respective 'requested' Tab. This would enable the e- tender Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

PREPARATION OF BIDS

Bidder should take into account any corrigendum published on the tender document before submitting their bids.

Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid.

Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF formats. Bid Original documents may be scanned with 100 dpi with Color option which helps in reducing size of the scanned document.

To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g., PAN card copy, GST, Annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Documents" available to them to upload such documents.

These documents may be directly submitted from the "My Documents" area while submitting a bid and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process. Already uploaded documents in this section will be displayed. Click "New" to upload new documents.

SUBMISSION OF BIDS

Bidder should log into the website well in advance for the submission of the bid so that it gets uploaded well in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document as a token of acceptance of the terms and conditions laid down by RailTel.

Bidder has to select the payment option as “e-payment” to pay the tender fee / EMD as applicable and enter details of the instrument.

In case of BG bidder should prepare the BG as per the instructions specified in the tender document. The BG in original should be posted/couriered/given in person to the concerned official before the Online Opening of Financial Bid. In case of non-receipt of BG amount in original by the said time, the uploaded bid will be summarily rejected.

Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white Colored(unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

The server time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

Upon the successful and timely submission of bid click “Complete” (i.e. after Clicking “Submit” in the portal), the portal will give a successful Tender submission acknowledgement & a bid summary will be displayed with the unique id and date & time of submission of the bid with all other relevant details.

The tender summary has to be printed and kept as an acknowledgement of the submission of the tender. This acknowledgement may be used as an entry pass for any bid opening meetings.

4. Document submission:

Power of Attorney on stamp paper in favour of the signatory duly authorizing the signatory shall be submitted (or) as and when requested by RailTel (offline). However, scanned Power of Attorney (POA) must be submitted at E-NVIDA portal along with bid before opening of tender (Online).

Notarized Affidavit on stamp paper in original to be submitted as per clause No. 16.1 (ii) instructions to tenderer’s section II chapter I (or) as and when requested by RailTel (offline) . But the scanned Affidavit must be submitted at E-NVIDA portal along with bid before opening of tender (online).

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

5. Submission of Eligibility Criteria related documents: not applicable

Eligibility criteria related documents viz. Technical & Financial Credential certificates and other documents as applicable. **Bids received without submission of eligibility criteria supporting documents will be summarily rejected.**

NOTE: In case of internet related problem at a bidder’s end, especially during ‘critical events’ such as - a short period before bid-submission deadline, during online public tender opening event, during e-auction, it is the bidder’s responsibility to have backup internet connections.

In case there is a problem at the e-procurement/ e-auction service provider's end (in the server, leased line, etc) due to which all the bidders face a problem during critical events, and this is brought to the notice of RailTel by the bidders in time, then RailTel will promptly re-schedule the affected event(s).

6. Instructions for Tender Document TO THE BIDDERS

The RailTel Tenders are published on www.railtelindia.com and on E-NIVIDA portal <https://railtel.enivida.com>

NOTE: For online bid submission the bidder will have to necessarily download an official online copy of the tender documents from E-NIVIDA portal, and this should be done well before the deadline for bid-submission.

7. Submission of Offers and Filling of Tender:

This e-tender should be duly submitted online using the e-Procurement Portal <https://railtel.enivida.com>. For detailed instructions please refer to E-NIVIDA Portal.

8. Attendance of Representatives for Tender Opening: Representatives of bidders desirous to attend the tender opening can do so, on online.

9. **Addenda / Corrigenda:** Addenda / Corrigenda to the tender documents may be issued by RailTel prior to the date of opening of the tenders, to clarify or reflect modifications in the contract terms and conditions or in the design. Such addendum/corrigendum shall be available on E-NIVIDA Portal only. Bidders who are unable or unwilling to bring their tenders to conform to the requirements of the RailTel are liable to be rejected.

10. Ambiguity/ Pre- Bid Clarification Requests:

If there is any ambiguity or doubt as to the meaning of any of the tender clauses/ conditions or if any additional information required, the matter should immediately be referred to the RailTel in writing through emails to RailTel Contacts defined above. All clarification shall be responded through email.

11. Bid submission and Opening date

- 11.1 The bid should be submitted online along with Credential/Techno commercial & Price bid document (all documents).
- 11.2 Power of attorney in favor of the signatory duly authorizing the signatory shall be submitted in a separate envelope to the tendering authority before the due date and time of submission of the e-Tender.
- 11.3 The bidder's bids will be opened at the time & date of opening of the tender given in the Bid Data Sheet (BDS) online simultaneous in presence of such Bidders/ Representatives who choose to be present online.

12. Other Instructions

For further instructions, the vendor should visit the home-page of the portal <https://railtel.enivida.com>, and go to the User-Guidance Center.

13. Additional Instructions: Please note

For E-Tendering bids /information by bidders is to be submitted "Online" on E-NIVIDA's e-Procurement Portal. Any document / information pertaining to this chapter will have to be submitted by the bidder online. The digital signature of the tenderer on the e-tender form will be considered as confirmation that the tenderer has read, understood and accepted all the documents. All columns should be filled and blank columns if any should be marked as

NIL. Please read the Schedule of Requirements, Instructions to the tenderers, General and Special Conditions including Technical Specifications before filling up the Tender Form carefully.

14. Bids received after due date and time shall be summarily rejected and shall not be opened



SECTION – I
Chapter -1
Preamble

Tender No. RailTel/SR/SC/SLT/2025-26/25

Dated 25-03-2026

1. **Name of work:** HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable in Visakhapatnam as per schedule of requirement.
2. **Scope of work:** The broad responsibility of the contractor under the scope of work for this tender shall be, "Supply of items conforming to industry standards and execution of OFC in location mentioned above as per schedule and the Technical Specifications:
3. **Awarding or not awarding is at the sole discretion of the RailTel Corporation of India Ltd.**
4. **Tender offers:** The tenderers are required to quote percentage rate for the complete work. The quote shall be in figures and words. If there is any discrepancy in the quoted rate between figures and words, the rate quoted in words will be taken as final.
5. **Cost of Tender Book per Section: not applicable .**
6. **Qualifying Criteria** -not applicable.
7. **Last date of Submission:** The tender shall be received up to 15.00 hrs of 08-04-2026 through E-NIVIDA (online)
8. **Date of Opening of Tender:** The tender will be opened at 15.30 hrs on 08-04-2026 through E-NIVIDA (online).
9. **Completion Period of Work:** The work should complete within 85 days from the date of issue of Letter of Acceptance/PO
10. **Address to which correspondence and documents relating to the Contract should be sent:** Principle Executive Director / Regional General Manager (Southern Region), RailTel Corporation of India Ltd, 6A, 6th Floor, Gumidelli Towers, Opp: Shoppers Shop, Begumpet, Hyderabad - 16
11. **Earnest Money:** Tenderer shall deposit Earnest Money as detailed in a manner prescribed in **Para 5 Chapter I Section II**
12. **Security Deposit:** @5% of contract value will be deducted from on account bills as per **Para-3 of Special Conditions of Contract (Section II Chapter 2)** for due fulfillment of contract.
13. **PBG:** On receipt of Letter of Acceptance of Tender from the RailTel, the successful tenderer shall submit PBG within a period of 30 days, deposit in favour of RailTel Corporation of India Limited, Secunderabad an amount in terms of **Para-3 of Special Conditions of Contract (Section II Chapter 2)** towards Performance Bank Guarantee for due fulfillment of contract.
14. **Specifications:** Reference of specifications of the important equipments and materials required for execution of the contract is given in the Technical Specification (**Section II chapter 1.1** of tender document). The work shall be executed in compliance with all the technical requirements given therein.
15. **Schedule of Requirement:** The various items to be supplied and works/services to be provided by the tenderer are indicated in Schedule of Requirement as enclosed to this preamble (Section I Chapter 2). The tenderer is advised to quote for all the items. The make and model of all the equipments proposed to be supplied must be indicated by the tenderer/s in the Schedule of Requirement.
16. **As made drawings:** shall be submitted after completion of testing and commissioning of section as per specification (section II chapter 1.1)
17. **Materials to be supplied by RailTel:** OFC and HDPE Duct required for the work will be issued to the contractor, from the nearest stores of RailTel in standard drum lengths. Contractor shall handle OFC & Duct carefully while transporting to a site and laying there without causing any damage to OFC & Duct. The balance unused OFC & Duct should be utilized at other site OR returned to the closest designated stores of RailTel as per instructions of RailTel Manager. The contractor has to make his own arrangements to transport OFC & Duct and no payment shall be made on this account.
18. **Materials to be supplied by Contractor:** Tenderer's special attention is invited to the fact that no material except items mentioned in para 17 above shall be arranged/supplied by RailTel for

commissioning the work. All materials including the materials covered under the Schedule of Requirement and those required to achieve the end objective as required are to be supplied by the contractor.

19. As a good tender practice, the tenderer is expected to submit giving all the information in the relevant forms attached as Annexure to this document and suitably numbering each page of the bid documents with a content list indicating availability of various documents with their serial numbers. In the absence of numbering of pages and the content list, there is a likelihood of any important document going unnoticed for which the tenderer shall be solely responsible.
20. **Maintenance Support:** The tenderer should submit their strategy for providing maintenance support during maintenance, warranty and post warranty period.
21. **Video Recording for manual trenching wherever HDD is not possible and as instructed by RailTel's Engineer:** Video Recording of Trench: Video recording of trench to indicate the depth (1.65 m) of the trench to be recorded and soft copy in PENDRIVE/DVD format to be submitted to RailTel for approval by the concerned Manager. Only after obtaining approval of concerned Manager RailTel, HDPE duct to be laid and then the trench can be closed. a. Video recording should be taken in such a way that it should be possible to deduce the depth of trench from the video itself. For e.g. A long stick with a clear legible mark at 1.65 m should be made and a person should walk with the stick in the trench and the recording should be done as the person walks along the trench. However, the physical inspection of the trench by RailTel engineer at site will be done as per RailTel's discretion.
22. In all matters, decision of Principle Executive Director (Southern Region), RailTel Corporation of India Ltd, Secunderabad, will be final.
23. **The Bidder should not be blacklisted/debarred/banned/Terminated by any Central Govt./Union Govt./State Govt. / any PSU as on date of submission of the Bid. A self-declaration to this effect to be submitted by the bidder along with the bid failing which the bids are liable for rejection.**



TENDERER DATA SHEET**For**

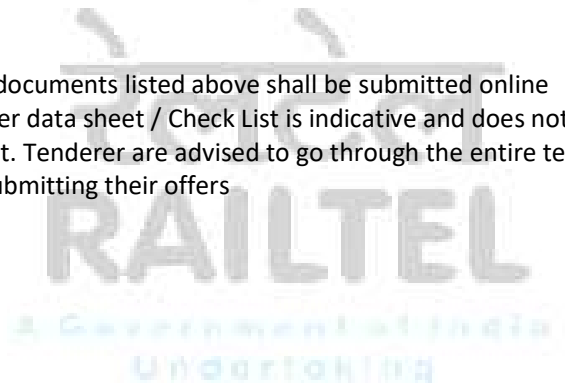
“HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable in Visakhapatnam” as per the Schedule of Requirement and Specifications (Tender No: RailTel/SR/SC/SLT/2025-26/25)

S No	clause reference	Description	Remarks (Yes/No)	Page no
Cost of Tender & EMD Particulars				
1	EMD as per NIT/ Preamble	Whether EMD submitted online in E-Nivida portal?		
2	should not be blacklisted/debarred/banned/Terminated	should not be blacklisted/debarred/banned/Terminated by any Central Govt./Union Govt./State Govt./PSU as per cl.no.23 of Preamble. Declaration to this effect submitted?		
Technical Eligibility Criteria				
3 (a) To (d)	Not applicable			
Financial eligibility criteria				
4	Not applicable			
Notarized Affidavit				
5	cl.no.16.1 (ii) section II Chapter I	Whether Affidavit is submitted in Original and Notarized?		
5.1		Whether Submission of Affidavit is as per format as enclosed in form no 11 /Annexure-A of tender document?		
5.2		Whether the signature of deponent in the affidavit is the same person whose name is mentioned the first sentence of affidavit giving the undertaking?		
5.3		Whether Deponent has signed both affirmation and verification statement of affidavit?		
Power of attorney, constitution of Firm and Memorandum of Association				
6	cl.no.7 instructions to tenderers section II chapter I	Whether Power of attorney in non-judicial stamp paper worth of Rs 100/- enclosed with Tender is in proper format and notarized?		

7		Whether Power of attorney is mentioning "the position of person giving power of attorney and the position of person in the company in favour of whom the Power of Attorney is being given?"		
8		Whether Partnership deed, as the case may be if applicable is enclosed for partnership firm? If not applicable, then it should be mentioned as " NOT APPLICABLE " under remarks column.		
9		In case, clause no 7 regarding partnership firm, is not applicable, whether relevant document regarding Proprietary firm is enclosed?		
10		Whether Constitution of Firm and article of association document enclosed with Offer?		
Signing of Tender document and supporting document in all pages				
11	Vide Clause no. 16.1(i) instructions to tenderers section II chapter I of the tender document	Whether authorised person Signed all pages of tender document including all supporting documents in the tender?		
Clause wise compliance and deviation statement				
12		Whether clause wise compliance to the tender condition and statement of deviation Form- No. 5 enclosed?		

Note:

1. All scan copies of documents listed above shall be submitted online
2. The above Tenderer data sheet / Check List is indicative and does not purport to be the entire requirement. Tenderer are advised to go through the entire tender document carefully before submitting their offers



Bidder Organization data:

1	Name of the Organization	:
2	Name of the Authorized Person Submitting the Tender Documents (Submit the proof of authorizing the person to sign the tenders by the company on its behalf)	
3	Main line of Business	
4	Years of Experience	
5	Location (indicate address, tel.no., fax and the year from which they are operating in that location)	
6	Contact person	
7	Address	
8	Tel. No.	
9	E-mail ID	

Place
Date

(Signature of the Tenderer with Seal)



SECTION I
Chapter 2
SCHEDULE OF REQUIREMENT

Tender No: RAILTEL/SR/SC/SLT/2025-26/25

Name of the work: - HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable in Visakhapatnam, Andhra Pradesh.

S No	Description (SAC code for all line items is 995423)	Unit	Basic Rate per Unit	Qty	Total Amount exclusive of GST@18%
A	B	C	D	E	F (D*E)
1	Laying of UG OFC as per specification at section - II chapter 1.1 and schedule which includes the following scope: HDD at a depth of minimum of 1.65 meters, laying of HDPE Duct and laying of OFC 24F including pits, restoration of pits to the original surface condition, Splicing of 48F OFC, supply & termination in splice joint enclosures, Casting, transporting, and fixing of concrete Route Markers, Protective works like concreting with CC, etc., Provision of concrete Chambers, Laying of HDPE duct, manual trenching as per requirement, backfilling & removal of debris, Blowing of OFC, Splicing, termination, testing and commissioning of entire link/section, Preparation of As build Drawing in soft & hard Copy, GIS Mapping of the executed work, Liasioning for getting Right of Way (ROW)	KM	4,90,741.89	27	₹ 1,32,50,031.03
	Total Basic Amount				1,32,50,031.03
	Add: GST@18%				23,85,005.59
	Total amount including GST@18% (rounded off)				1,56,35,037.00
	Tenderer's quoted percentage Below/At Par/Above (Including GST @18%)				Shall be filled online in e-Nivida online portal only
	Grand Total Amount after Tenderer quoted percentage				

Note:

1. The tenderer has to quote for complete work of schedule and partial quotes are not acceptable.
2. HDPE Duct & 24F OFC for the work shall be supplied by RailTel at designated stores and no other materials shall be supplied. Successful tenderer shall make arrangements for all other materials required to complete the end objective as per (Appendix-B)
3. Replacement of Defective OFC: No defects like high loss events and fiber breaks are permitted and the contractor shall at his own cost replace the length of cable of RAILTEL's specification if such defects are observed during testing.
4. **Wherever HDD is not feasible due to soil conditions the contractor has to adopt the standard practices of manual trenching, and protection of duct and cable as per the procedures mentioned in the tender document and as per the advise of RailTel Engineer In-charge (Appendix-B)**

5. The quoted percentage rate should be inclusive of all taxes, duties and freight. Break-up to be specified in a separate sheet showing Basic Price, GST@ and others if any etc.
6. **Video Recording: Video Recording for manual trenching wherever HDD is not possible and as instructed by RailTel's Engineer:** Video Recording of Trench: Video recording of trench to indicate the depth (1.65 m) of the trench to be recorded and soft copy in PENDRIVE/DVD format to be submitted to RailTel for approval by the concerned Manager. Only after obtaining approval of concerned Manager RailTel, HDPE duct to be laid and then the trench can be closed. a. Video recording should be taken in such a way that it should be possible to deduce the depth of trench from the video itself. For e.g. A long stick with a clear legible mark at 1.65 m should be made and a person should walk with the stick in the trench and the recording should be done as the person walks along the trench. However, the physical inspection of the trench by RailTel engineer at site will be done as per RailTel's discretion

Signature of Tenderer with Seal



Chapter 1. Instructions to Tenderers and Conditions of Tendering

Chapter 1.1 Scope of work and Technical Specifications

Chapter 2. Special Conditions of Contract

Chapter 3. Forms of Tenders etc.

SECTION - II CHAPTER - 1

INSTRUCTIONS TO TENDERERS AND CONDITIONS OF TENDERING INDEX

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SECTION - II
CHAPTER-1

INSTRUCTIONS TO TENDERERS AND CONDITIONS OF TENDERING

1. GENERAL INSTRUCTIONS

Tenders are invited on behalf of M/s. RailTel Corporation of India Limited, Begumpet-500016 from established and reliable contractors for the work of HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable at In, Visakhapatnam

1.1 The Special Conditions of Contract, Instructions to Tenderers and Conditions of Tendering, Technical Specifications & Supplement, Preamble including Schedule of Requirements and all Annexure & Forms etc. shall, hereafter, be collectively referred to as the "**Tender Papers**".

1.2 **Tender offer:** The tenderer(s) are required to quote **percentage rate** both in figures and words as indicated in the schedule. If there is any discrepancy in the rate quoted between figures and words, the rates quoted in words will be taken as final

2. INTERPRETATIONS

The following terms wherever occurring in the tender papers and wherever used throughout the execution of the work, shall, unless excluded by or repugnant to the context, have the meaning attributed thereto as follows:

"CONTRACT" Means the Contract resulting from the acceptance by the Purchaser of this Tender whether in whole or in part.

"CONTRACTOR" Means the successful Tenderer, i.e., the Tenderer whose Tender has been accepted either in whole or in part.

"CONTRACTOR'S REPRESENTATIVE" Shall mean a person in supervisory capacity who shall be so declared by the Contractor and who shall be authorized under a duly executed power of attorney to receive materials issued by the Purchaser to the Contractor for the works. He shall be responsible for proper execution of works at each or all places and shall take orders from Purchaser's Engineers and carry out the same.

"ENGINEER / ENGINEER-IN-CHARGE" Shall mean an executive of RailTel In-charge of works and shall include the superior executives of RailTel. He is responsible for ensuring that all field works covered by the contract are carried out in accordance with approved designs, drawings & specifications and conditions of contract as agreed to.

"ENGINEER'S REPRESENTATIVE" Shall mean the supervisor of RailTel in direct charge of the works.

"EQUIPMENT" Means all or any equipment considered necessary by the Purchaser's Engineers for satisfactory operation, as a whole, of the installations.

"MONTH" Means any consecutive period of thirty days.

"MATERIALS" Means all equipments, components, fittings and other materials including raw materials required to complete the work..

"PURCHASER" Means M/S RailTel Corporation of India Limited, 6A, 6th Floor, Gumidelli Towers, Opp: Shoppers Shop, Begumpet, Hyderabad - 16.

"PURCHASER'S ENGINEER" Means the Principle Executive Director/Regional General Manager of RailTel or successor who will decide all matters relating to design, manufacture, installation and commissioning of the plant and equipment at site.

"SUB-CONTRACTOR" Means an individual or a firm of Contractor or a Company registered under Indian Company Act or an approved supplier of materials to whom the Contractor sublets portions of the contract.

"CONSIGNEE" Means the person specified in the Acceptance of Tender to whom Stores are to be delivered at the destination.

"INSPECTING OFFICER" Means the person, or organization specified in the contract for the purpose of inspection of stores of work under the contract and includes his/their-authorized representative.

"RailTel" Means M/s. RailTel Corporation of India Limited, Southern Region, 6A, 6th Floor, Gumidelli Towers, Opp: Shoppers Shop, Begumpet, Hyderabad - 16.

"SITE" Means the areas to be taken up by the permanent works, together with any other area or areas as shall be determined by the Purchaser's Engineer, which may be placed at the disposal of the Contractor for the purpose of the contract and also such area or areas used for store yards, works yards or workshop in proximity of the works as the Purchaser's Engineer may have authorized as an extension of the site, irrespective of the terms and conditions under which they are occupied by the Contractor.

"BLOCK SECTION" Means the distance along the railway track between two consecutive Railway Block stations.

"TENDERER" Means and includes any firm of engineers or Contractors or any company or body, corporate or otherwise, who submit the Tender which has been invited.

"WORK OR WORKS" Means all or any of the items of the work for which the Tenderer /Contractor has Tendered/contracted according to the specifications, drawings and Annexure hereto annexed or to be implied there from, or incidental thereto or to be hereafter specified or required in such explanatory instructions and drawings, being in conformity with the original specifications, drawings, Annexure and schedules and also such instructions and drawings additional to the aforementioned as may from time to time be issued by the Purchaser's Engineer during the progress of the contracted work.

"WRITING" Includes all matters written, typewritten or printed either in whole or in part.

3. LOCAL CONDITIONS

- 3.1 It will be imperative on each tenderer to fully acquaint himself with all the local conditions and factors, which would have any effect on the performance of the contract and cost of the stores. The purchaser shall not entertain any request for clarifications from the tenderer regarding such local conditions. No request for the change of price or time schedule of delivery of stores shall be entertained after the offer is accepted by the purchase on account of any local condition or factor.
- 3.2 The intending tenderer is advised to study the tender papers carefully. Any submission of a quotation by the tenderer shall be deemed to have been done after a careful study and examination of these documents with full understanding of the implication thereof. These conditions and specifications shall be deemed to have been accepted unless otherwise, specifically commented upon by the Tenderer in his quotation. Failure to adhere to anyone or all these instructions may render his offer liable to be ignored without any reference.
- 3.3 Should a tenderer find discrepancies in, or omission from, the drawings or any of the Tender papers or he has any doubt to their meaning, he should at once notify the RailTel who may send a written clarification to all tenderers.

4. COMPLIANCE TO TENDER CONDITIONS, SPECIFICATIONS & DRAWINGS

- 4.1 The tenderer shall indicate paragraph by paragraph for each section of the tender document that either his tender complies in every respect with the requirements of each clause and sub clause or if not, precisely how they differ from the requirements of the tender. In later case, the tenderer shall enclose a separate statement as per proforma given, indicating only the deviations for any clause or sub clause of Special Conditions of Contract, Instructions to Tenderers and Conditions of Tendering, Technical Specifications, Preamble etc. which he proposes with justifications for deviations proposed. The purchaser reserves the right to accept or reject these deviations and his decision thereon shall be final (see Form 5).
- 4.2 The equipment offered shall be in accordance with the drawings and specifications. Details of variation from the drawings and specifications, if any, should be clearly indicated separately for each annexure with justification for deviations proposed. The Purchaser reserves the right to accept or reject these deviations and his decision thereon shall be final.
- 4.3 Firms should give details of similar works carried out giving details of the name of the project, date of award, length of the section, value of the contract, the original execution period and the actual execution time taken.

5 EARNEST MONEY/ BID GUARANTEE

- 5.1 The tenderer shall submit an amount mentioned as below as earnest money in favour of RailTel Corporation of India Limited, Secunderabad, payable at Secunderabad through E-NIVIDA portal online only.

Tender No	Name of the Work	Tender Estimated Cost rounded off (In Rs)	EMD (In Rs)
RAILTEL/SR/SC/SLT/2025-26/25	HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable at In, Visakhapatnam	₹1,56,35,037/-	Rs. ₹ 3,12,800/-

Bids not accompanied with EMD will be summarily Rejected.

- 5.2 The tenderers shall hold the offer open till such date as specified in Para 9 of this chapter. It being understood that the tender documents have been sold/issued to the tenderer and the tenderer has been permitted to tender in consideration of the stipulation on his part that after submitting his tender he will not rescind from his offer or modify the terms and conditions thereof in a manner not acceptable to RailTel. If the tenderer fails to observe or comply with the foregoing stipulation, the aforesaid amount deposited as Earnest Money shall be liable to be forfeited by the RailTel.
- 5.3 **The earnest money may be forfeited:**
- 5.3.1 If a tenderer withdraws its tender during the period of tenders validity specified in Clause 9 of Instructions to Tenderers and Conditions of Tendering.
- 5.3.2 In the case of successful tenderer, if the tenderer fails to Sign the contract in accordance with clause 2 of Special Conditions of Contract.
- 5.3.3 To furnish performance guarantee in accordance with clause 3.1 of Special Conditions of Contract.
- 5.4 The earnest money of unsuccessful tenderer will be returned within reasonable time to the unsuccessful tenderer but the RailTel shall not be responsible for any loss or depreciation that may happen to the security for the due performance of the above stipulation to keep offer open for the period specified in the tender documents or to the Earnest Money while in their possession nor be liable to pay interest thereon.
- 5.5 If the tender is accepted, the amount of Earnest Money will be held as security deposit for due and faithful fulfillment of contract. The Earnest Money of successful tenderer will be returned after the Contract Performance Guarantee (Security Deposit) as required under para 3 of Special Conditions of Contract is furnished and formal contract duly signed is received by the purchaser.
- 5.6 If the tenderer deliberately gives wrong information in his/her tender or creates such circumstances for the acceptance of his/her tender, then RailTel reserves the right to reject such tender at any stage. In case credential certificate(s) submitted by the contractor are found to be incorrect, the EMD deposited shall be forfeited in respective tenders he has quoted and he will be barred from quoting in RailTel tenders for a period of 5 years.
- 5.7 If a Tenderer expires after the submission of his tender or after the acceptance of his tender, the RailTel shall deem such tender as cancelled. If a partner of a firm expires after the submission of their tender or after the acceptance of their tender, the RailTel shall deem such tender as cancelled, unless the firm retains its character

5.8 For MSEs/UDYAM registered firm- Not applicable as instant tender is works contract**6 SUBMISSION OF OFFERS**

- 6.1 All offers in the prescribed forms should be submitted before the time and date fixed for the receipt of the offers. Offers received after the stipulated time and date will be

summarily rejected.

- 6.2 In case the date of opening happens to be a holiday, the tender will be received and opened at the same time on the **next working day**.
- 6.3 All offers shall be either type written or written neatly in indelible ink in English. Each page of the offer must be numbered consecutively. A reference to total number of pages comprising the offer must be made at the top right-hand corner of the top page. The supporting documents should be submitted either in original or duly signed by the authorized signatory of the tenderer. The original documents shall be produced for verification when called for.
- 6.4 All copies of the tender papers shall be signed by the tenderer, on each page including closing page in token of his having studied the tender papers carefully.
- 6.5 **RATES IN FIGURES & WORDS:-**
- 6.5.1 All prices and other information like discounts etc., having a bearing on the price shall be written both in figures and in words in the prescribed offer form. In case of difference in words and figures the amount written in words will be taken in to consideration.
- 6.5.2 In the event of any discrepancy between unit rate and total cost, the value shown in unit rate will be taken for evaluation purpose.
- 6.5.3 In case the schedule of requirement quoted by tenderer is incomplete with reference to tender document, the offer is liable to be rejected.
- 6.6 **ATTESTATION OF ALTERATION:** No scribbling is permissible in the tender documents. Tender containing erasures and alterations in the tender documents are liable to be rejected. Any correction made by the tenderer/tenderers in his/their entries must be signed (not initialed) by him/them.
- 6.7 **The bid shall consist of the following:**
- i) Offer letter complete. (Form No.1)
 - ii) Schedule of works (i.e., Schedule of Requirements) with rate and total amount duly signed (digitally) by the tenderer in figures and words as applicable on e-Nivida portal.
 - iii) Earnest Money to be submitted online in e-Nivida portal only
 - iv) Constitution of Firm and Power of Attorney (refer below clause no 7)
 - v) Clause wise compliance to tender conditions & statement of deviations (Para 4). Form No.5
 - vi) Similar works executed or under execution. Form No. 10 -not applicable
 - vii) User's Certificate Form No. 2 not applicable
 - viii) Any other information desired to be submitted by the tenderer.
 - ix) Complete tender document duly signed (digitally sign) in all pages including above
 - x) Power of attorney in favour of the signatory duly authorizing the signatory shall be enclosed in the bid
 - xi) Notarized affidavit
 - xii) Self-declaration for non-black listing etc

7. CONSTITUTION OF FIRM AND POWER OF ATTORNEY

- 7.1 Any individual(s) signing the tender or other documents connected therewith should specify whether he is signing: -
- (a) As sole proprietor of the concern or as attorney of the sole proprietor;
 - (b) As a partner or partners of the firm;
 - (c) As a Director, Manager or Secretary in the case of Limited Company duly authorized by a resolution passed by the Board of Directors or in pursuance of the authority conferred by Memorandum of Association
- 7.2 In the case of a firm not registered under the Indian Partnership Act, all the partners or the attorney duly authorized by all of them should sign the tender and all other connected documents. The original Power of Attorney or other documents empowering the individual or individuals to sign should be furnished to the Purchaser for verification, if required.
- 7.3 The RailTel will not be bound by Power of Attorney granted by the tenderer or by the changes in the composition of the firm made subsequent to the execution of the contract agreement.

- 7.4 In case where the Power of Attorney partnership deed has not been executed in English, the true and authenticated copies of the translation of the same by Advocate, authorized translators of Courts and Licensed Petition Writers should be supplied by the Contractor(s) while tendering for the work.
- 7.5 The duly notarized Power of Attorney, Partnership Deed, Memorandum of Joint Venture as the case may be in original or duly signed.
8. **UNIT / Percentage PRICES:** The unit / percentage prices should be quoted by the Contractor after taking all the relevant factors into consideration and these should be Firm and all-inclusive without any variation clauses. The prices shall be quoted in rupees for the units under metric system. Reference may be made Special Conditions of Contract (Chapter II Section II). The prices shall be inclusive of all taxes and statutory payments.
9. **VALIDITY OF OFFER:** The tenderer shall keep the offer open for a minimum period of 20 (Twenty) days, from the date of opening of tender. Within that period the tenderer cannot withdraw his offer subject to the period being extended further, if required, by mutual agreement from time to time. Any contravention of the above condition will make the tenderer liable for forfeiture of his Earnest Money.
10. **RATES DURING NEGOTIATION:** The tenderer/s shall not increase his/their quoted rates in case the RailTel Administration negotiates for reduction of rates. Such negotiations shall not amount to cancellation or withdrawal of the original offer and the rates originally quoted will be binding on the tenderer/s.
11. **PERIOD OF COMPLETION AND TIME PROGRESS GRAPH:** The works/work are/is to be completed within a period as mentioned in preamble at para 9.
12. **NON-TRANSFERABILITY AND NON-REFUNDABILITY:** The tender documents are not transferable. The cost of tender document is not refundable.
13. **ERRORS, OMISSIONS & DISCREPANCIES:** The Contractor(s) shall not take any advantage of any misinterpretation of the conditions due to typing or any other error and if in doubt shall bring it to the notice of the Engineer without delay. In case of any contradiction only the printed rules, and books should be followed and no claim for the misinterpretation shall be entertained.
14. **WRONG INFORMATION BY TENDERER:** If the tenderer/s deliberately gives/give wrong information in his/their tender which creates/create circumstances for the acceptance of his/their tender the RailTel reserves the right to reject such tender at any stage.
15. **QUALIFYING CRITERIA: not applicable**
16. **MEANING OF SIMILAR WORKS: not applicable**
- 16.1 System of Verification of Tenderer's Credentials:**
- i. The tenderer shall submit along with the tender document, documents in support of his/their claim to fulfil the eligibility criteria as mentioned in the tender document. Each page of the copy of documents/certificates in support of credentials, submitted by the tenderer, shall be self-attested/digitally signed by the tenderer or authorized representative of the tendering firm. Self-attestation shall include signature, stamp and date (on each page). Only those documents which are declared explicitly by the tenderer as "documents supporting the claim of qualifying the laid down eligibility criteria", will be considered for evaluating his/their tender
 - ii. **The tenderers shall submit a notarized affidavit** on a non-judicial stamp paper stating that they are not liable to be disqualified and all their statements/documents submitted along with bid are true and factual. Standard format of the affidavit to be submitted by the bidder is enclosed as Annexure-A (Form 11). Non submission of an affidavit by the bidder shall result in summary rejection of his/their bid. And It shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self attested by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document. It will not be obligatory on the part of the RailTel to scrutinize beyond the submitted document of tenderer as far as

his qualification for the tender is concerned.

- a) **The RailTel reserves the right to verify all statements, information and documents submitted by the bidder in his tender offer, and the bidder shall, when so required by the RailTel, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification, by the RailTel shall not relieve the bidder of its obligations or liabilities here under nor will it affect any rights of the RailTel thereunder.**
 - b) **In case of any wrong information submitted by the tenderer, the contract shall be terminated, Earnest Money Deposit (EMD), Performance Guarantee (PG) and Security Deposit (SD) of contract forfeited and agency barred for doing business on entire RailTel for 5 (five) years.**
- 17. SYSTEM PERFORMANCE GUARANTEE:** The tenderer shall give unqualified and unconditional guarantee that when the equipment / material supplied by him is installed and commissioned at site, it shall achieve the desired objective and that in the event of performance of the system when installed not complying with the end objective or with the specifications, he shall provide further inputs to enable the RailTel to realize the end objectives with full compliance of the specifications contained in these documents. No additional payment will be made to the contractor for supply of any additional goods and service required in this regard.
- 18. AUTHORITY OF ACCEPTANCE:** The authority for the acceptance of the tender rests with the Purchaser. The tenders received will be evaluated by the Purchaser to ascertain the best acceptable tender in the interest of the Purchaser. However, the purchaser shall not be bound to accept the lowest or any tender or to assign any reason for non-acceptance or rejection of a tender. The purchaser reserves the right to accept any tender in respect of the whole or any portion of the work specified in the tender paper or to sub-divide the work among different Tenderers or to reduce the work or to accept any tender for less than the tendered quantities without assigning any reason whatsoever.
- 19. AGREEMENT:** The successful tenderer/s shall be required to execute an agreement with the representative of RailTel for carrying out the work according to the tender documents as indicated in para 2 of Special Conditions of Contract (Section II Chapter II).
- 20. TENDERER'S ADDRESS:** Tenderer shall state in the tender his postal address fully and clearly. Any communication sent to the tenderers by post at his said address shall be deemed to have reached the tenderer duly & timely, notwithstanding the fact that the communication could not reach the tenderer at all or in time for whatever reason. Important documents shall be sent by Registered Post.
- 21. EVALUATION OF OFFER**
The authority for the acceptance of the tender rests with the Purchaser. The tenders received will be evaluated by the Purchaser to ascertain the best acceptable tender in the interest of the Purchaser. However, the purchaser shall not be bound to accept the lowest or any tender or to assign any reason for non-acceptance or rejection of a tender. The purchaser reserves the right to accept any tender in respect of the whole or any portion of the work specified in the tender paper or to sub-divide the work among different tenderers or to reduce the work or to accept any tender for less than the tendered quantities without assigning any reason whatsoever.
- 22. AMENDMENT OF TENDER DOCUMENT**
- 22.1** RailTel may modify the Tender Document by issuing ADDENDA/CORRIGENDA
 - 22.2** Tenderers are advised to submit the tender well in advance before the stipulated time. It is the responsibility of the Tenderer to check any correction or any modifications (addenda/corrigenda) published subsequently Web site and the same shall be taken into account while submitting the tender.

- 22.3 To give prospective bidders a reasonable time to take ADDENDUM/CORRIGENDUM into account in preparing their bids, the RailTel may at their discretion extend as necessary, the deadline for submission of Tender document.
- 22.4 The materials that shall be handed over to the Contractor at any time for execution of work shall depend upon the particular item of work in the schedules to be done at a particular time and also the progress of work. The contractor shall furnish Indemnity Bond for a sum equal to the cost of materials proposed to be taken by him. The quantity of materials that shall be given by the RailTel at any time shall not exceed the value of Indemnity Bond that is furnished by the Contractor.
- 22.5 Materials issued to the contractor shall be used solely and economically for the purpose of work covered by this contract only. The materials shall be used in such quantities and proportions as are indicated in Schedule or in the relevant specifications or drawings or as approved by the Engineer whose decision thereon shall be final. Wastage or damage to such materials in any manner shall be avoided.
- 22.6 The contractor shall be liable to render fully accountable for all the materials issued by the RailTel. If any quantity of RailTel materials is consumed in excess or wasted or damaged or lost or otherwise not satisfactorily accounted for, recovery shall be made from the contractor at twice the issued rate prevailing at the time of last issue of the materials consumed in excess or wasted or damaged or lost or not satisfactorily accounted for.
- 22.7 If at any time any materials which the contractor would normally have to arrange for himself is supplied by the RailTel either at the contractor's request or suo-moto in order to prevent possible delay in the execution of the work due to contractor's inability to make adequate arrangements for the supply therefore or otherwise, such materials will be made available to the contractor in the RailTel's Stores Depot at Secunderabad as required for the work. All handling, subsequent thereof will be at the contractors responsibility. Recovery of the cost of such supply will be made from the contractor's bills, as per extant rules of the RailTel. Any demurrage or other charges due on account of detention of wagons in loading or unloading will also be recovered from the Contractor.
- 22.8 If the materials mentioned in schedules, however not available in RailTel and /or decide not to supply the same, whatever be the reason, the RailTel shall not be bound to arrange for the supply nor will this fact be accepted as an excuse for delay in the execution of the work by the contractor.
- 22.9 The quantities indicated in the schedules are approximate and will only support to convey to the contractor an idea of the magnitude of the work. The rates mentioned in Schedules are deemed to hold good for any increase in quantities up to 25%. The description of items is given as a guide and approximately only and is subject to variation according to the needs of the RailTel. The RailTel accepts no responsibility for their accuracy. Further, the RailTel does not guarantee work under each item of the Schedule.
- 22.10 Materials shall be issued to the contractor or his representative at specific depot of the stores on Production of identity card with photograph or authorization letter issued by this office. Also indemnity bond on non-judicial stamp paper of Rs 100/- as per Performa given in Form No-6 of Chapter V will be executed and submitted to the Section Engineer in charge.

SECTION – II**Chapter – 1.1**

Scope of Work Cum Technical Specifications
For Laying of Optical Fiber Cable from RailTel PoP to RailTel
Customer location, Visakhapatnam

Appendix –A**1. Introduction**

RailTel (RCIL) customer site at Visakhapatnam needs to be connected from the RailTel PoP at Visakhapatnam through 24 cores of SM optical cables.

2. Scope of Work and important specification/ instructions:

Laying of last mile of Optical Fiber Cable from RailTel's PoP to In at Visakhapatnam

3. ROW Charges:

OFC Infrastructure is being created on behalf of RailTel Customer. Right of Way clearances /NOCs from concerned department for laying of optical cables along railway track / road either owned by NHAI, State roads, Gram panchayat, MCD and forest area etc. will be pursued and taken by Successful bidder in name of In Visakhapatnam, however the payments demanded by these external agencies against mentioned clearances will be paid by RCIL/ In Visakhapatnam on the actual bills/ demand raised. If required, RCIL/ In Visakhapatnam has to issue letter/certificate in the name of the concern agency for issuing of ROW/NOC mentioning that the work executed by the agency on behalf of In Visakhapatnam for which ROW/NOC is being requested. ROW clearance/ NOCs from concerned department will be taken by the successful bidder. Details in Visakhapatnam shall be provided at the time of processing the RoW etc. Liasioning is in the scope of successful bidder.

4. Maintenance of laid fiber: deleted**5. Acceptance and Testing:**

Strictly as per procedure defined by In Visakhapatnam.

6. ROW charges payment will be made by RailTel on actual demand basis.**7. The actual distance of optical fiber cables between In Visakhapatnam and RailTel PoP will be considered after final laying and its commissioning, which may vary from **given length in the tender** (may increase or decrease in length) and this distance will be taken as final for payment.****8. Confidentiality:**

In Visakhapatnam is having NDA with RailTel and hence related activities and the confidentiality/ secrecy of the information, which may be transferred between In Visakhapatnam, Successful bidder from time to time during execution of project should be kept at highest confidential level and need not be shared at any stage. To maintain the confidentiality of sites and

information, Successful bidder will provide single point of contact at Hyderabad for centralized co-ordination, execution and operation. After completion of job the details about routes/ cables etc will be handed over to In Visakhapatnam in all respect and only information required for subsequent maintenance of cables for that duration shall be kept by RailTel.

Note: Successful Bidder and contractor terms are used interchangeably



Detail Practices/Specification for Laying of Last Mile OFC/ HDPE**1.0 General**

Single Mode 24 Core OFC is to be laid between Visakhapatnam to RailTel (RCIL) POPs to transport High speed stream (2MBPS to 40GBPS) / PRIs & Internal Voice/ data from one end to another. The OFC and duct would be provided by RCIL. One end of OFC will be terminated inside RailTel PoP and other side will be terminated at in Visakhapatnam. Optical fiber cable will be of Single Mode metallic armored cable for Outdoor applications, Conforming to ITU-T G-652D Standards.

BRIEF SCOPE OF WORK

1. Right of Way (RoW) permission, obtaining police verification for labours and any other permission required for working in defence/civil area will be taken by the contractor as per the requirement of RailTel Customer in Visakhapatnam. For these necessary charges shall be paid by RailTel. All statutory compliances and obligations are required to be fulfilled by the successful bidder.
2. Excavation for duct shall be mainly by using Horizontal Directional Drilling (HDD) ; however digging of trenches also permitted subject to prior approval of site in charge where HDD is not possible due to permission or any other issues. HDD be adopted on priority to manual digging and the recommended depth will be as deep as possible (approx 2-4 meters). However the minimum depth for laying duct is 1.65 m.
In rocky terrain, the depth of the trench may be restricted to a depth of 100 cms (to be done by either controlled blasting or cut the terrain of appropriate width for laying GI/ HDPE by a cutter) with extra protection of GI pipe/RCC pipe/— concreting reinforced with wired mesh.
3. Laying of permanently lubricated HDPE duct, coupler and end plug etc.
4. 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,
5. Supply & Installation of Manhole, Splicing/Jointing Chamber as per the technical specifications mentioned in Appendix-C (S.no 3&4)
6. Blowing of maximum continuous un-jointed Optical Fiber Cable in above duct
7. Supply and installation of route markers/Joint Indicator;
8. Supply and laying of class B GI Pipe of required size at crossings or other required places for protection of OFC/ HDPE duct;
9. Supplying and laying of Split RCC Hume pipes in the manhole
10. Installation of accessories such as jointing enclosures, splice boxes, suitable connectors and pigtails etc;
11. Splicing and termination of newly laid OFC;

12. Testing (Mechanical, Geometrical, Optical and Transmission) as per standard procedures mentioned in Appendix-B (Para3 Part3).
13. Supply/Removal of sand and soil as per requirement
14. **On Completion of Work and SAT:** Differential GPS/ GPS reading for entire route to be submitted along with all other documents defined in “Documentation” part of specification
15. Chromatic Dispersion (CD) and Polarization Mode Dispersion (PMD) Report will also be part of completion documentation.
16. All Documents (Appendix-B Para3 Part1) as required by RailTel Customer, Visakhapatnam is to be submitted to **RailTel** for Approval from RailTel Customer, Visakhapatnam before executing the Work.
17. Project Management Group or any designated Inspection Team will inspect various works for ensuring quality and quantity of works during and after execution. The contractor shall have to redo the unsatisfactory/incomplete works without any extra payment. The decision of RailTel Customer Visakhapatnam/RCIL (RailTel) shall be final and binding on the Successful bidder.

Brief spec and instructions

1. The HDPE/PLB pipes shall be laid in the bed of culvert at a depth not less than 2m protected by G.I. pipes and concreting or as decided by Engineer- in charge in Visakhapatnam. Both ends of culverts shall be excavated more than 2m in depth to keep the gradient of not less than 15 degree with horizontal. The bed of trench should be as smooth as possible.
2. **At road crossings, the HDPE/PLB pipes shall be laid in Full Round spun Pipes/GI Pipes. The RCC pipes/GI pipes shall extend at least 3 Meters on either side of the road at road crossings.**
3. Where-ever RCC pipes are used, 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
4. Wherever GI pipes are used, they will be coupled properly with the sockets. 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
5. 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 2m, as instructed by RailTel Engineer In-charge. The mechanical protection shall extend at least 5 meters beyond the bed of nallah on either side.

6. **Manhole locations:** While laying the pipes, a gap of 2 M is to be kept at convenient locations approx. 200 m apart and at the bends and turns, which will be used as manholes during OF cable blowing. In a similar manner, manholes shall be kept while approaching bridges, road crossings etc., as instructed by the Engineer-in-charge, Visakhapatnam.
7. **Manhole specification:** The Manholes are prepared by providing 65 mm split HDPE/PLB pipe of 2.5 to 3 m 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. Chamber as per drawing shall be provided. The location of the blowing manhole should be recorded for preparation of documentation.
8. **Methodology for concreting:** 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.
9. **Instruction for cable laying on bridges/ culverts:**
For laying cables on existing bridges, where duct arrangement does not exist, one of the following methods may be adopted.
 - 9.1 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. Where the thickness of arch is less than 50 cms, the pipe must be buried under the wheel guard masonry and the wheel guard rebuilt.
 - 9.2 If neither of the two methods is possible, the G.I. Pipes/GI Troughs must be clamped outside the parapet wall with suitable clamps.
 - 9.3 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 contractor.

10. In city limits, no part of the trench should be kept open for more than the minimum distance as specified by local authorities 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.
11. Mechanical protection to be provided to HDPE/PLB pipes, in lesser depths, using RCC/split RCC/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.
12. **RCC pipe specification** : Reinforced cement concrete pipes (spun type) with inbuilt collars. The RCC pipes should be of 100mm internal dia. (Spigotted), Class--NP-3, Thickness:25mm, Length: 2 Meters with inbuilt collar at one end, conforming to ISI Specification IS: 458, 1988 with latest amendment.
RCC Full Split Pipes Reinforced cement concrete pipes (spun type) with inbuilt 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: 2 Meters with inbuilt collar at one end, conforming to ISI Specification IS: 458, 1988 with latest amendment.
13. **GI pipe Specification:** G.I. pipes should be of Class B. 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). 65- 75 mm dia GI pipes are to be laid for crossings bridges and culverts. If space on parapet wall on Bridges/culverts is limited, 40 mm GI pipes may be used with 32 mm HDPE coil drawn inside.
14. **Concreting with wire-mesh:** Concrete of size of 25 cms x 25 cms reinforced with MS weld mesh will be done. 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. 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.
15. **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 fiber cable is pulled/blown. The rubber bush should be manufactured from hard rubber

with grooves and holes to fit into 40/33 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 weigh 150 gms (with a tolerance of $\pm 5\%$.)

2.0 **WORK SPECIFICATIONS**

Technical Specifications of LIUs, Connectors etc:

(As per specifications attached at **Appendix 'C'**).

This section describes the installation procedures and methods including survey, clearances, excavation of trenches and pits, trenchless digging, installation of PLB HDPE pipes, installation of RCC hume pipes and GI Pipes, marking, backfilling, installation of underground cable, construction of manholes, splicing, termination and site acceptance testing requirements of the underground fibre optic cabling system.

Survey: Approved GPR Survey report would be provided by RCIL to the contractor.

2.1

It shall be the responsibility of the contractor to propose the alternate route, if the proposed route is not suitable for installation due to the condition of soil or non-availability of clearances or any other reasons. The final survey report shall have to be approved by RailTel Customer, VISAKHAPATNAM and requisite clearances need to be obtained before the cable installation work is commenced by the contractor.

The construction/implementation shall be carried out as per the approved drawings.

The construction drawings shall include the longitudinal sectional diagram of the trench for different soil strata and detail arrangement of crossings, number of pipes, size of pipe, locations and position of manholes, other details as per the technical specifications. Route maps shall be drawn to the scale of 1:20,000. For convenient handling in the field, the map shall be made on 300mm (W) and lengths not exceeding 1190mm sheets with 30 mm overlap shown on subsequent sheets.

2.1.3 Clearances The contractor shall be responsible for obtaining necessary ROW clearances for excavation work from the authorities on behalf of the RailTel Customer, VISAKHAPATNAM and provide requisite copies of information, maps, survey report etc to the authorities. RCIL shall assist the contractor in obtaining such clearances by providing the authority letter or any other relevant document. The Successful bidder shall make an all out effort with the concerned authority to get clearances expeditiously and to negotiate the least cost to end user.

The contractor shall ensure quick and speedy clearances in order to implement the project within stipulated schedule. In case the authorities have some objections on certain sections of routes proposed and are unwilling to provide

clearances, the Successful bidder shall propose an alternate route, promptly carry out the GPR survey and submit specific survey report for that and reapply for clearance after taking into account the comments/objections of the authority.

2.2 Laying Practices for OFC:

2.2.1 Excavation of Trenches

2.2.1.1 Location and Alignment of 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 Successful bidder). 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 a forestation 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. The alignment of the trench will be decided by RailTel Customer official. Once the alignment is marked, no deviation from the alignment is permissible except with the approval of RailTel Customer, VISAKHAPATNAM Rep. While marking the alignment only the centre line will be marked and the SI shall set out all other work to ensure that, the excavated trench is as straight as possible. The Successful bidder shall provide all necessary assistance and labour, at his own cost for marking the alignment. Successful bidder 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 & shrubs shall be removed to clear the way and the SI shall give all consideration for the preservation of the trees.

2.2.1.2 Line-Up: The line-up of the trench must be such that HDPE/PLB 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.

2.2.1.3 Method of Excavation The Successful bidder shall ensure that no damage is caused to any underground or surface constructions belonging to other public utility services and/or private parties.

2.2.1.3.1 The specification given here under is only for laying HDPE pipes by “No Dig” also called as TRENCHLESS /Horizontal directional drilling method using Trench less Technology. The work involves laying HDPE duct using “No Dig” method with Trench less Technology. The trench less method is also to be used for laying HDPE duct at road/rail/canal crossings. This method has also to be adopted where the Local and Highways authorities insist for the trench less method.

2.2.1.3.2 Underground Services: Ground Penetrating Radar Survey report would be provided by RailTel to identify and prevent damage to

Telephone Cables and other underground services. Trench should be cleared of all pieces of stones, rocks and levelled up, properly. A layer of minimum 7.5 cm of soft soil, must be used for levelling the trench. The bottom of the trench should be as straight as possible, all curves and gradients if unavoidable should be gradual. Successful bidder shall be responsible for all necessary arrangements to remove or pump out water from trench where ever necessary i.e. dewatering process. The trenches should have sufficient width to provide protection at all such places where it is likely to cave in due to soil conditions. A minimum free clearance of 50 cm should be maintained above or below any existing underground metallic or Non-metallic service lines or structure crossing the trenching. The Successful bidder will be responsible for all damages to the underground utilities and the compensation claimed by the service provider should be paid by the Successful bidder failing which the same will be adjusted against any amounts due to the Successful bidder including running/ final bills of this work.

2.2.1.3.3 The pipe is to be laid at a depth not less than 1.65 meters (in case of normal, semi rocky soil) and 1.0 meter (in case of hard rock, and OFC should be laid inside GI pipe and trench to be covered with concrete). Further, for the normal & semi rocky soil the recommended depth will be as deep as possible (approx 2-4 meters) and this mechanism should be adopted on priority to manual digging. In case of manual digging (with prior approval) a stretch of about 60 cm wide at top and 45 cm wide at the bottom at a depth of minimum 1.65 meters may be appropriate. However there will be no objection if the width of the trench is adequate to ensure that, the pipes are laid and joined properly at the specified depth. As far as possible the bottom of the trench should be at uniform level whenever curves or deviations are encountered, it should be a very smooth curve i.e. radii of curvature should be 90 cm minimum.

2.2.1.3.4 The contractor should collect all available information regarding underground services and take necessary care to protect them. He should also have sufficient arrangements to identify and protect such underground services.

2.2.1.3.5 The contractor shall be given GPR survey report by RailTel to identify the underground services. The SI shall prepare a route map to and plot the existing utilities and set the route for horizontal drilling.

2.2.1.3.6 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.

2.2.1.4 Depth and Size of the Trench

The depth of the trench from top of the surface shall not be less than 2.0mts unless otherwise relaxation is granted by competent authority of RailTel Customer, VISAKHAPATNAM under genuine circumstances. In rocky terrain, the depth of the trench may be restricted to a depth of 100 to

140 cms (to be done by either controlled blasting or cut the terrain of appropriate width for laying GI/ HDPE by a cutter). However, RailTel Customer, VISAKHAPATNAM in exceptional cases due to adverse site conditions encountered, may allow to lay HDPE/PLB pipes at a lesser depth with additional protection with GI Pipes over HDPE and filled with concrete.

2.2.1.4.1 When excavation of trench is in slope, uneven ground, inclined portion, and 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 165cms 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.

2.2.1.4.2 If excavation is not possible to the minimum depth of 165cms, as detailed above, full facts shall be brought to the notice of the Engineer in charge RailTel Customer, VISAKHAPATNAM 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 Successful bidder.

2.2.1.5 Dewatering

The Successful bidder 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.

2.2.1.6 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 SI. No extra payment shall be admissible for this.

2.2.1.7 Blasting for excavation

In hard rock conditions, where blasting operations are considered necessary, the contractor shall inform RailTel Customer, VISAKHAPATNAM rep prior to resorting to any blasting operation. The Successful bidder shall obtain license from the competent authority for undertaking blasting work as well as for obtaining and storing the explosive as per the Explosive Act, 1884 as amended up to date and the explosive Rules, 1983. Alternatively, a sub SI/vendor already having license maybe employed for blasting work. The Successful bidder 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 RailTel Customer, VISAKHAPATNAM or their authorized representatives shall have the right to check the SIs store and account of explosives. The Successful bidder shall

provide necessary facilities for this. The entire responsibility of sub SI/vendor vests with the primary successful bidder.

2.2.1.7.1 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.

2.2.1.7.2 Blasting operations shall be carried out under the supervision of a responsible authorized agent of the SI (referred subsequently as agent only), during specified hours as approved in writing by the competent authority. 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 SI as detailed in IS: 4081 safety code for blasting and related drilling operation.

2.2.3 Trenching Near Culverts/ Bridges

The HDPE/PLB pipes shall be laid in the bed of culvert at a depth not less than 2m protected by G.I. pipes and concreting as decided by Engineer- in charge RailTel Customer, VISAKHAPATNAM. Both ends of culverts shall be excavated more than 2m in depth to keep the gradient of not less than 15 degree with horizontal. The bed of trench should be as smooth as possible.

2.2.3.1 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.

2.2.3.2 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

2.2.4 Laying of HDPE/PLB Pipes

2.2.4.1 Optical Fiber Cables should be blown through Permanently Lubricated HDPE Duct of 40 mm-OD and 33 mm ID Pipe of 500/1000 meter coil which meets the specification as given in **Appendix -C** with latest amendments shall only be used for laying the OFC. Wherever GI pipes or R.C.C. pipes are used for protection, the two ends of the pipes should be properly sealed to protect HDPE pipe from sharp edge of GI pipe and to bar the entry of rodents. For providing additional protection Split RCC/GI pipes should be used from top instead of full RCC/GI pipes.

2.2.4.2 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 5cms 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 optical fiber 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 SI 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 fiber cable when it is blown 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.

2.2.4.3 After the trench is cleaned the HDPE/PLB pipes/Coil shall be laid in the cleaned trench, jointed with couplers at every 500/1000m or at bends or turns, the HDPE end caps shall be used for sealing the HDPE/PLB pipes to avoid entry of rodents/mud etc. At the end of each days 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.

2.2.4.4 In cross country routes, if depth is less than 1.65 Meters, protection by using RCC/G.I. Pipe/ Concreting reinforce with weld mesh shall be provided. Engineer-in-Charge, VISAKHAPATNAM shall decide about such stretches and type of protection to be provided in view of the site requirements. Normally 100 mm ID 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.

2.2.4.5 The HDPE/PLB pipes shall be laid in r 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 RailTel Customer, VISAKHAPATNAM. On Rail bridges and crossings, the HDPE/PLB pipes shall be encased in suitable cast iron as prescribed by the Railway Authorities.

2.2.4.6 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 part 53 grade cement of reputed brand, 3 parts of 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 part 53 grade cement of reputed brand, 2 part coarse sand, 4 part 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 OFC 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 part 53 grade cement of reputed brand, 2 part coarse sand, 4 part stone aggregate of nominal size of 20mm) 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 (1 part

53 grade Cement of a reputed company, 2-part Coarse Sand, 4 part 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 SI shall invariably use mechanical mixer at site for providing RCC protection, to ensure consistency of the mix.

2.2.4.7 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.

2.2.4.8 The HDPE/PLB pipes/RCC/GI Pipes shall be laid only in trenches accepted by Engineer-in-Charge RailTel Customer, VISAKHAPATNAM or their representatives. The SI 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 SI before laying the pipes in the trench to ensure that no mud or water gets into the pipes, thus choking it.

2.2.4.9 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 2m, as instructed by the RailTel Customer, VISAKHAPATNAM. The mechanical protection shall extend at least 5 meters beyond the bed of nallah on either side.

2.2.4.10 Notwithstanding anything contained in clauses referred above, RailTel Customer, VISAKHAPATNAM may order, based on special site requirements, that the HDPE Pipes may be encased in reinforced cement concrete.

2.2.4.11 While laying the pipes, a gap of 2 M is to be kept at convenient locations

approx. 200 m apart and at the bends and turns, which will be used as manholes during OF cable blowing. 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 RailTel Customer, VISAKHAPATNAM.

2.2.5 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. In such ducts, G.I. Pipes can be coupled and laid for blowing the cables. However, for laying cables on existing bridges, where duct arrangement does not exist, one of the following methods may be adopted.

2.2.5.1 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 arch is less than 50 cms, the pipe must be buried under the wheel guard masonry and the wheel guard rebuilt.

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

2.2.5.3 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 SI.

2.2.5.4 Methods cited in above clauses should be carried out under close upper vision 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 RailTel Customer VISAKHAPATNAM to protect the pipe/Trough from any possible damage externally caused. Where white wash/ color wash exists on the Bridges/ Culverts, the same should also be carried out on the concreted portion to ensure uniformity.

2.2.6 Back Filling and Dressing of the Trench

Back Filling activity would commence only after due measurements have been recorded in the measurement book and duly verified by RailTel

Customer, VISAKHAPATNAM reps. 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.

2.2.6.1 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.

2.2.6.2 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 SI. However, along the high way and cross country, the dug up material left out should be kept as heap above the trench while refilling.

2.2.6.3 In city limits, no part of the trench should be kept open for more than the minimum distance as specified by local authorities 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.

2.2.6.4 Duct through test of the PLB laid and pressure test shall be carried out after successful completion of backfilling and compaction and shall be completed before blowing of optical cable.

2.2.7 Cable Blowing and Joining/Splicing

2.2.7.1 Cable Blowing. Manholes shall be marked during HDPE/PLB pipe laying of approx. size of 2m X 2m x 2m shall be excavated for blowing the cables. There may be situations where additional manholes are required to be excavated, for some reasons, to facilitate smooth blowing of cable. Excavation of additional manholes will be carried out, without any extra cost. De-watering/De-gasification of the ducts, if required, will be carried out without any extra costs.

The Optical fiber cables are available in drums in lengths of approx. $2 \pm 5\%$ kms. The cables shall be blown by blowing machine through already laid

HDPE/PLB. This work is to be carried out under the strict supervision of RailTel Customer , VISAKHAPATNAM. Only blowing of cables is permitted and pulling of cables shall not be resorted to by the bidder, as tension applied on cable may lead to deterioration/breaking of fibers.

After blowing of the drum is completed, both ends of the HDPE/PLB pipe in each joint chamber 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 65 mm 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 blowing manhole should be recorded for preparation of documentation.

2.2.7.1.1 Method of Blowing of Fiber Optic Cable through HDPE duct:

1. Ensure the duct Integrity test has been completed.
2. Drum should be kept approximately at the center of two adjacent chambers. (i.e., if drum length is 2 Km, at 1 Km.) So that on either side 1 Km blowing can be done.
3. Cable drum should be mounted on jack, which shall be kept on a plain surface.
4. Cable blowing to be done with the help of compressor, hydraulic power pack and blowing Machine. Anti-twist tool can be used to avoid twisting of cable while blowing.
5. It is then necessary to coil the cable in the figure of 8 to facilitate installation.

2.2.7.2 Jointing/ Splicing.

The OFC drums are of $2 \pm 5\%$ Kms in length hence optical fiber joints will be approx. at every 2Kms. The fibers are to be spliced at every 2Kms. & at both ends (Terminations) in the equipment room as directed by the RailTel Customer , VISAKHAPATNAM. Min distance between joint chambers for OFC routers should be 2Kms.

2.2.7.2.1 Preparation of Cable for Jointing

1. Necessary road traffic signs, barriers etc. shall be put up at site.
2. During the installation, a minimum of 20 meters of cable of each end is coiled in the jointing pit to provide for jointing to be carried out at convenient location as well as spare length to be available for future use in case of failures.
3. Bracket to support the cable coil are also fixed on the wall of the pit.
4. The cable is then coiled on to the pit wall in the same position as required after the joint is complete. The marking is done on all the loops so that it will be easier to install it later.
5. The distance from the last center to the end of the cable must be at least 1.8 meter. This is being the minimum to be stripped for preparation of joint.

6. Sufficient cable at each end up to the jointing vehicle/enclosure is then uncoiled from the pit for jointing.

2.2.7.2.2 Stripping/Cutting of the Cable

1. The cable is stripped of their outer and inner sheath with each sheath staggered approximately 10mm from the one above it.
2. Proper care must be taken when removing the inner sheath to ensure the fibers are not scratched or cut with the stripping knife or tool to prevent this, it is best to only score the inner sheath twice on opposite sides of the cable, rather than cut completely through it. The two scores marking on either side of the cable are then stripped of the inner sheath by hand quite easily.
3. The fibers are then removed from cable one by one and each fiber/ribbon is cleaned individually.

2.2.7.2.3 Preparation of Cable Joint Closure for Splicing.

1. The strength members of each cable are joined to each other and/or the central frame of the joint closure.
2. The joint closure is assembled around the cable.
3. The mechanical sealing is applied to the cables and closure or prepared for application after splicing is complete.
4. Tags which identify the fibers Nos are attached at suitable locations on the fibers.
5. Splice protectors are slipped over each fiber in readiness for splicing over the bare fiber after splicing.

2.2.7.2.4 Stripping and Cleaving of Fiber

1. Prior to splicing each fiber must have approximately 50mm of its primary protective U.V. cured coating removed, using fiber stripper.
2. The bare fiber is then wiped with a lint free tissue doused with ethyl alcohol.
3. Cleaving of the fiber is then performed to obtain as close as possible to a perfect 900 face on the fiber.

2.2.7.2.5 Splicing of the Fibers

1. Wash hands thoroughly prior to connecting this procedure.
2. Place the bare fiber inside V groove of the splicing machine by opening clamp handle such that the end of fiber is approx. 1 mm. over the end of the V groove towards the electrodes.
3. Repeat the same procedure for other fiber; however first insert heat shrink splice protector.
4. Press the start button on the splice controller.
5. The machine will pre-fuse, set align both in X and Y direction and then finally fuse the fiber.
6. Inspect the splice on monitor if provided on the fusion splicing machine and assure no nicking, bulging is there and cores appear to be adequately aligned if the splice does not visually look good repeat the above procedure.
7. Slide the heat shrink protector over the splice and place in tube heater. Heat is complete when soft inner layer is seen to be oozing out of the ends of the outer layer of the protector.
8. Repeat the same procedure for all the other fibers.

2.2.7.2.5.1 Organizing Fiber and Finishing Joints

1. After each fiber is spliced, the heat shrink protection sleeve must be slipped over the bare fiber before any handling of fiber takes place, as uncoated fibers are very brittle and cannot withstand small radius bends without breaking.
2. The fiber is then organized into its tray by coiling the fibers on each side of the protection sleeve using the full tray side to ensure the maximum radius possible for fiber coils.
3. The tray is placed in the position.
4. OTDR reading taken for all splices in this organized state and recorded on the test sheet to confirm that all fibers attenuation are within 0.1 db per splice. This OTDR test will confirm fibers were not subjected to excessive stress during the organizing process.
5. After this the joint can be closed with necessary sealing etc and ready for placement in the pit.

2.2.7.2.5.2 Placing of Completed Joint In Pit

1. Joint is taken out from the vehicle and placed on the tarpaulin provided near the pit.
2. The cable is laid on the ground, loop the cable such that pen mark previously placed on the cable line up. Tape these loops together at the top of the coil.
3. The joint can now be permanently closed and sealed mechanically. However, before closing, silica gels to be kept inside for moisture protection.
4. Now the joint closure is fixed to the bracket on the pit wall and pit is closed.

2.2.7.2.6 Splicing Requirements

Suitable infrastructure needs to be catered for by the bidder to carry out splicing at his own cost. The Infrastructure required for cable splicing is as given below: -

1. Splicing machine.
 2. Air Conditioned Van.
 3. OTDR
 4. Optical talk set.
 5. Tool kit
 6. Any additional accessories, e.g. DG set.
1. RailTel Customer , VISAKHAPATNAM rep would accompany the SI Site-in-charge and would be taken along with the jointing team to supervise the quality of work.
 2. The optical fiber cable thus jointed end-to-end will be tested by during Acceptance Testing for splice losses and transmission parameters. The OFC should meet all the parameters specified and no relaxation will be granted.
 3. It should also be ensured that during jointing no fibers are interchanged or broken.
 4. The number of joints should not be more than 10% of the theoretical value calculated for the length of OFC laid.

2.2.8 Construction of Jointing Chamber

The joint chambers are provided at every joint to keep the OFC joint well protected and also to keep extra length of cable, which may be, required to attend the faults at a later date. The location is finalized by Engineer-in-charge RailTel Customer , VISAKHAPATNAM. The jointing chambers will preferably be of pre-cast RCC type as per where not possible, bidder may construct brick chamber. The damaged Joint chambers also need to be replaced by contractor.

2.2.9 Construction and Installation of RCC Route /Joint Indicators.

1. Joint Indicators Pits shall be dug 1m. 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 OFC changes directions like road crossing etc. These RCC route indicators have to be replaced where damaged physically.
2. 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 minimum up to 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.
3. Depth of pit for fixing the route indicator should be 50 cm for hilly terrain. The route/joint indicator shall protrude at least 18 inches above ground level for easy identification. 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
4. 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 :
 - For Joint Indicator Red.
 - For Route Indicator Dark Blue.
 - For Letters White
5. The word **DTCO** should be engraved on the route/joint indicators. The engraved word **DTCO** should be further painted in white over the specified background colour.
6. 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.

2.2.10 Specifications of Material to be used during OFC Route Construction.

The specifications of protection material to be utilized during the OFC route construction. For lesser depths requiring mechanical protection as per

specifications and inbuilt up areas, suitable mechanical protection is provided to HDPE/PLB pipes/coils using RCC/split RCC/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.

2.2.10.1 RCC Full 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-3 class for 100 mm /150mm full round, conforming to IS standard 458-1988 revised up to date.

The pipes should have a nominal length of 2 Meters. The RCC collars should be properly sealed using cement mortar 1:3 (1 part grade 53 cement of reputed brand, 3part 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 40cms (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.

2.2.10.2 RCC Full Split Pipes Reinforced cement concrete pipes (spun type) with inbuilt 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: 2 Meters with inbuilt collar at one end, conforming to ISI Specification IS: 458, 1988 with latest amendment.

2.2.10.3 G.I. Pipes G.I. pipes should be of Class B having diameter of 76mm. 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. If space on parapet wall on Bridges/culverts is limited, 40 mm GI pipes may be used with 32 mm HDPE coil drawn inside.

2.2.10.4 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. 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.

2.2.10.5 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 fiber cable is pulled/ blown. The rubber bush should be manufactured from hard rubber with grooves and holes to fit into 40/33 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 weigh 150 gms (with a tolerance of $\pm 5\%$).

2.2.11 HDPE

High Density Polyethylene (HDPE) pipes are to be jointed by ring couplers. RCC pipes will be used in all road crossings, bed of causeway, small rivulets, shallow streams and nallahs that remain dry for most of the year (about nine months) at the depth of 1.65 meter. It is preferable to lay pipe on upstream side, at a distance of four times that of water flow. OFC cable should be laid inside the HDPE pipe. 65- 75 mm dia GI pipes are to be laid for crossings bridges and culverts. Following procedure is to be followed: -

For Culverts, Bridges Exceeding 6 Meters in length, the OFC cable should be protected and taken through 65 mm (min.) dia GI pipe and the pipe should be laid within carriage width of the culvert near the parapet wall. Various possible methods are as under: -

- (i) Culverts without earth cushion/less cushioning, wheel guard (kerb) may be broken and the pipe is fixed and wheel guard is built enclosing the 65 mm (min.) dia GI pipe with concrete pipe on embankment/slopes up to normal route enclosing it in the brick masonry chamber for better protection.
- (ii) If the wheel guard is of RCC and where breaking is not permitted, a 150 mm X 150 mm concrete chamber shall be constructed on wheel guard (kerb) to enclose GI pipe.
- (iii) When culvert with earth cushioning of 30 cms to 60 cms depth is available, the GI pipes can be buried in earth cushioning and a concrete brick chamber 150 mm X 150 mm is constructed to enclose the pipe.
- (iv) If neither of the above is possible, the HDPE pipes will be fitted inside the 65 mm dia GI pipe. These GI pipes shall be fitted with GI clamps & hangers attached outside the parapet wall or girder or railings. GI pipes will be further protected with GI troughs of size 15 cm X 10 cm X 90 cm connected in tandem and supplied on hangers or clamps pipe.

3.0 Documentation:

The documentation, consisting of the following shall be prepared for OFC links for each section and need to be submitted in hard and soft copies to RailTel Customer , VISAKHAPATNAM as deliverables.

Part 1- Before Start of Work:

Initial Route Survey Diagrams (to be submitted before start of work for approval):

- (i) Approved proposed route survey drawing will be provided by RCIL.
- (ii) The contractor will provide Section wise details of routes for ROW from different agencies, if any based on approved route drawings.
- (iii) FAT and SIT of items viz. LIU with assembly, GI Pipes, etc with the factory reports as per specifications. (as applicable for contractor)

(iv) Time Line of Execution Plan as per PDC.

Part 2- During Execution of Work:

- (i) HDD Work/ HDPE Blowing Report mentioning depth with their GPS location at every 5 Km of length for witnessing of DTC Rep.
- (ii) OFC cable Pulling/ Splicing/trench back filling, Joint Enclosures/ Chamber details and Termination Reports as per specification.

Part 3- On Completion of Work and SAT:

a) 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.

- (i) Make and size of the cable.
- (ii) Section wise route diagram including road description, boundary of road etc.
- (iii) Surroundings, landscape, burrow pits, slope, type of soil to be excavated for trenching.
- (iv) Roads branching out of main route
- (v) Offset of cable from centre of the road at every 10 meters
- (vi) Depth profile of cable at every 10 meter.
- (vii) Details of protection with type of protection depicted on it.
- (viii) Location of culvert, bridges, railway crossings, dry and flowing streams etc. with their lengths and scheme of laying of HDPE pipe there on.
- (ix) Water logging along the route.
- (x) "Km" marks, important land marks to facilitate locating the cable in future.
- (xi) Location of Joints and pulling manholes.
- (xii) Differential GPS/ GPS reading for entire route

b) Route/Joint indicator/ Chamber Location Diagram: This diagram will show.

- (i) Geographical location of all the Route/Joint indicator.
- (ii) Three nos. of reference to pin point the location of the route/Joint indicators and chambers has to be marked on the diagram.
- (iii) Depth of joint chamber covers from ground level.
- (iv) Type of chamber (Bricks / pre cast).
- (v) Length of OFC kept inside the joint chamber from either direction.

c) Google Map: This diagram will show the Cable Route Details mapped on offline Google map.

d) The OTDR report : Site Test Report of OFC Cable before laying and Report after laying of cable.

e) Chromatic Dispersion (CD) and Polarization Mode Dispersion (PMD) Report.

Part 4 - Commissioning Reports:

- (i) Commissioning Installation Test plan

Laid Optical cables will be tested on actual voice/ data traffic movement, the end supporting electronics for this will be provided by RailTel Customer , VISAKHAPATNAM.

All above parts 1 to 4 shall bear the signatures of the SI, RCIL and RailTel Customer , VISAKHAPATNAM Rep as a proof of accuracy of the details. The documents/ diagrams will be given in two copies in paper with no disclosure certificate. No copy of diagram should be kept by the Successful bidder.



1. Specifications of Fiber Optic SC style fully loaded Patch Panel:

S.No	Minimum Specifications / Functionalities / Capabilities
II	Fiber Optic SC style fully loaded Patch Panel (FOPP), 19" Rack Mount with '24' nos. of OS2 9/125μ Pigtaills.
1	Minimum Specifications
1.1	Insertion Loss : .3dB per connector
1.2	Return Loss: better than 40 dB
1.3	'24' nos. of ISO/IEC-11801-OS2 Pigtaills with SC Type Connectors
1.4	Shall have all accessories including coupler plates pre loaded with duplex SC couplers (OS2), pigtaills for terminating fibers on the FOPP
1.5	Shall be Front Patching Type, 1U high and rack mountable on standard 19" rack with mounting arrangements
1.6	Shall be supplied with fusion splicing sleeves for termination of fiber.
1.7	Shall be made of powder coated steel or aluminum
1.8	Shall be slide-out type drawer enclosure for Easy access to splicing tray, Easy access to back side of the connector and have labels for better identification
1.9	Shall have trays with hinges(book type) which facilitates easy Fiber management and greater access during installation and rework
1.10	Shall have all necessary accessories for fiber management inside such as Fiber guides, radius controls & secure tie downs within the FOPP

MAKE: TE/Comscope/HFCL/Eqvt**2. Specifications of Fiber Optic Patch Cable (SC-SC: 50%QTY & LC-SC: 50% QTY):**

S.No	Minimum Specifications / Functionalities / Capabilities
III	Fiber Optic Patch Cable (SC-SC), 3 Mtrs. Long, ISO/IEC-11801-OS2 9μ Duplex, LSZH
1	Minimum Specifications
1.1	Length shall be available in 3/5/10 meters etc
1.2	All patch cords shall conform to EIA/TIA-568C.3 and ISO/IEC-11801
1.3	Shall be Duplex Multi Mode Fiber Optic Patch Cords OS2 9μ
1.4	Shall support network line speeds of 10 Gbps or more
1.5	Shall have SC Connector connectors at both the ends
1.6	All patch cords shall be factory terminated and packed.
1.7	Shall be RoHS Compliant
1.8	Shall be Low-Smoke & Zero-Halogen

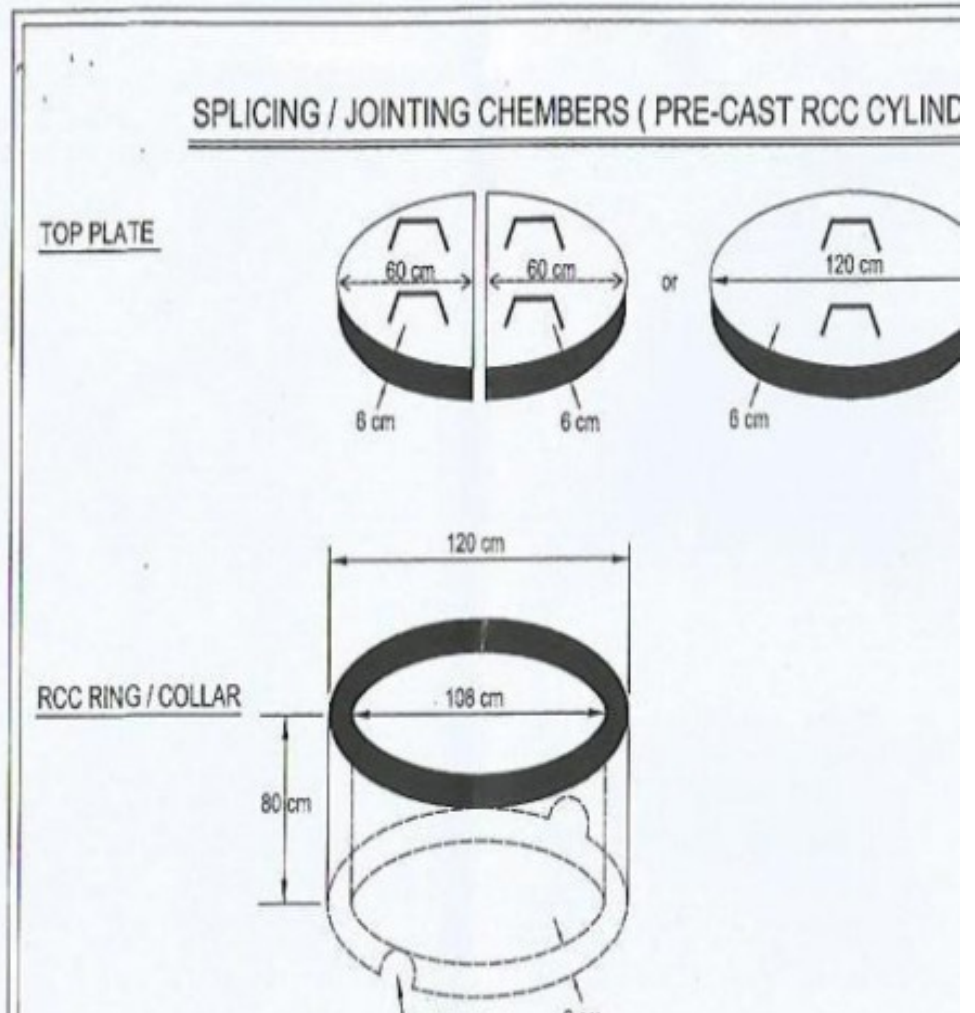
MAKE: TE/Comscope/HFCL/Eqvt

3. Specifications of SPLICE/ Jointing Chamber (Precast Type):

x	
	<u>SPLICE/ JOINTING CHAMBERS [PRE-CAS</u> 1. RCC Joint Protection chamber consists of a) RCC ring / c Height 80 cm, Thickness 6 cm; b) a bottom circular RC thickness 6 cm and 120 cm dia; c) two semi circular RCC cm radius (120 cm dia) with two handles for each plate One circular RCC plate (top plate) of 60 cm radius (120 with 6 cm thickness. 2. Reinforced cement concrete should conform to NP2 weight of the chamber should be as prescribed in IS-458. 3. The reinforced Chambers should be machine made. 4. All the materials used should be capable of withstanding other chemical & corrosive effects of the soil. 5. The quality of material used for cement concrete work e by the Purchaser / authorized representative of the Depar 6. Mild steel bars used for the work shall be of tested quality 7. The materials used shall be of the best quality of material 8. Sand used shall be of fine quality. 9. Reinforcement used should be of 6 mm GI wire (as presc 10. Cement concrete proportion should be 1:2:3 (1 cement ; 11. Ballast used should be of 6 mm size. 12 gauge GI w before reinforcing the concrete.

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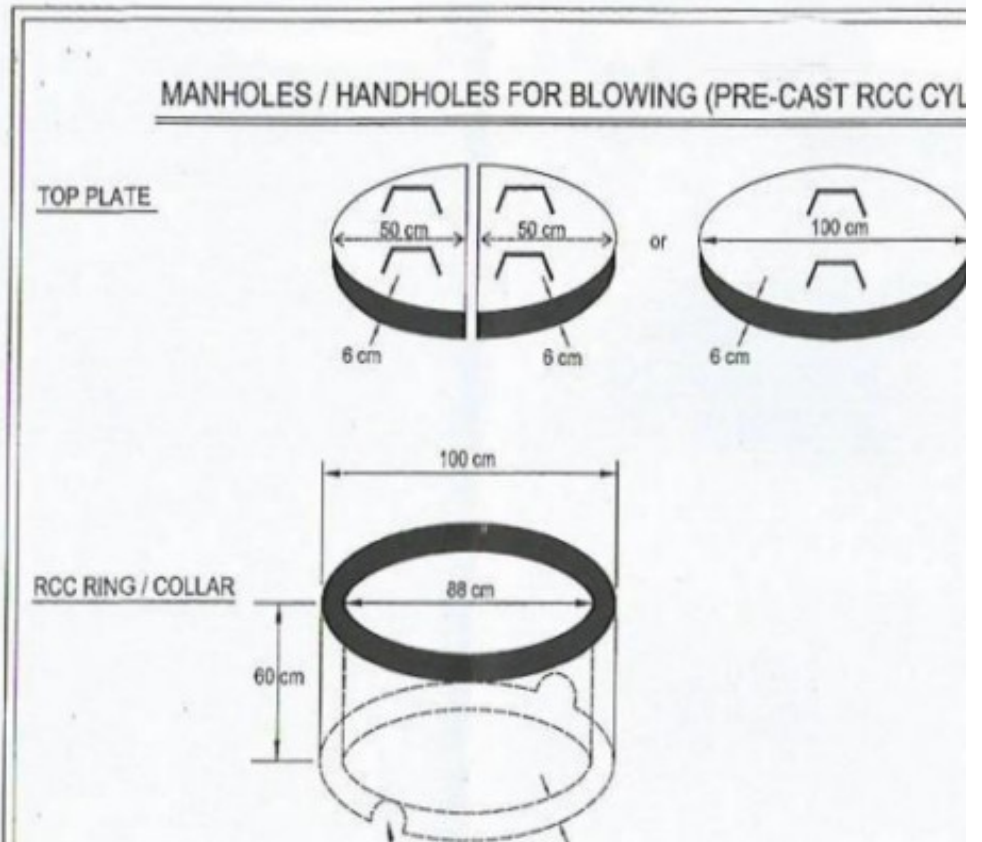
Ref No.:- TCIL/ NFS/Defense Project/UK/Empanel/2018



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4. Specifications of Manhole for blowing**Ref No.:- TCIL/ NFS/Defense Project/UK/Empanel/2018****SPECIFICATION****MANHOLES/ HANDHOLES FOR**

1. RCC Joint Protection chamber consists of a) RCC Height 60 cm, Thickness 6 cm; b) a bottom circular thickness 6 cm and 100 cm dia; c) two semi circular cm radius (100 cm dia) with two handles for each. One circular RCC plate (top plate) of 50 cm radius with 6 cm thickness.
2. Reinforced cement concrete should conform to weight of the chamber should be as prescribed in I
3. The reinforced Chambers should be machine made
4. All the materials used should be capable of withstanding other chemical & corrosive effects of the soil.
5. The quality of material used for cement concrete by the Purchaser / authorized representative of the
6. Mild steel bars used for the work shall be of tested
7. The materials used shall be of the best quality of n
8. Sand used shall be of fine quality.
9. Reinforcement used should be of 6 mm GI wire (as
10. Cement concrete proportion should be 1:2:3 (1 ce
11. Ballast used should be of 6 mm size. 12 gauge



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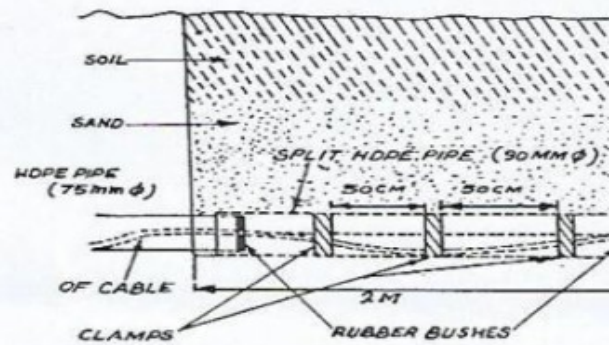
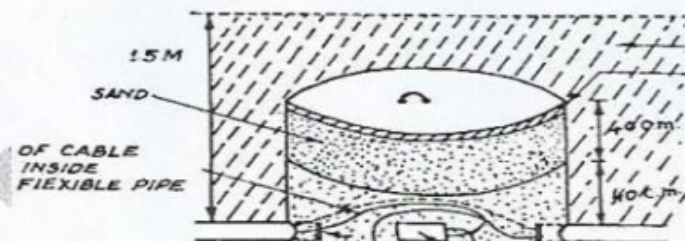


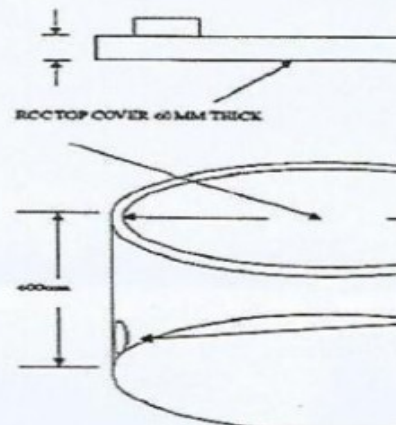
FIG-4(a) HANDHOLE FOR DFC

SPLICING / JOINTING CHAMBER



heading i.e. loading, unloading and fixing as mentioned in the drawing for facilitating entry

MANHOLE/
HANDHOLE
FOR BLOWING



1. Site Acceptance Test (SAT)

The Site Acceptance Test (SAT Test) is conducted from both ends of the fiber after all splices have been installed. It is an end-to-end test, and the last test to be done before the fiber is used for transmission. This test can also be used for trouble shooting purposes whenever the integrity of the fiber is in question. Like the Installation Test, the Final Test is conducted from both ends of the fiber, but also includes return loss measurements. This test is conducted with connectors (LIU) installed on the ends of the fiber.

1.1 Tools Required:

1. Appropriate patch cords and adapters
2. OTDR
3. Laser Source and Power Meter
4. Final Acceptance Test data sheet

1.2 OTDR Readings:

1. Record the following information.
 - a. Site ID
 - b. Maximum specified loss at 1550 nm
 - c. Maximum specified loss at 1310 nm
 - d. Date
 - e. Test Crew
 - f. OTDR model and s/n
 - g. RM model and s/n
 - h. PM model and s/n
 - i. Source model and s/n
 2. Inspect the fiber and record any visible signs of defects.
 3. Use the OTDR to take the following measurements from one end of the fiber.
 - a. Total loss at 1550 nm
 - b. Attenuation per kilometer at 1550 nm
 - c. Total loss at 1310 nm
 - d. Attenuation per kilometer at 1310 nm
 - e. Total length as indicated by ODTR
 - f. Note any anomalies (rescale for clarity and record)
 4. Print and record the OTDR traces on disk. Indicate direction of measurement, and record tube and fiber color.
- Note: Differences between the 1550nm trace and the 1310nm trace. Slightly greater attenuation over a length of fiber at the shorter wavelength is normal.
- a. Uncut cable should have no reflections or attenuation steps
 - b. Connectors may have no more than 0.3 dB attenuation and low return loss (greater than 65 dB for APC Connectors).
 - c. Fusion splices may have no more than 0.1 dB attenuation and no return loss.

- d. Larger attenuation steps at the longer wavelength may indicate macro bending.
- e. Attenuation steps or gains at both wavelengths indicate spliced, broken or damaged fiber.
- 5. Reflections where no connectors or splices are expected indicate broken fiber.
Compare the test results to the manufacturer's specifications.
- 6. Use the OTDR to measure return loss. Save the measurement in an appropriate file.
- 7. Measure the Insertion loss using Laser power source and Power meter.
- 8. Repeat steps 2 to 7 from the opposite end of the cable.
- 9. Note differences in measurements taken from opposite directions.
 - a. Traces should be similar in both directions.
 - b. Reflections in one direction and attenuation steps in the other direction indicate a poor splice or fiber mismatch.

1.3 CD / PMD Readings:

CD and PMD parameters will be tested as per specifications of optical cables and tabulated.

2. Commissioning Test:

After successfully completion of SAT, the final integration and communication testing for commissioning of optical fiber cables will be done.



Availability of Service and Penalty Clause: DELETED

Appendix –J

Specific Instructions to Tenderer and conditions

1. RCIL's Right to Accept/Reject Bids:

RCIL reserves the right to accept or reject any bid and annul the bidding process or even reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or without any obligation to inform the affected bidder or bidders about the grounds for RailTel's action.

2. Liquidated Damage (LD):

RCIL reserve the right to impose the LD in case of delay in supply attributable to RCIL at the rate of 0.5% per week or part thereof for delayed stores which the successful bidder has failed to deliver within the period agreed for deliver in the contract subject to maximum of 10% of the total order value. In certain categories of procurement, LD can also be levied on the successful bidder of the store supplied partially within the scope of the order/contract that could not be put to use due to late delivery of the remaining stores.

3. Liability:

Except as provided in the Agreement, neither party shall be liable to other party or any other party by virtue of termination of the Agreement for any reason whatsoever for any claim for loss or profit or on account for any expenditure, investment, leases, capital improvements or any other commitments made by the other party in connection with their business made in reliance upon or by virtue of the Agreement.

4. Suspension, Revocation or Termination of Agreement:

4.1 RailTel reserves the right to suspend the operation of the agreement, at any time, due to change in its own license conditions or upon directions from the competent government authorities, In such a situation, RailTel shall not be responsible for any damage or loss caused or arisen out of aforesaid action. Further, the suspension of the agreement will not be a cause or ground for extension of the period of the agreement and suspension period will be taken as period spent. During this period, no charges for the use of the facility of the successful bidder shall be payable by RailTel.

4.2. RailTel may, without prejudice to any other remedy available for the breach of any conditions of agreements, by a written notice of Three month issued to the Successful Bidder at its registered office, terminate/or suspend the agreement under any of the following circumstances:

4.2.1 The successful bidder failing to perform any obligation(s) under the agreement.

4.2.2 The successful bidder failing to rectify, within the time prescribed, any defect as may be pointed out by RailTel

4.2.3 Non adherence to terms & conditions of the work which RailTel has committed to IN VISAKHAPATNAM for the pertinent scope of work.

4.2.4 The successful bidder going into liquidation or ordered to be wound up by competent authority.

4.2.5 If the successful bidder is wound up or goes into liquidation, it shall immediately (and not more than a week) inform about occurrence of such event to RailTel in writing. In that case, the written notice can be modified by RailTel as deemed fit under the circumstances. RailTel may either decide to issue a termination notice or to continue the agreement by suitable modifying the conditions, as it feels fit under the circumstances.

4.2.6 It shall be the responsibility of the successful bidder to maintain the agreed Quality of Service, even during the period when the notice for surrender/termination of agreement is pending and if the Quality of Performance of Solution is not maintained, during the said notice period, it shall be treated as material breach liable for termination at risk and consequent of successful bidder and Performance Bank Guarantee submitted along with empanelment letter shall be forfeited, without any further notice. Also, the PBG submitted for the EoI in context shall be forfeited, without any further notice.

4.2.7 Breach of non-fulfillment of Agreement conditions may come to the notice of RailTel through complaints or as a result of the regular monitoring. Wherever considered appropriate RailTel may conduct an inquiry either suo-moto or on complaint to determine whether there has been any breach in compliance of the terms and conditions of the agreement by the successful Bidder or not? The successful Bidder shall extend all reasonable facilities and shall endeavor to remove the hindrance of every type upon such inquiry. In case of default by the selected bidder in successful implementation and thereafter maintenance of work as per the conditions mentioned in the IN VISAKHAPATNAM's Scope of work and EoI in context, the PBG of successful bidder available with RailTel will be forfeited.

5. Dispute Settlement:

5.1 In the event of any question, dispute or difference arising under this agreement or in connection there-with (except as to the matters, the decision to which is specifically provided under this agreement), the same shall be referred to the sole arbitration of the Chairman & Managing Director/RailTel. The agreement to appoint an arbitrator will be in accordance with the Arbitration and Conciliation Act 1996.

5.2 There will be no objection to any such appointment on the ground that the arbitrator is a RailTel servant or that he has to deal with the matter to which the agreement relates or that in the course of his duties as a RailTel servant he has expressed his views on all or any of the matter in dispute. The award of the arbitrator shall be final and binding on both the parties to the agreement. In the event of such an arbitrator to whom the matter is originally referred, being transferred or vacating his office or being unable to act for any reason whatsoever, the Chairman & Managing Director/RailTel or the said officer shall appoint another person to act as an 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.

5.3 The arbitrator may from time to time with the consent of both the parties enlarge the time frame for making and publishing the award. Subject to the aforesaid, 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.

5.4 The venue of the arbitration proceeding shall be the office as decided by Chairman & Managing Director/RailTel, or such other places as the arbitrator may decide.

6. Force-Majeure:

If at any time, during the continuance of this agreement, the performance in whole or in any part, by either party, of any obligation under this is prevented or delayed, by reason of war, or hostility, acts of the public enemy, civic commotion, sabotage, Act of State or direction from Statutory Authority, explosion, epidemic, quarantine restriction, strikes and lockouts (as are not limited to the establishments and facilities of the successful bidder, fire, floods, natural calamities or any act of God (hereinafter referred to as event), provided notice of happenings of any such event is given by the affected party to the other, within 21 Calendar days from the date of occurrence thereof, neither party shall, by reason of such event, be entitled to terminate the agreement, nor shall either party have any such claims for damage against the other, in respect of such non-performance or delay in performance. Provided service under the agreement shall be resumed as soon as practicable, after such event comes to an end or ceases to exist. The decision of RailTel as to whether the service may be so resumed (and the time frame within which the service may be resumed) or not, shall be final and conclusive. However, the force-majeure events noted above will not in any way cause extension in the period of the agreement.

7. **Payment Terms:** Payment will be released in Stages with following terms after successful completion of work, joint measurement and testing to the satisfaction of Engineer-in-charge and submitting the required Documentation i.e. OTDR trace reports after execution of work, ABD i.e. As Built Drawing duly mapped with GPS etc:

S. No.	Particular	Payment applicable
Stage-1	Liaisoning charges payable after 100% ROW Clearance (ie. end-to-end) (PI refer Section II, Chapter 1.1 Appendix A (Clause 3))	5%
Stage-2	On Laying of HDPE Duct: 15 % of the PO value shall be paid proportionately for the completion of ducting work on certification of RCIL Engineer In-charge. Minimum 9.0 KMs of ducting (incl. Placing of Duct couplers, and other telecom accessories required as per site condition) to be done for claiming first proportionate bill). (PI refer Section II, Chapter 1.1 Appendix B)	15 %
Stage-3	SITC (Laying, Blowing of Optical fiber Cable and Its end To end Termination/Splicing in all aspect as per scope of work and acceptance of RAILTEL ENGINEER-IN-CHARGE for completion of work and Submission of ABD, GIS mapping & OTDR Reports etc.) (PI refer Section II, Chapter 1.1 Appendix B)	70%
Stage-4	On completion of successful Warranty Period along with maintenance for a period of 1 year and after issue of FAC (Final Acceptance Certificate) & return of Original BGs to RailTel after collection from civic authorities : 10% of PO value (PI refer Section II, Chapter 2 para 19 & Para 21)	10%

- i. Bill passing and Bill paying authority will be TM/BZA and Sr. DGM/Fin. respectively.
- ii. Bidder should study the tender document very carefully in case of any of the item not mentioned in the SOR is required to meet the end objective of the project the same shall be provided by the bidder and no extra payment would be made to the successful bidder.
- iii. Tax invoice along with the acceptance of IN VISAKHAPATNAM to be submitted at the time of claiming the payment.

SECTION- II
CHAPTER - 2

Special Conditions of Contract I N D E X

Para Subject

1. Tender Document
2. Agreement
3. Security Deposit
4. Contractor's Office & Stores depot
5. Use of Railway Land
6. Program of work.
7. Competent Supervisors
8. Test & Measuring Instruments, Special tools & Installation Material
9. Stores to be supplied by contractor
10. Supply of Technical Literatures, Documentation Drawings & Completion Plan etc.
11. Quality assurance
12. Inspection of materials
13. Inspection of works
14. Quantum of work and variation in Quantities
15. Subletting and assignment
16. Execution of works
17. Maintenance of works
18. Clearance of site
19. Provisional Acceptance
20. Placing in Service & Maintenance Supervision
21. Final Acceptance
22. Warranty
23. Infringement of Patents
24. License as per Govt. of India Contract Labour Act
25. Defaults and Delays
26. Loss Sustained Due to Default and Delay
27. Penalty for Delay in Completion
28. Adherence of time schedule
29. Contractors liabilities for Costs and Damages
30. Unit prices
31. Measurement of works
32. meaning and interpretation by RailTel to be final
33. Terms of Payments
34. On account payment
35. Final Payments
36. Final Settlement
37. Certificate for MODVAT BENEFITS on bills
38. Deductions from On Account Payment Bills
39. Taxes
40. Insurance
41. Force Majeure Clause
42. Settlement of dispute and Arbitration
43. Termination of Contract

SPECIAL CONDITIONS OF CONTRACT**1. TENDER DOCUMENTS**

1.1 The goods and works/services required, bidding procedure and contract terms are prescribed in the tender documents. The set of tender documents issued for the purpose of bidding includes the following together with any addendum and corrigendum thereto.

Section-I: Preamble along with schedule of requirements, annexure etc.

Section-II: I) Instructions to tenderers and conditions of tendering.

II) Special conditions of contract.

III) Forms of Tender and annexure etc.

Section-III: Technical specifications and drawings etc.

1.2 If the Tender submitted by a Tenderer is accepted and the contract awarded to the Tenderer the various works coming under the purview of the contract shall be governed by tender documents mentioned above.

1.3 Any special conditions stated by the Tenderer in the covering letter submitted along with the tender shall be deemed to be a part of the Contract to such extent only as have been explicitly accepted by the RailTel.

2. AGREEMENT

The successful Tenderer shall within 30 days after having been called upon by notice to do so be bound to execute an agreement based on accepted rates and conditions, in such form as the RailTel may prescribe, and lodge the same with the RailTel together with the conditions of contract, specifications and Schedule of prices referred to therein duly complete. The form for agreement is included in Section II, Chapter III (Form No.3).

3. SECURITY DEPOSIT

3.1.1 The security deposit amount will be equal to 5% of contract value for due fulfillment of the contract.

3.2 The Earnest Money already paid by the successful Tenderer (see Clause 5 Chapter-I Section-II Instructions to Tenderers and Conditions of Tendering) will be adjusted towards payment of this Security deposit

3.3 Balance amount towards SD shall be recovered from the contractor's "on account" bills as under:

(a) The rate of recovery should be at the rate of 10% of the bill amount till 5 % contract value is achieved.

(b) Security Deposit shall be released after satisfactory completion of the warranty period (clause no 22) and on issue of Final acceptance certificate (FAC).

(c) No interest will be payable upon the Earnest Money and Security Deposit

3.4 CONTRACT PERFORMANCE GUARANTEE (PBG)

3.4.1 On receipt of the Letter of Acceptance/PO of Tender from the RailTel, the successful Tenderer should give a Performance Guarantee in the form of irrevocable bank guarantee from any Nationalized Bank or Scheduled Bank in the Form given in Tender document amounting to **5% of the contract value** Or in the form of Insurance Surety Bond as per Form-14.

3.5 The Instruments for Performance Guarantee should be valid for three months beyond the Completion period.

3.6 While submitting the PBG, the following is to be noted:

i. **All performance security (PBG) up to Rs. 5 Lakhs will be accepted only through Bank transfer only.**

ii. As per RBI guidelines BG above Rs. 50,000/- should be signed by two bank officials.

- iii. PBG should be from a scheduled commercial bank (either private or PSU) but not from any Cooperative Bank or NBFC.
- iv. It is to be ensured that BG issuing bank must be SFMS enabled. Under SFMS system, a separate advice of the BG (via SFMS IFN 760COV) to be sent to the advising bank (RailTel) through SFMS by the issuing bank (Applicant). Similar process to be followed for bank guarantee amendment also and separate advise (via SFMS IFN 760COV) is sent to the advising bank and only after this the BG will become acceptable to RailTel. It is therefore in own interest of bidder to advise the details of RailTel's bank IFSC code, its branch and address as given below: to the BG issuing bank and request them to send advice of BG through SFMS to the RailTel's Bank.
- v. The minimum gap between BG expiry date and BG claim date should be 12 months.
- vi. If required, Bank Guarantee to be extended at least 85 days before its expiry; failure to do so will result in the encashment of the BG.

RailTel SR Bank Details for PBG:

Name: RailTel Corporation of India Limited

Account No: 327301010373007,

IFSC Code: UBIN0805050,

Bank Name: Union Bank of India,

Branch address: Union Bank of India, RP Road Branch, Bungalow no 109, New No 1-7-252 to 254 Oxford Street, SD Road, Near ParkLane Center Secunderabad – 500003

- 3.7 **Delay in submission of PBG:** The successful tenderer shall have to submit a Performance Guarantee (PBG) within 30 (thirty) days from the date of issue of Letter of Acceptance (LOA)/PO. Extension of time for submission of PG beyond 30 (thirty) days and up to 60 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 15% per annum shall be charged for the delay beyond 30 (thirty) days, i.e. from 31st day after the date of issue of LOA, a notice shall be served to the contractor to deposit the PG immediately (however not exceeding 60 days from the date issue of LOA). In case the contractor fails to submit the requisite PBG even after 60 days from the date of issue of LOA, the contract shall be terminated duly forfeiting EMD and other dues, if any payable against that contract. The failed contractor shall be debarred from participating in re-tender for that work
- 3.8 Performance Guarantee shall be released after satisfactory completion of the completion period. On completion of work and issue of final Provisional Acceptance Certificate, the PBG submitted in the form of BG / Insurance Bond / Demand Draft will be returned / refunded to the contractor after adjustment of any dues payable by the contractor.
- 3.9 Wherever the contracts are rescinded, the security deposit should be forfeited and the Performance Guarantee shall be en-cashed by RailTel.
- 3.10 The balance work shall be got done independently by RailTel.
- 3.11 The original contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a ~~Joint Venture (JV)~~ or a partnership firm, then every member/partner of such a firm would be debarred from participating in the tender for the balance work either in his/her individual capacity or as a partner of any other ~~JV~~/partnership firm.

4. **CONTRACTOR'S OFFICE & STORES DEPOT:** The Contractor shall within ten days of issue of letter of acceptance of tender establish an office and store depot at a convenient place for receiving and storing equipments and materials and progressing field work expeditiously in consultation and with the approval of the purchaser's Engineer. He shall intimate the purchaser's Engineer address thereof to which all correspondence should be sent. Any communication sent to the contractor by post at his said address shall be deemed to have reached the contractor duly and in time. Important documents shall be sent by Registered post.

5. **USE OF RAILWAY LAND:** Use of Railway land required by the Contractor for construction of

temporary offices, quarter(s), hutments etc. for the staff and for storing materials etc., will be permitted to him/them subject to approval by Railways, if available at the charges prescribed by the Railways. The land will be restored to Railways by the Contractor(s) in the same condition as when taken over or in vacant condition as desired by the Engineer after completion of the work or at any earlier day as specified by the Engineer. Failure to do so will make the Contractor(s) liable to pay the cost incurred by the Railway for getting possession of land.

6. PROGRAMME OF WORK

6.1 The Contractor shall have necessary resources to execute the work so that the entire work is completed within a period as mentioned in the preamble from the date of issue of Letter of Acceptance of the tender. He shall also have necessary resources to take up the work simultaneously at more than one independent place in order to expedite the completion of work.

6.2 Within a period of 7 days beginning from the date of issue of Letter of Acceptance/PO of Tender the Contractor shall submit the detailed time Schedule for the execution of work based on the conditions in consultation with RailTel to the authority mentioned in the Preamble and approved by the later in writing before commencement of the work.

6.3 The Contractor shall be held responsible for the execution of the work according to the Program given above in full compliance of the various clauses of the Technical specifications, instructions / drawings etc. Failure to comply with any of these will be dealt with as per provision laid down in Conditions of Tendering.

6.4 Approach roads, where ever available can be used for carting materials. While RailTel may facilitate the contractor for getting approval from the Railways, if required, for carting the material to the site, the responsibility for ensuring that the material reaches the site in time, lies entirely with the contractor. The contractor has to bear the necessary expenses for carting the material to the site.

6.5 The contractor will program his work in such a manner so as not to interfere in the working and movement of trains.

7. **COMPETENT SUPERVISORS:** The Contractor shall place and keep competent representatives/Supervisors /Engineers as his representative on the works who will be authorized to receive and acknowledge materials issued by the RailTel and take all orders issued by the RailTel. The said representatives shall be present at site during working hours and any written orders or instructions which the purchaser's Engineer may give to the said representatives of the contractor shall be deemed to have been duly given or communicated to the contractor.

8. TEST & MEASURING INSTRUMENTS AND SPECIAL TOOLS ETC.

8.1 Special tools & instruments required for installation and commissioning of the work as detailed in preamble shall be arranged by contractor at his own cost.

8.2 All tests and measuring instruments and other arrangements required for carrying out all the acceptance tests etc shall be provided by the contractor at his own cost.

9. **STORES TO BE SUPPLIED BY CONTRACTOR:** All materials required for the execution of the contract shall be arranged and supplied by the Contractor as detailed in the scope (Preamble) so as to realize the end objective. The supply of equipments and materials shall also include required installation and other materials and documents etc which may not be specifically mentioned herein but which are usually necessary for completing the work in all respects.

10. **SUPPLY OF TECHNICAL LITERATURES, DOCUMENTATION, DRAWINGS, INSTRUCTION BOOK & COMPLETION PLANS ETC:** The supply of equipment and materials shall include supply of two sets of printed documents from original equipment manufacturers for each equipment.

11 QUALITY ASSURANCE: In the event of RailTel waving off the inspection, the quality assurance department of the manufacturer shall carry out all the tests as per the specification and issue a certificate indicating clearly the test results and the adherence to the technical specifications. This is without prejudice to the purchaser's right to accept or reject the supplies if not found in conformity to its requirement

12 INSPECTION OF MATERIALS

12.1 All equipments materials fittings and components will be subject to inspection by the purchaser or his representative at the manufacturer's factory/tenderer works before dispatch and no materials shall be dispatched until these are inspected and/or approved. The materials may also be inspected by the purchaser or his representative again at the contractor's depot.

12.2 All materials shall be procured from the manufacturers of repute/their-authorized dealers. Such materials are to be accepted by the Engineer. The Contractor may be required to produce test certificate from the manufacturer wherever called for by the Engineer.

12.3 The cost of equipment and materials, all tests and/or analysis performed for inspection shall be borne by the Contractor.

12.4 The inspection charges, if any, payable to the purchaser's representative for carrying out the inspection shall be borne by the purchaser.

13. INSPECTION OF WORKS: The Engineer or his representative may inspect and test the various portions of the work at all stages and shall have full power to reject all or any portion of the work that he may consider to be defective or inferior in quality of materials, workmanship or design in comparison to what is called for in the specification. In the event of rejection of any work already executed and not in accordance with specification as in this tender and/or as determined by the Engineer or which the Contractor has been apprised, the Contractor shall carry out alterations/replacements to such works to the satisfaction of the Engineer for which no additional expenses will be borne by the RailTel.

14. QUANTUM OF WORK AND VARIATION IN QUANTITIES

- (i) The quantities indicated in Schedule of Requirements are approximate and purport to convey the tenderer an idea of the magnitude of the work. The quantities may vary within + / -25% of grand total of schedule of requirements (contract value) as included in the Letter of Acceptance to tender as per site requirement. The Purchaser reserves the right to increase or decrease by up to 25 % of the of the quantity of goods and services specified in the Schedule of Requirement without any change in unit price of the ordered quantity or other terms and conditions.
- (ii) The tenderer/contractor will be bound to execute the additional quantities on the following terms and conditions.
- (a) Quantity may also vary beyond 25% as per the following –
 - Rates for Quantity variation (i) beyond 25% up to 40% with 2% rebate, (ii) above 40% to 50% with 4% rebate and (iii) beyond 50%, rates will be negotiated by RailTel with Contractor.

15. SUBLETTING AND ASSIGNMENT: No sub-contracts are permitted

- a.** The **Contractor** shall not sub-contract any part or the whole of the work, without the prior consent of RAILTEL. The **Contractor** may sub-contract parts of the contract, if necessary and in the interest of the project and only to sub- Contractors approved in advance in writing by RAILTEL. The **Contractor** shall be responsible for transmitting specifications and pertinent data to sub- Contractors and ensuring full compliance by them. In such cases even if written permission is given, it shall not relieve the **Contractor** from his obligations under the contract and he shall be fully responsible for all supplies / work done by his sub-Contractors. The **Contractor** shall also be exclusively responsible for the effective planning and co-ordination of the work from sub-Contractors. to ensure proper integration with all works.

- b.** It shall be as per the specifications of **RAILTEL** and **RAILTEL** shall have sole discretion to

withdraw its consent and have the remaining part performed or executed by any other party of RAILTEL's choice.

- c. Notwithstanding anything contained herein, RAILTEL shall have sole discretion to nominate sub-contractors for specialized activities/works or even for part of specified works, before or during the course of Work, wherever required in the opinion of RAILTEL on account of slow progress, poor quality or Contractor's lack of sufficient mobilization.

16. EXECUTION OF WORK: All the works shall be executed in strict conformity to the provisions of the contract document and with such explanatory detailed drawings, specifications and instructions as may be approved from time to time based on detailed design and engineering carried out by contractor in line with requirements as per contract document. The contractor shall be responsible for ensuring that the work throughout are executed in the most substantial, proper and workmanlike manner with the quality of material and workmanship in strict accordance with the specifications and as per sound industrial practices and to the entire satisfaction of the RailTel.

17. MAINTENANCE OF WORKS: The contractor shall at all times during the progress and continuance of the works and also for the period of maintenance specified in the tender form and after the date of passing of the certificate of completion by the RailTel's representative or any other earlier date subsequent to the completion of the works that may be fixed by RailTel's representative be responsible for and effectively maintain and uphold in good, substantial, sound and perfect condition all and every part of the works and shall make good from time to time and at all times, as often as the RailTel's representative shall require, any damage or defect that may, during the above period, arise in or be discovered or be in any way connected with the works provided that such damage or defect is not directly caused by errors in the contract documents, act of providence or insurrection or civil riot and the contractor shall be liable for and shall pay and make good to the RailTel or other persons legally entitled thereto whenever required by the RailTel's representative so to do, all losses, damages, costs and expenses they or any of them may incur or be put or be liable to, by reason or inconsequence of the operations of the contractor or his failure in any respect.

18. CLEARANCE OF SITE: At the end of the work at each location the Contractor shall as a part of his Contractual obligation leave the area completely neat and clean.

19. PROVISIONAL ACCEPTANCE (PAC)

- 19.1 Immediately after the completion of the work at site, the contractor shall certify and advise the purchaser in writing that the installation is (i) complete (ii) ready for satisfactory commercial service and (iii) ready to be handed over.
- 19.2 The test or tests specified in Technical supplement (section III) will be conducted jointly by purchaser and contractor as soon as possible after receipt of advice of completion of by purchaser from the contractor. The test schedule shall be finalized by mutual discussion between the contractor and M/S RailTel Corporation of India Limited, Secunderabad. Any component, modules, sub-assemblies or equipment failing during the commissioning test shall be replaced/repared free of cost by tenderer. However, the work completion should be accepted by the RailTel's end customer based on which only PAC will be issued by RailTel.
- 19.3 Purchaser's Engineer shall issue a **Provisional Acceptance certificate** for successful commissioning of a section covering all materials and services included in the Schedule of works after the final acceptance test as per the approved test procedures have been completed and the performance has been found to meet the specifications. RailTel's decision in this respect shall be final. The Provisional Acceptance Certificate shall be signed by both the parties. The period of maintenance of works shall commence from the date of issue of last Provisional Acceptance Certificate.

20. PLACING IN SERVICE & MAINTENANCE SUPERVISION

Deleted

21. FINAL ACCEPTANCE

21.1 The final acceptance of the works completed shall take effect from the date of expiry of the warranty period which is 12 months from the date of issue of Provisional Acceptance Certificate, provided in any case that the contractor has complied fully with his obligations in respect of each item under the contract.

21.2 Notwithstanding the issue of Final Acceptance Certificate, the contractor and the purchaser (subject to Sub Clause as above) shall remain liable for fulfillment of any obligation incurred under the provision of the contract prior to the issue of Final Acceptance Certificate which remains unperformed at the time such certificate is issued and for determining the nature and extent of such obligation the contract shall be deemed to remain in force between the parties hereto.

22. WARRANTY

22.1 The work carried out and equipment supplied by the Contractor shall be guaranteed against the defects for a period of **One Year** from the date of issue of Provisional Acceptance Certificate. The contractor shall provide comprehensive warranty maintenance for all the items supplied and work carried out by him against this tender.

22.2 The replacement of defective materials supplied by contractor at site shall be undertaken by RailTel. However, incase RailTel representative is unable to rectify the defects, maintenance engineers of the contractor shall go to the site immediately on receipt of the intimation to assist RailTel representative for diagnostic and rectification of the fault. RailTel shall not bear any expenditure for any such traveling or during the maintenance and warranty period.

22.4 During the free warranty maintenance period contractor should stabilize the working of the system. RailTel has the right to extend the period of supervision of the maintenance free of cost till the system stabilizes and works satisfactorily for a reasonable period of time. If during the time any equipment etc. is to be added or deficiencies are to be rectified to make the system work trouble free the same also will have to be done by the contractor free of cost as to make good all the deficiencies.

23. INFRINGEMENTS OF PATENTS:

(a) The Contractor is forbidden to use any patents or registered drawings, processes or patterns in fulfilling his contract without prior consent in writing of the owner of such patents, drawings, patterns or trade marks except where these are specified by the Purchaser himself. Royalties where payable for the use of such patented processes, registered drawings or patterns shall be borne exclusively by the Contractor. The Contractor shall advise the Purchaser of any proprietary rights that may exist on such processes, drawings or patterns, which he may use of his own accord.

(b) In the case of patents taken out by the Contractor of the drawings or patterns registered by him or of those patents, drawings or patterns for which he holds a license, the signing of the contract automatically gives the Purchaser the right to repair by himself the purchased articles covered by the patent or by any person or body chosen by him and to obtain from any sources he desires the component parts required by him for carrying out the repair work. In the event of infringement of any patent rights due to above action of the Purchaser he shall be entitled to claim damages from the Contractor on the grounds of any loss of any nature which he may suffer e.g. in the case of attachment because of counterfeiting.

24. LICENSE AS PER GOVT. OF INDIA CONTRACT LABOUR ACT: The Contractors are required to produce license as enjoined in the Government of India Contract Labour (Regulation and Abolition) Act (1978) with latest amendments, if any. They shall not be allowed to undertake or execute any work through contract Labour except under and in accordance with a license issued under the said Act in that behalf by the authorized licensing Officer.

24.1 Labour Cess: The tenderers, for carrying out any construction work, must get themselves registered with the Registrar Officer under section-7 of the Building and other Construction workers Act 1996 and rules made thereto by the concerned State Govt. and submit certificate of Registration issued from the Registering officer of the concerned State Govt. (Labour Dept). **As per this act, the tenderer shall be levied a cess@1% of cost of construction work, would be deducted from each bill. Cost of material when supplied under a separate schedule item, shall be outside the purview of cess**

25. DEFAULTS AND DELAYS: The Contractor shall execute the work with due diligence and expedition, keeping to the approved time schedule. Should he refuse or neglect to comply with any reasonable orders given to him in writing by the Purchaser's Engineers in connection with the work or contravene the provision of the Contract or the progress of work lags persistently behind the time schedule due to his neglect, the Purchaser shall be at liberty to give seven days notice in writing to the Contractor requiring him to make good the neglect or contravention complained of and should the Contractor fail to comply with the requisitions made in the notice within seven days from the receipt thereof, it shall be lawful for the purchaser to take the work wholly or in part out of the Contractor's hands without any further reference and get the work or any part thereof, as the case may be, completed by other agencies at the expense of the Contractor without prejudice to any other right or remedy of the Purchaser.

26. LOSS SUSTAINED DUE TO DEFAULTS AND DELAYS: In the event of any loss to the purchaser on account of execution and/or completion of the work or any part thereof by agencies other than the contractor, in terms of para above the contractor shall be liable to reimburse the loss to purchaser without prejudice to the other rights and remedies of the purchaser and the reimbursement in full or in part, as the case may be, shall be met at the option of the purchaser form out of all or any of the following sources viz:

- (a) i) Any amount due and payable to the contractor by the purchaser on any account whatsoever;
- ii) The Contractor's security deposit in the hands of the purchaser as far as available, and;
- iii) Any other assets whatsoever of the contractor;
- (b) In the event of re-imbursement from out of sources (i) and/or (ii) above mentioned, the purchaser shall have the right of appropriation suomoto.

27. PENALTY FOR DELAY IN COMPLETION

27.1 The contractor fails to execute and complete the work within the time specified in the Agreement or within the period of extension granted the contractor shall accept reduction in the total amount payable to him by the purchaser at the rate of **0.5% per week or part thereof** (rounded off to the nearest whole number) of the total value of the contract for the actual delay occasioned beyond the appointed time by which the work shall have been completed under the contract.

27.2 The total value of penalty on account of above shall be **limited to maximum of 10% (Ten percent)** of the total contract value.

27.3 Such reduction shall be accepted by the purchaser in full satisfaction of the contractor's liability arising from delay only. This penalty for delay in completion will be applicable separately for each stage of completion of work when two or more stage of completion, are specified in the contract. The purchaser's engineer shall at his sole discretion specify a time limit within which the unfinished portion of the work shall be completed after serving on the contractor a notice of Purchaser's intention to recover the said penalty in Form 11. In the event of failure of the contractor, the purchaser shall be at liberty to take action in accordance with provisions in Para 33 to 35.

NOTE: For purpose of this para the value of work shall be calculated on the basis of unit prices

included in schedule of requirements.

27.4 Penalty for damaging the Railway Cable: For each case of damaging the Railway cable a lump sum amount of Rs.1.50 lakh (Rupees one lakh and fifty thousand) shall be imposed in the case of any cable cut/damage to railway cable. The penalty shall be multiple if it happens in multiples i.e. if cable is cut 2 times by the contractor, then the penalty imposed shall be Rs.3.00 lakh.

28 ADHERENCE OF TIME SCHEDULE

28.1 Timely completion of the work is the essence of the contract. Delay in execution will attract penalty in accordance with the provisions in above para 27.

28.2 If any delay as aforesaid shall have arisen from any cause which the Purchaser may agree as being a reasonable ground for extension of time the purchaser's engineer or his representative may allow such additional time as he may in his absolute discretion consider to be reasonably justified by the circumstances of the case. Such extensions shall be granted, on request from contractor, with liquidated damages in the Form No.11.

29 CONTRACTOR'S LIABILITIES FOR COSTS AND DAMAGES

29.1 WITHHOLDING AND LIEN IN RESPECT OF SUMS CLAIMED

a) Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the contractor, the Purchaser shall be entitled to withhold and also have lien to retain such sum or sums in whole or in part from the security, if any, deposited by the contractor and for the purpose aforesaid the purchaser shall be entitled to withhold the said cash security deposit or the security, if any, furnished as the case may be and also have lien over the sum pending finalization or adjudication of any such claim.

b) In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the Contractor, the Purchaser shall be entitled to withhold and have lien to retain to the extent of such claim amount or amounts referred to from any sum or sums found payable or which at any time thereafter may become payable to the Contractor under the same contract or any other department of the Central Government pending finalization or adjudication of any such claims.

c) It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to by the purchaser till the claim arising out of or under the contract is determined by the Arbitrator (if the contract is governed by the Arbitration clause) or by the competent court, as the case may be, and that the contractor will have no claim for interest of damages whatsoever on any account in respect of such withholding or retention under the lien referred to supra and duly notified as such to the Contractor.

d) For the purpose of this clause, where contractor is a partnership firm or a limited company, the purchaser shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company, as the case may be, whether in his individual company or otherwise.

30 UNIT PRICES

30.1 Rate, Taxes & Duties

- i. The price quoted in the offer should be firm, fixed indicating the breakup and inclusive of all taxes & duties like import, custom, Anti Dumping, CGST,SGST, IGST, UTGST etc. The offer should be inclusive of packing, forwarding, freight up to destination, insurance charges.
- ii. Bidder shall issue a valid tax invoice to RailTel for availing proper credit of CGST,SGST, IGST, UTGST in case of award of contract. GST will not be reimbursed in the absence of valid tax invoice.
- iii. For all the taxable supplies made by the vendor, the vendor shall furnish all the details of such taxable supplies in the relevant returns to be filed under GST Act.

- iv. If the vendor fails to comply with any of the above, the vendor shall pay to purchaser any expense, interest, penalty as applicable under the GST Act.
- v. In case of incorrect reporting of the supply made by the vendor in the relevant return, leading to disallowance of input credit to purchaser, the vendor shall be liable to pay applicable interest under the GST Act to the credit of purchaser. The same provisions shall be applicable in case of debit/credit notes.
- vi. Tenderer shall quote all inclusive rates, but there shall be break up of basic price and all type of applicable taxes such as SGST, CGST, IGST, UT GST along with respective HSN/SAC code under GST Law (including tax under reverse charges payable by the recipient)
- vii. Wherever the law makes it Statutory for the purchaser to deduct any amount towards GST at sources, the same will be deducted and remitted to the concerned authority.
- viii. In regards to works contract, the tenderer should have registration no for GST in respective State where work is to be executed and shall furnish GST registration certificate along with Tender.
- ix. The imposition of any new tax and /or increase in the aforesaid taxes, duties levies after the last stipulated date for the receipt of tender including extensions if any and the bidder thereupon necessarily and properly pays such taxes/ levies / cess, the bidder shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of RailTel attributable to delay in execution of work within the control of bidder. The bidder shall, within a period of 30 days of the imposition of any such tax or levy or cess, give a written notice thereof to RailTel that the same is given pursuant to this condition, together with all necessary information including details of input credit relating thereto. In the event of non-payment/ default in payment of any of the above taxes, RailTel reserves the right to with-hold the dues / payments of bidder and make payment to State / Central Government authorities as may be applicable. However, if the rates are reduced after the last stipulated date of tender, bidder has to pass on the benefits to RailTel.
- x. In case of imported equipment: Anti dumping duty if applicable on the equipment proposed to be supplied by OEM/Tenderer as per extant instructions of Ministry of Commerce/Finance Government of India has to be borne by the tenderer and shall be deducted from the amount payable to the bidder at the time of making payment to the firm, if this duty amount is paid to Custom Authority by RailTel.
- xi. Evaluation Criteria: inter se position of the offers will be determined on total unit rate on CIP destination basis which will include basic rate, custom duty GSST, SGST, IGST, GST, freight, insurance and any other charge or cost quoted by the tenderer, including GST payable.
On reverse charge by RailTel, wherever applicable.
- XII. However, if the extension of contract period is on account of failure of contractor, no compensation shall be made towards upward revision or imposition of any new taxes. Any benefit on account of downward revision of duty either in original contract period or during the extended contract period shall be passed on by the contractor to RailTel**

Note: "In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, the RailTel shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned tax authority."

31 MEASUREMENT OF WORKS: Payments for the works shall be made in accordance with approved designs & drawings and measured in relevant units except where provided or otherwise. The measurements will be made generally in accordance with standard engineering practices.

32 MEANING AND INTERPRETATION BY RAILTEL TO BE FINAL: All measurement, method of measurement, meaning intent of specifications and interpretation of Special Conditions of Contract, given and made by the Purchaser or by the Purchaser's Engineer shall be final and binding.

33 TERMS OF PAYMENT:

33.1 All bills shall be submitted to the authority mentioned in Preamble.

33.2 Subject to any deductions or recovery which the RailTel may be entitled to make under contract, the Contractor will be entitled to be paid from time to time by way of 'on account payment' for supply of goods and 'progress payment' for works as in the opinion of the Engineer he has executed in terms of Contract.

33.2 PROGRESS PAYMENT FOR EXECUTION OF WORK – As per clause no 7 of Appendix J of Section-II Chapter-1 scope of work cum Technical Specifications

'Progress payment' shall not be claimed for the work more than twice in a calendar month. Progress payment can be made Long haul section wise after completion of all works required to be done. A Section is defined as a continuous stretch between two RailTel Long haul POPs.

33.3 Final Payment: As per clause no 7 of Appendix J of Section-II Chapter-1 scope of work cum Technical Specifications

34 VITIATION CLAUSE: Quantities shown in the schedule are approximate and can vary depending on site conditions. If any vitiation arises on account of variation of quantities, the contractor shall not be paid more than the lowest rate obtained after working out with the final operated quantities

35. FINAL SETTLEMENT

On expiry of the warranty period and issue of the certificate of final acceptance of the entire installations, the SD (Para 3) will be released to the Contractor after receipt of any dues payable by the contractor. (Else the PBG/SD will be forfeited to settle any amount due) and the balance amount shall be paid.

36. CERTIFICATE FOR MODVAT /VAT BENEFITS ON BILLS - deleted

38 DEDUCTION FROM ON ACCOUNT PAYMENT BILLS

(i) All costs, damages or expenses, which RailTel may have been paid or incurred which under the provisions of contract are Contractor's obligations will be deducted by RailTel from progress payment Bills/Invoice of Contractor, as and when it is understood that such an expense has been incurred or paid for.

(ii) All such claims of RailTel shall, however, be duly supported by appropriate and certified vouchers, receipts or explanations as are available to enable the Contractor to identify such claims.

39 TAXES

39.1 The Contractor and all personnel employed by him shall pay such taxes like Income Tax as are payable under statutory laws of India and the Purchaser **WILL NOT ACCEPT** any liability for the same.

39.2 Deduction of Income Tax at source as per provisions of Finance Act and Income Tax in force shall be made from the Contractor/Sub-Contractor and the amount so deducted may be credited to the Central Government.

39.3 Wherever the law makes it statutory for the Purchaser to deduct any amount towards Sales Tax on Works Contract, the same will be deducted and remitted to the concerned authority.

40 INSURANCE: deleted

40.1&40.2**INSURANCE OF MATERIALS & INSTALLATIONS:** deleted

41 FORCE MAJEURE CLAUSE: If at any time, during the continuance of this Contract, the performance, in whole or part, by either party, of any obligation under this contract shall be

prevented or delayed by reason of any war, hostility, act of the public enemy, Civil Commotion, Sabotage, Fires, Floods, Earth quakes, explosions, strikes, epidemics, quarantine restrictions, lockouts, any statute, statutory rules/ regulations, order of requisitions issued by any Government Department or Competent Authority of acts of God here-in-after referred to as event) then provided notice of the happening of any such event is give by either party to the other within twenty one 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 claim for damage against the other in respect of such non-performance or delay in performance, and the obligations under the Contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, 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 beyond a period as mutually agreed to by the RailTel and the Contractor after any event or 60 days in the absence of such an agreement whichever is more, either party may at its option terminate the Contract provided also that if the contract is so terminated under this clause the RailTel may at the time of such termination take over from the Contractor at prices as provided for in the contract, all works executed or works under execution.

42 SETTLEMENT OF DISPUTE AND ARBITRATION

The parties through respective signatories shall settle any dispute or disagreement with respect to performance, non-performance, or defective performance of respective obligation amicably in accordance with provisions contained in Arbitration and Conciliation Act, 1996 as amended. In the event of disputes remaining unresolved, the parties shall refer the matter to a single arbitrator under arbitration law that may be applicable, whose appointment shall be done by CMD, RailTel Corporation of India Limited. The place of arbitration shall be New Delhi and the language used shall be English.

43 TERMINATION OF CONTRACT OWING TO DEFAULT OF CONTRACTOR

43.1 If the Contractor should:

- (i) Become bankrupt or insolvent or
- (ii) Make an arrangement with or assignment in favour of his creditors, or agree to carry out the contract under a committee of inspection of his creditors, or
- (iii) Being a Company or Corporation, go into liquidation (other than voluntary Liquidation for the purpose of amalgamation or reconstruction) , or
- (iv) Have an execution levied on his goods or property on the works, or
- (v) Assign the contract or any part thereof otherwise than as provided in clause-15 of SCC, or
- (vi) Abandon the contract, or
- (vii) Persistently disregard the instructions of the RailTel's Engineer or contravene any provision of the contract, or
- (viii) Fail to adhere to the agreed programme of work by a margin of 10% of the Stipulated period, or
- (ix) Fail to remove materials from the site or to pull down and replace the work after receiving from the Engineer's notice to the effect that the said materials or works have been condemned or rejected, or
- (x) Fail to take steps to employ competent or additional staff and labour as required under clause 7 of SCC, or
- (xi) Fail to supply material and/or carry out the works as per contractual specifications, or
- (xii) Promise offer or give any bribe, commission, gift or advantage either himself or through his partner, agent or servant to any officer or employee of RailTel or any person on his or on their behalf in relation to the execution of this or any other contract with the RailTel,
- (xiii) then and in any of these said cases, the Engineer on behalf of the RailTel may serve the Contractor with a notice in writing to that effect and if the Contractor does not, within 7 days after the delivery to him of such notice, proceed to make good his default in so far as the same is capable of being made good and carry on the work or comply with such directions as aforesaid to the entire satisfaction of the Engineer, the RailTel shall be entitled

after giving 48 hours notice in writing under the hand of the Engineer to rescind the contract as a whole or in part or parts (as may be specified in such notice) and adopt either or both the following courses: A final termination notice will be issued by RailTel after expiry of 48 hrs, notice.

(a) To carry out the whole or part of the work from which Contractor has been removed by the employment of the required labour and materials, the cost of which shall include lead, lift, freight, supervision and all incidental charges.

(b) To measure up the whole or part of the work from which the Contractor has been removed and to get it completed by another contractor, the manner and method in which such work is completed shall be in the entire discretion of the Engineer whose decision shall be final; and in both cases (a) and (b) mentioned above the RailTel shall be entitled to forfeit the whole or such portion of the security deposit as it may consider fit,

43.2 Provided always that in any case in which any of the powers conferred upon the RailTel by Sub-clause above shall have become exercisable and the same shall not be exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions thereof and such power shall not withstanding be exercisable in the event of any future case of default by the Contractor for which his liability for past and future shall remain unaffected.

43.3 RIGHT OF RAILTEL AFTER TERMINATION OF CONTRACT OWING TO DEFAULT OF CONTRACTOR: In the event of any or several of the courses, referred in Sub-clause 43 above, being adopted:

(a) The Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any commitments or made any advances on account of or with a view to the execution of the works or the performance of the contract and Contractor shall not be entitled to recover or be paid any sum for any works thereto not actually performed under the contract, unless or until the Engineer shall have certified the performance of such work and the value payable in respect thereof and the Contractor shall only be entitled to be paid the value so certified.

(b) The Engineer or Engineer's Representative shall be entitled to take possession of any materials, tools, implements, machinery or buildings on the works or on the property on which these are being or ought to have been executed, and to retain and employ the same in the further execution of the works or any part thereof until the completion of the works without the Contractor being entitled to any compensation for the use and employment thereof or for wear and tear or destruction thereof.

(c) The Engineer shall, as soon as may be practicable after removal of the Contractor fix and determine exparte or by or after reference to the parties or after such investigation or enquiries as he may consider fit to make or institute and shall certify what amount (if any) has at the time of termination of the contract been reasonably earned by or would reasonably assure to the Contractor in respect of the work then actually done by him under the contract what was the value of any unused or partially used materials, any constructional plants and any temporary works upon the site.

(d) The RailTel shall not be liable to pay to the Contractor any moneys on account of the contract until the expiration of the period of maintenance and thereafter until the cost of completion and maintenance damages for delay in completion (if any) and all other expenses incurred by the RailTel have been ascertained and the amount thereof certified by the Engineer. The Contractor shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from execution of the work in full but he did not derive in consequence of termination of the contract. The Contractor shall then be entitled to receive only such sum or sums (if any) as the Engineer may certify would have been due to him upon due completion by him after deduction of the said amount; but if such amount shall exceed the sum which would have been payable to the Contractor, then the Contractor shall upon demand pay to the RailTel the amount of such excess and it shall be deemed a debt due by the Contractor to the RailTel and shall be recoverable accordingly.

44.1 Updation of Labour data:

- A.** Contractor is to abide by the provisions of Payment of Wages act & minimum Wages act in terms of clause 54 and 55 of Indian Railways General Condition of Contract. In order to ensure the same and application has been developed and hosted on website www.shramikkalyan.indianrailways.gov.in. Contractor shall register his firm/ company etc. and upload requisite details of labour and their payment on this portal. These details shall be available in public domain. The Registration/ updation of Portal shall be done as under:
- Contractor shall apply for onetime registration of his company/firm etc. in the Shramikkalyan portal with requisite details subsequent to issue of Letter of Acceptance. Engineer shall approve the contractor's registration on the portal within 7 days of receipt of such request.
 - Contractor once approved by any Engineer, can create password with login ID (PAN No.) for subsequent use of portal for all LOAs issued in his favour.
 - The contractor once registered on the portal, shall provide details of his Letter of Acceptance (LoA) / Contract Agreements on Shramikkalyan portal within 15 days of issue of any LOA for approval of concerned engineer. Engineer shall update (if required) and approve the details of LoA filled by contractor within 7 days of receipt of such request.
 - After approval of LoA by Engineer, contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wage payment to them on Shramikkalyan portal on monthly basis.
 - It shall be mandatory upon the contractor to ensure correct and prompt uploading of all salient details of engaged contractual labour & payments made thereof after each wage period.
- B.** "While processing payment of any "On Account Bill" or "Final Bill" or release of "Advances" or "Performance Guarantee/Security Deposit", contractor shall submit a certificate to the Engineer or Engineer's representatives that "I have uploaded the correct details of contract labours engaged in connection with this contract and payments made to them during the wage period in Railway's Shramikkalyan portal at "www.shramikkalyan.indianrailways.gov.in" till ____ Month ____ Year."

रेलटेल
RAILTEL

A Government of India
Undertaking

SECTION-II

CHAPTER-3

FORMS OF TENDER



Form No. 1	:	Offer Letter
Form No. 2	:	Qualifying Criteria / User's Certificate
Form No. 3	:	Agreement
Form No. 4	:	Guarantee Bond for Security Deposit /PBG
Form No. 5	:	Statement of Deviations
Form No. 6	:	Standing Indemnity Bond for on Accounts Payments and Stores Supplied
Form No. 7	:	Bank Guarantee for Mobilization Advance - Deleted
Form No. 8	:	Acknowledgement for receiving materials from RailTel
Form No. 9	:	Extension of period of completion of work on account of contractor
Form No. 10	:	Qualification /Experience
Form No. 11	:	Notarized Affidavit

FORM –I

PARA 6.7 (i) Section-II Chapter –I

OFFER LETTER

To
 Principle Executive Director / Regional General Manager (Southern Region)
 RailTel Corporation of India Limited.,
 6A, 6th Floor, Gumidelli Towers, Opp: Shoppers Shop,
 Begumpet, Hyderabad – 16

Ref: Tender no. RAILTEL/SR/SC/SLT/2025-26/25

1. I/We _____ have read the various conditions to tender attached here to and hereby agree to ABIDE BY THE SAID CONDITIONS. I/We also agree to keep this tender open for acceptance for a period of 20 days from the date fixed for opening the same and in default thereof, I/We will be liable for forfeiture of my/our Earnest Money. I/We offer to do the work of “HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable at In, Visakhapatnam” are as detailed in para 1 of preamble for RailTel Corporation of India Limited at the rates quoted in the attached schedules and hereby bind myself/ourselves to complete the work within specified period mentioned in the preamble from the date of issue of Letter of Acceptance of the tender. I/We also hereby agree to abide by the Various Conditions of Contract and to carry out the work according to the Specifications for materials and works laid down by the RailTel for the present contract.

2. A sum of Rs.-----/(Rupees ----- only) is paid online towards “Earnest Money”. The full value of Earnest Money shall stand forfeited without prejudice to any other rights or remedies if,

a) I/We do not execute the contract agreement within 30 days after receipt of notice issued by the RailTel that such documents are ready or, b) I/We do not commence the work within 15 days after receipt of orders to that effect.

3. Until a formal agreement is prepared and executed the acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the “Letter of Acceptance” of my/our offer for this work.

SIGNATURE OF CONTRACTOR (S) Date

CONTRACTOR (S) ADDRESS

SIGNATURE OF WITNESS

- 1.
- 2.

ACCEPTANCE OF TENDERS

I accept the tender as above and agree to pay the rate as entered in Schedule of requirements.

WITNESS

1. for and on behalf of
2. RailTel Corporation of India Limited Southern Region, Secunderabad

Date

Form- 2 Para 15.1.5 Section-II Chapter - I

QUALIFYING CRITERIA USER's CERTIFICATE-

NOT APPLICABLE

Name of the Firm Contract No. & date

Scope of Work

Contract Amount (in Indian Rupees)

Completion Period as per contract Data of Commencement

Actual date of Successful Completion

Quality of work : Satisfactory / unsatisfactory

(Please specify)

Name:

Dated:

Designation:

Signature of the **User/Client** with Company Seal

Signature of Tenderer with Seal



Para- 2 Section-II Chapter II**AGREEMENT**

An agreement made this ---- day of ----- 2026 , between RailTel Corporation of India Ltd, a company incorporated under the companies Act 1956 and having its Regional Office at 6th Floor, 6A, Gumidelli Towers, Begumpet – 16 (here in after referred as RailTel) of the One part; and M/s ----- (Hereinafter referred to as 'contractor') of the other part.

Whereas in response to a call for Tender for HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable at In, Visakhapatnam as per Tender papers, the Contractor has submitted his offer.

Where as the Contractor has agreed with RailTel Corporation of India Ltd for carrying out the work of "HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable at In, Visakhapatnam as per the Tender document No. RAILTEL/SR/SC/SLT/2025-26/25 for Rs.----- (Rupees ----- only) as per copy of Letter of Acceptance (LOA)/PO of tender issued vide letter No. RAILTEL/SR/SC/SLT/2025-26/25 dt. ----- .2026 at accepted rates as contained in the said LOA (Annexure-2 hereto) issued by RailTel with schedule of requirement and terms and conditions.

Now this agreement witnesses that in consideration of the payment to be made by RailTel to the Contractor provided, the Contractor shall execute the work of "HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable at In, Visakhapatnam for which the said tender of Contractor has been accepted strictly according to the Annexure-1 and 2 hereto and upon such work of "HDD, Trenching, Laying, Splicing, Termination, Testing, and commissioning of Optical Fibre Cable at In, Visakhapatnam & satisfactory completion of work and performance of the system to the satisfaction of the RailTel, the RailTel shall pay to the Contractor at the rates accepted as per the said Annexure and in terms of conditions contained in Annexure-1 & 2.

Whereas Rs. -----/- towards balance security deposit will be recovered from bills at the rate of 10% of bill amount, M/s ----- submitted ----- dt ----- for Rs.-----/- towards PBG respectively for due fulfillment of the contract.

In the witness where of the parties have hereinto set and subscribed their respective hands and/or seals day and year respectively mentioned against their respective signatures.

Signed and delivered at _____ by Shri _____ for and on behalf of M/s. _____

The contractor within named in the presence of:

1. Signatures Date Name in Block Capitals Address
2. Signatures

Date

Name in Block Capitals

Address

Signed and delivered at _____ for and on behalf of RailTel by Shri _____ {Regional General Manager (Southern Region) or his successor} in the presence of:

1. Signatures
Date

Name in Block Capitals

2. Signature Date Name in Block Capitals

Address:

Annexure '1': Tender Document..

Annexure '2': copy of Letter of Acceptance/PO

(Signature)_____ Dated: Complete with enclosures

PERFORMANCE BANK GUARANTEE BOND

(On Stamp Paper of Rs. One Hundred)

(To be used by approved Scheduled Banks)

1. In consideration of the RailTel Corporation of India Limited: 6th Floor, Gumidelli Towers, Begumpet Airport Road, Begumpet, Hyderabad -500016 (Herein after called RailTel) having agreed to exempt (Hereinafter called “the said Contractor(s)”) from the demand, under the terms and conditions of an Agreement/LOA/PO No. dated made between and for (hereinafter called “ the said Agreement”) of security deposit for the due fulfillment by the said Contractor (s) of the terms and conditions contained in the said Agreement, or production of a Bank Guarantee for Rs. (Rs. only). We,(indicate the name of the Bank) hereinafter referred to as “ the Bank”) at the request of Contractor(s) do hereby undertake to pay the RailTel an amount not exceeding Rs. Against any loss or damage caused to or suffered or would be caused to or suffered by the RailTel by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.
2. We, Bank and our local branch at ----(indicate detail address of local Branch with code no.)do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on demand from the RailTel stating that the amount is claimed is due by way of loss or damage caused to or would be caused to or suffered by the RailTel by reason of breach by the said Contractor(s) of any of terms or conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.
3. We, bank undertake to pay to the RailTel any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) / Supplier(s) in any suit or proceedings 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 a valid discharge of our liability for payment there under and the Contractor(s) / Supplier(s) shall have no claim against us for making such payment.
We, 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 RailTel under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till RailTel certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this Guarantee. Unless a demand or claim under the Guarantee is made on us in writing on or before the
(1) We shall be discharged from all liability under this Guarantee thereafter.

We,.....We,
 (indicate the name of Bank) Further agree with the RailTel that the RailTel shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the Agreement or to extend time of to postpone for any time or from time to time any of the powers exercisable by the RailTel against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension to the said Contractor(s) or for any forbearance, act or omission on the part of RailTel or any indulgence by the RailTel to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have affect of so relieving us.

This Guarantee will not be discharged due to the change in the Constitution of the Bank or the Contractor(s) Supplier(s).

We, the Bank further agree that this guarantee shall be invokable at our place of business at (indicate detailed address of local Branch with code no.).The branch at ----- is being advised accordingly.
 (indicate the name of Bank) lastly undertaken not to revoke this Guarantee during its currency except with the previous consent of the RailTel in writing.

Dated the day of 2026
 for
 (Indicate the name of the Bank)

Witness

1. Signature
Name
2. Signature
Name



Para 4 Section-II Chapter I**Statement of Deviations****PROFORMA FOR STATEMENT OF DEVIATIONS**

1. The following are the particulars of deviations from requirement of the Instructions to Tenderers and Conditions of Tendering, Preamble and Special conditions of Contract.

- 1.1 Instructions to Tenderers and Conditions of Tendering
- | Clause | Deviation
(Including Justification) | Remarks |
|--------|--|---------|
|--------|--|---------|

- 1.2 Preamble

Clause	Deviation (Including Justification)	Remarks (Including Justification)
--------	--	--------------------------------------

- 1.3 Special conditions of Contract.
Clause Deviation Remarks

(Including Justification)

2. The following are the particulars of deviations from requirement of the technical specifications.

Annexure Clause Deviation Remarks (Including Justification)

Note:

Where there is no deviation, the statement should be returned duly signed with an endorsement indicated no deviations.

SIGNATURE AND SEAL OF THE
MANUFACTURER / TENDERER



STANDING INDEMNITY BOND

(For on Account Payments and Stores supplied by RailTel)

(On Stamp paper of Requisite Value)

We, M/s _____ hereby undertake that we hold at our Stores Depot/s at _____ for and on behalf of RailTel Corporation of India Limited in the premises through RGM/RailTel/Southern Region or his successor hereinafter referred to as “the Purchaser” all materials for which ‘On Account’ payments have been made to us against the Contract for -----vide letter of Acceptance/PO of Tender No. RAILTEL/SR/SC/SLT/2025-26/25 and the materials handed over to us by the Purchaser for all purpose of execution of the said Contract, until such time the materials are duly erected or otherwise handed over to him.

We shall be entirely responsible for the safe custody and protection of said materials against all risk till they are duly delivered as erected equipment to the purchaser or as he may direct otherwise and shall indemnify the Purchaser against any loss, damage or deterioration whatsoever in respect of the said materials while in our possession and against disposal of surplus materials. The said materials shall at all times be open to inspection by any engineer authorized by the Regional General Manager/Southern Region (whose address will be intimated in due course).

Should any loss, damage or deterioration of materials occur or surplus materials disposed off and refund becomes due, the purchaser shall be entitled to recover from us the full cost as per prices included in the Contract (as applicable) and also compensation for such loss or damage, if any, along with the amount to be refunded without prejudice to any other remedies available to him by deduction from any sum due or any sum which at any time hereafter becomes due to us under the said or any other Contract.

In the event of any loss, damage or deterioration as aforesaid the assessment of such loss or damage and the assessment of such compensation therefore would be made by the RGM/RailTel/SR, or his authorized nominee and the said assessments shall be final and binding upon us.

Dated this _____ day of _____
for and on behalf of M/s _____ (Contractor)

Signature of witness

Name and witness in Block letters

Address

ACKNOWLEDGMENT FOR RECEIVING MATERIALS FROM RAILTEL

Station:

Date:

Sub: Receipt of Material from RailTel

It is hereby acknowledged that the following materials have been received in full and good condition by me on -----at----- for the work under the Agreement no.-----
-----dated-----

Sl. No.

Description of Material

Quantity Remarks (Meter/No.) if any

Witnessed by:

(Signature of Engineer's Representative)

(Signature of Contractor Representative with or Contractor's Designation)



EXTENSION OF PERIOD OF COMPLETION OF WORK ON CONTRACTOR'S ACCOUNT

No. Date:

To,

.....

Sub: (i) Name of Work:

(ii) Acceptance Letter No.

(iii) Undertaking / Agreement No.

Ref: (Quote specific application of the Contractor for extension to date, if received).

Dear Sir,

The stipulated date for completion of the work mentioned above isfrom the progress made so far and the present rate of progress, it is unlikely that the work will be completed by the above date (or However, the work was not completed on this date)

Expecting that you may be able to complete the work if some time is given the Regional General Manager (Southern Region), RailTel Corporation of India Limited, Secunderabad although not bound to do so, hereby extends the time for completion from to

Please note that an amount equal to 0.5% of the total value of the contract per week or part thereof (rounded off to the nearest whole number) subject to a maximum of 10% of the total contract value of the works as a recovery for delay in the completion of the work after the expiry of (1) will be recovered from as mentioned in para 35 chapter II, section II of the special conditions of contract for the extended period notwithstanding the grant of this extension. You may proceed with the work accordingly.

The above extension of the completion date will also be subject to the further condition that no increase in rates on any account will be payable to you.

Please intimate within a week of the receipt of this letter your acceptance of the extension on the conditions stated above.

Please note that in the event of declining to accept the extension on the above said conditions or, in the event of your failure after accepting or acting up to this extension to complete the work by (2) here mention the extended date), further action will be taken in terms of relevant para of special conditions of contract.

Yours faithfully, for & on
behalf of RailTel Corporation of India

Limited

Note:

1. Give here the stipulated date for completion without any penalty fixed earlier.
2. Here mention the extended date.

QUALIFICATION / EXPERIENCE – NOT APPLICABLE

Details of works executed and under execution during the last 3 financial years and the current financial year should be furnished in the following format.

S.No.	Name of Project and description of work.	Party's Address of whom the work was done	Total value (in Indian Rupees)	Year of completion and schedule period of execution (in months)	Year of completion and actual period of execution (in months)	Remarks

Note: A certificate from the organization, for which the work was executed, should preferably be enclosed to indicate that the contract was satisfactorily performed.

Signature and Seal of the Tenderer



FORMAT FOR AFFIDAVIT TO BE SUBMITTED BY TENDERER ALONG WITH THE TENDER BID DOCUMENTS

(To be executed in presence of Public notary on non-judicial stamp paper of the value of Rs. 100/-. The paper has to be in the name of the tenderer)

I(Name and designation)** appointed as the attorney/authorized signatory of the tenderer (including its constituents),

M/s _____ (hereinafter called the tenderer) for the purpose of the Tender documents for the work of _____ as per the tender No. _____ of (RailTel), do hereby solemnly affirm and state on the behalf of the tenderer including its constituents as under:

1. I/we the tenderer (s), am/are signing this document after carefully reading the contents.
2. I/we the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the tender documents from RailTel website www.railtelindia.com/ www.https://railtel.enivida.com. I/we have verified the content of the document from the website and there is no addition, no deletion or no alternation to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with the RailTel Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5. **I/we also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.**
6. **I/we declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.**
7. I/we undersigned that if the certificates regarding eligibility criteria submitted by us are found to be forged/false or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender EMD besides banning of business for five years on entire RailTel. Further, I/we (insert name of the tenderer)** _____ and all my/our constituents understand that my/our constituents understand that my/our offer shall be summarily rejected.
8. I/we also understand that if the certificates submitted by us are found to be false/forged or incorrect at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of EMD/SD and Performance guarantee besides any other action provided in the contract including banning of business for five years on entire RailTel.

DEPONENT

SEAL AND SIGNATURE OF THE TENDERER

VERIFICATION

I/we above named tender do hereby solemnly affirm and verify that the contents of my/our above affidavit are true and correct. Nothing has been concealed and no part of it is false.

DEPONENT

SEAL AND SIGNATURE OF THE TENDERER

Place:

Date:

**The contents in Italics are only for guidance purpose. Details as appropriate are to be filled in suitably by tenderer. Attestation before Magistrate/Notary Public.

Insurance Surety Bond for Performance Security

RailTel Corporation Of India Limited, (Address)

Date:.....

Name of the issuer of surety bond:

Surety Bond No:.....

Issue Date:.....

Amount of Bond:.....

Expiry Date:.....

WHEREAS,

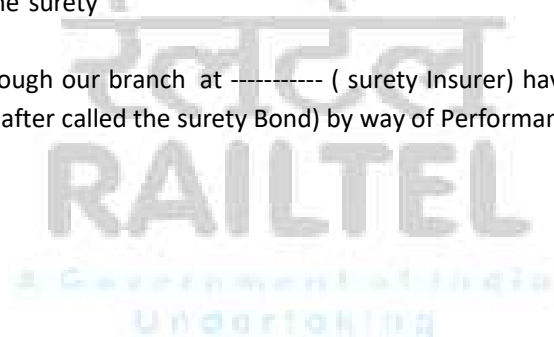
(A) ----- (name & Address of the contractor) (herein after called the contractor) and (name and address of RailTel) have entered into an agreement (herein after called the “ agreement”) for the ---

- (name of the work) subject to and in accordance with the provision of the agreement.

(B) The agreement requires the contractor to furnish Performance Security for the due and faithful performance of its obligations, under and in accordance with the agreement /contract/purchase order, during the (project duration/warranty period/AMC period) (as defined in the contract /agreement) in as sum of Rs.-----/ (figures)only (Rupees only (words)).(the surety

Bond amount).

(C) We----- through our branch at ----- (surety Insurer) have agreed to furnish the guarantee(herein after called the surety Bond) by way of Performance Guarantee.



SB No:

Date:

WHEREAS, we, (Name of Surety Insurer/insurance company) hereinafter called the Surety, acting

through [Designation(s) of the authorised person of the Surety], have, at the request of the M/s. XXXX contractor, agreed to give Bond for performance security/ additional performance security as hereinafter contained:

1. KNOW ALL MEN by these present that I/We, the undersigned [Insert name(s) of authorized representatives of the Surety], being fully authorized to sign and incur obligations for and on behalf of the Surety, confirm that the Surety, hereby, unconditionally and irrevocably Bond to pay the RAILTEL the full amount in the sum of XXXX (Rupees XXXX Only) as above stated.
2. The Surety Insurer undertakes to immediately pay on presentation of demand by the RAILTEL any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any such demand made by the RAILTEL on the Surety Insurer shall be final, conclusive and binding, absolute and unequivocal notwithstanding any disputes raised/pending before any Court, tribunal, arbitration or any authority or any threatened litigation by the Bidder.
3. On payment of any amount less than aforementioned full amount, as per demand of the RAILTEL, the Surety Bond shall remain valid for the balance amount i.e. the aforementioned full amount less the payment made to the RAILTEL.
4. The Surety Insurer shall pay the amount as demanded immediately on presentation of the demand by RAILTEL without any reference to the contractor and without the RAILTEL being required to show grounds or give reasons for its demand or the amount demanded.
5. The Surety Bond shall be unconditional and irrevocable.
6. The Surety Bond hereinbefore shall not be affected by any change in the constitution of the Surety Insurer or in the constitution of the Contractor.
7. The Surety Insurer agrees that no change, addition, modifications to the terms of the Contract Agreement or to any documents, which have been or may be made between the RAILTEL and the Contractor, will in any way release us from the liability under this Bond; and the Surety Insurer, hereby, waives any requirement for notice of any such change, addition or modification to the Surety Bond.
8. This Surety Bond is valid and effective from the date of its issue, which is [insert date of issue]. The Bond and our obligations under it will expire on XXXX (Expiry Date). All demands for payment under the Bond must be received by us on or before that date.
9. The Surety Insurer agrees that the RAILTEL right to demand payment of aforementioned full amount in one instance or demand payments in parts totaling up to the aforementioned full amount in several instances will be valid until either the aforementioned full amount is paid to the RAILTEL or the surety Bond is released by RAILTEL before the Expiry date.
10. The Surety Insurer agrees that its obligation to pay any amount demanded by the RAILTEL before the expiry of this Suret Bond will continue until the amount demanded has been paid in full.
11. The expressions Surety Insurer and RAILTEL hereinbefore used shall include their respective successors, administrators and assigns.

12. The Surety Insurer hereby undertakes not to revoke the Surety Bond during its currency, except with the previous consent in writing of the RAILTEL. This Surety Bond is subject to the Uniform Rules for Demand Bonds, ICC Publication No. 758.
13. We, the Surety Insurer, further agree that the RAILTEL shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfillment and compliance with the terms and conditions contained in the Bidding Documents including, inter alia, the failure of the Bidder to keep its Bid open during the Bid validity period set forth in the said Documents, and the decision of the Authority that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the RAILTEL and the Bidder or any dispute pending before any Court, tribunal, arbitrator or any other authority.
14. The Surety Bond shall be in addition to and without prejudice to any other security Bond (s) of the contractor in favour of the RAILTEL available with the RAILTEL. The Surety Insurer, under this Bond, shall be deemed as Principal Debtor of the RAILTEL.

Notwithstanding anything to the contrary contained in these presents,

- a. Our liability under this Surety Bond shall not exceed XXXX (Rupees XXXXX Only).
- b. This Surety Bond shall be valid up to XXXX (being the date of expiry);
- c. Unless the Surety Insurer/insurance Company is served a written claim or demand on or before XXXX [date of expiry] all rights under this Surety Bond shall be forfeited and the Surety Insurer shall be relieved and discharged from all liabilities under this Surety Bond irrespective of whether or not the original Surety bond is returned to the Surety Insurer.

Dated _____ **the day of 2026**

15. The Insurance Surety Bond shall be verified by sending mail to [email id of Surety Insurer]

Place.....
signature(s)

Surety Insurer's Seal and authorized

[Name in Block letters] [Designation with Code No.).....
[P/Attorney] No.

Witness

1.

2.

Note: All italicized texts are for guidance on how to prepare this Insurance Surety Bond and shall be deleted from the final document.)

SECTION III

CHAPTER 1

OFC system on 25 KV AC Traction

And

General scheme of OFC system.

Para No. Subject.

1.1 General.

SECTION III
CHAPTER 1

OFC SYSTEM ON 25 KV AC TRACTION AND GENERAL SCHEME OF OFC SYSTEM.

1.1 GENERAL

1.1.1 Any Telecommunication circuits in the vicinity of AC Traction running parallel to 25 KV lines are liable to be affected by AC induced voltage. Therefore precautions should be taken to eliminate the possibility of induced voltage affecting equipment and humans.

1.1.2 Crossing of track, if any, should be negotiated by underground cables running at right angles to the track as far as practicable.

1.1.3 Special protective measures (viz. provision of G.D tubes, fuses and earthing etc) are required to be taken for telecommunication lines entering 25 KV sub station /switching posts.

1.1.4 For the human safety considerations the safe working voltages should be 60 V under normal conditions and 150 V with special precautions and 430 V under fault conditions.

1.1.5 Instructions for protection of railway staff/working personals on signaling and telecommunications installations on 25 KV AC traction shall be strictly adhered to. Precautions are required to be taken on account of following,

- i) Proximity of live conductor.
- ii) Pressure of return current in Rails.
- iii) Induction in all metallic bodies situated closed to over head equipment.
