

RAILTEL CORPORATION OF INDIA LIMITED
(A Govt. of India Undertaking)

**Expression of Interest for Selection of Partner from Empanelled Business Associate/
Channel Partners/ System Integrators for
EXCLUSIVE PRE-BID TEAMING ARRANGEMENT**

For

“Request for Proposal (RFP)

For

**Implementation of unified communication infrastructure comprising
IPMPLS LAN infra, VOIP exchange, IP based control communication
and replacement of UTN over Western Railways”**

EOI No: RCIL/WR/MUMBAI/Mktg/23-24/009 dated 21th Dec, 2023

EOI NOTICE
RailTel Corporation of India Ltd,
Western Railway Microwave Complex, Senapati bapat Marg,
Mahalaxmi, Mumbai – 400013

EOI Notice No: RCIL/WR/MUMBAI/Mktg/23-24/009 dated 21st Dec 2023

RailTel Corporation of India Ltd., (here after referred to as “RailTel”) invites EOIs from RailTel’s Empaneled Partners/ Business Associates/ Channel Partners/ System Integrators who are registered under the category of “Telecom/ Network Services and Its Operations and Maintenance” & “Common Category for IT-ICT Works (includes hardware, software and Services)” for the selection of suitable partner as Exclusive pre bid teaming arrangement for “Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railways” as per Tender No: WR-SnT-STTD-23-2022R2 dated 26/06/2023 and any other addendums/corrigendums/documents contained within and related to the same.

The details are asunder:

1	Last date for submission of Technical Packet against EOIs by bidders	27 th Dec 2023 at 15:00 Hours
2	Opening of Technical Bid of EOIs	27 th Dec 2023 at 15:30 Hours
3	Number of copies to be submitted for scope of work	One
4	EOI fees inclusive tax(Non-refundable)	Rs.10,000/-
5	EMD for Pre-Bid Arrangement	Rs. 10,23,929/- in the form of online transfer as EMD along with submission of EoI response.

The EMD should be in the favor of RailTel Corporation of India Limited payable at Mumbai through online bank transfer. Partner needs to share the online payment transfer details like UTR No, date of payment, etc.

RailTel Bank Details: Union Bank of India, Account No. 317801010036605, IFSC Code - UBIN0531782.

Eligible Business Associates are required to direct all communications related to this Invitation for EoI document, through the following Nominated Point of Contact persons:

1. Level 1

Contact Name: Sh. Viplovnath Mishra
Designation: Deputy General Manager/ Marketing
E-Mail Address: viplovmishra@railtelindia.com
Mobile No: +91- 9004444124

2. Level 2

Contact Name: Sh. Santosh Parage
Designation: General Manager/ Marketing
E-Mail Address: santosh.parage@railtelindia.com
Mobile No: +91-7020903278

Note:

1. Empanelled partners are required to submit soft copy of technical packet through an e-mail at eoι.wr@railtelindia.com duly signed by Authorized Signatories with Company seal and stamp.
2. The EOI response is invited from eligible **Empanelled Partners of RailTel only**.
3. All the document must be submitted with **proper indexing** and **page no**.
4. This is an **exclusive pre-RFP partnership arrangement with empanelled business associate of RailTel for participating in the end customer RFP**. Selected partner's authorized signatory has to give an undertaking they will not submit directly or indirectly their bids and techno-commercial solution/association with any other organization once selected in this EOI for pre-bid teaming arrangement (before and after submission of bid to end customer organization by RailTel). This undertaking has to be given with this EOI Response.
5. Partner has to submit their response as an individual organization only. No consortium is allowed. The Bidder has to be an empanelled partner of RailTel.
6. **Transfer and Sub-letting**. The Business Associate has no right to give, bargain, sell, assign or sublet or otherwise dispose of the Contractor any part thereof, as well as to give or to let a third party take benefit or advantage of the present Contract or any part thereof.
7. All Bidders to sign and stamp RailTel's EOI and its corrigendum's implying acceptance of all terms and conditions as mentioned and submit the same along with their Bids.

1. Introduction about RailTel

RailTel Corporation of India Limited (RailTel), an ISO-9001:2000 organization is a Mini Ratna Government of India undertaking under the Ministry of Railways. The Corporation was formed in Sept 2000 with the objectives to create nationwide Broadband Telecom and Multimedia Network in all parts of the country, to modernize Train Control Operation and Safety System of Indian Railways and to contribute to realization of goals and objective of national telecom policy 1999. RailTel is a wholly owned subsidiary of Indian Railways.

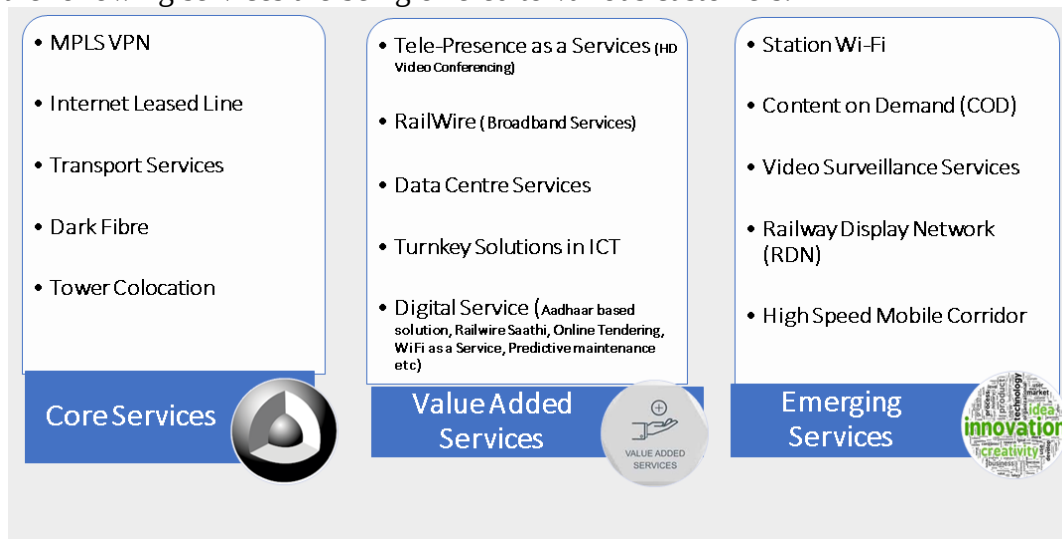
RailTel has approximately 60000 kms of OFC along the protected Railway tracks. The transport network is built on high capacity DWDM and an IP/ MPLS network over it to support mission critical communication requirements of Indian Railways and other customers. RailTel has Tier-III Data Center in Gurgaon and Secunderabad hosting / collocating critical applications. RailTel is also providing Telepresence as a Service (TPaaS), where a High-Definition Video Conference facility bundled with required BW is provided as a Service.

For ensuring efficient administration across India, country has been divided into four regions namely, Eastern, Northern, Southern & Western each headed by Executive Director and Headquartered at Kolkata, New Delhi, Secunderabad & Mumbai respectively. These regions are further divided into territories for efficient working. RailTel has territorial offices at Guwahati, & Bhubaneswar in East, Chandigarh, Jaipur, Lucknow in North, Chennai & Bangalore in South, Bhopal, and Pune & Ahmedabad in West. Various other territorial offices across the country are proposed to be created shortly.

RailTel's business service lines can be categorized into three heads namely B2G/B2B (Business to Government and Business to Business) and B2C (Business to customers):

Licenses & Service portfolio:

Presently, RailTel holds Infrastructure Provider -1, National Long Distance Operator, International Long Distance Operator and Internet Service Provider (Class-A) licenses under which the following services are being offered to various customers:



a) Carrier Services

- National Long Distance: Carriage of Inter & Intra -circle Voice Traffic across India

using state of the art NGN based network through its Interconnection with all leading Telecom Operators

- Lease Line Services: Available for granularities from E1 to multiple of Gigabit bandwidth&above
- Dark Fiber/Lambda: Leasing to MSOs/Telco's along secured Right of Way of Railway tracks
- Co-location Services: Leasing of Space and 1000+ Towers for collocation of MSC/BSC/BTS of Telco's

b) Enterprise Services

- Managed Lease Line Services: Available for granularities from E1, DS-3, STM-1 & above
- MPLS VPN: Layer-2 & Layer-3 VPN available for granularities from 2 Mbps & above
- Dedicated Internet Bandwidth: Experience the "Always ON" internet connectivity at your fingertips in granularities 2 Mbps to several Gbps

c) DATA CENTER

- Infrastructure as a service (IaaS), Hosting as Services, Security operation Centre as a Service (SOCaaS): RailTel has MeitY empaneled two Tier-III data centres in Gurgaon & Secunderabad. Presently RailTel is hosting critical applications of Indian Railways, Central & State government/ PSUs applications. RailTel will facilitate Government's applications
- Hosting services including smooth transition to secured state owned RailTel's Data Centers and Disaster Recovery Centres. RailTel also offers SOC as a Service 'SOCaaS'. In addition, RailTel offers VPN client services so that employees can seamlessly access government's intranet, applications securely from anywhere without compromising security.

d) National Long Distance:

Carriage of Inter & Intra -circle Voice Traffic across India using state of the art NGN based network through its Interconnection with all leading Telecom Operators

- Lease Line Services: Available for granularities from E1 to multiple of Gigabit bandwidth&above
- Dark Fiber/Lambda: Leasing to MSOs/Telco's along secured Right of Way of Railway tracks
- Co-location Services: Leasing of Space and 1000+ Towers for collocation of MSC/BSC/BTS of Telco's

e) High-Definition Video Conference:

RailTel has unique service model of providing high -definition video conference bundled with Video Conference equipment, bandwidth and FMS services to provide end to end

seamless services on OPEX model connecting HQ with other critical offices. RailTel also offers application-based video conference solution for employees to be productive specially during this pandemic situation.

f) Retail Services – RailWire

RailWire: Triple Play Broadband Services for the Masses. RailTel has unique model of delivering broadband services, wherein local entrepreneurs are engaged in delivering & maintaining broadband services and upto 66% of the total revenues earned are shared to these local entrepreneurs in the state, generating jobs and revitalizing local economies. On date RailTel is serving approx. 4,68,000 subscribers on PAN Indian basis. RailTel can provide broadband service across– Government PSU or any organization’s officers colonies and residences.

2. Project Background and Objective of EOI

RailTel intends to participate in RFP floated by end Customer organization for “Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railways” with tender Ref. No. WR-SnT-STTD-23-2022R2 dated 26/06/2023.

RailTel invites EOIs from RailTel’s Empaneled Partners / Business Associates/ Channel partners/ System Integrators for the selection of suitable partner for participating in above mentioned work for the agreed scope work. The empaneled partner is expected to have excellent execution capability and good understanding customer local environment.

3. Scope of Work

The scope of work will be as mentioned in the end Customer organization Tender for **“Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railways”** with reference no.- WR-SnT-STTD-23-2022R2 dated 26/06/2023 with latest amendment/ Corrigendum/ Clarifications.

The broad scope of deliverables is provided below for reference: -

Supply, installation, commissioning and implementation of following items of various specifications:

- E1 cards, Patch Cord, Routers, Rack, Switch, SFP
- Network Management System (NMS) inclusive of Software, Hardware and Perpetual Licenses for Network Elements, PC Workstation/ Maintenance Console, HD Monitor, Mobile application for Event Notification Gateway and NMS Server,
- Armored Optical Fiber Cable, power cables, Telephone cables, CAT-6 Cable, laying/drawing/blowing of cables, Ducts, Patch cords, Pipes (GI, DWC, etc)
- Sensors, Batteries, UPS
- Training of personnel

*Details of items with quantities is elaborated in NIT in tabular form along with budgetary

pricing. Items are not limited to the above mentioned.

The above scope of work is indicative, and the detailed scope of work is given in the end customer tender documents with latest amendments and clarifications.

In case of any discrepancy or ambiguity in any clause / specification pertaining to scope of work area, the RFP and corrigendum/addendum released by end customer organization shall supersede and will be considered sacrosanct. (All associated clarifications, response to queries, revisions, addendum, and corrigendum, associated prime service agreement (PSA/MSA/SLA also included.)

Business associate can participate as a sole bidder only. No consortium is permitted. Bidder must be RailTel's empaneled partner (BA/CP/SI/DSP) and will be responsible for all the conditions mentioned in this and the end customer RFP.

Special Note: RailTel may retain some portion of the work mentioned in the end organization RFP, where RailTel has competence so that overall proposal becomes most winnable proposal.

4. Response to EOI guidelines

4.1 Language of Proposals

The proposal and all correspondence and documents shall be written in English in soft copy through an email.

4.2 RailTel's Right to Accept/Reject responses

RailTel reserves the right to accept or reject any response and annul the bidding process or even reject all responses at any time prior to selecting the partner, without thereby incurring any liability to the affected bidder or Business Associate or without any obligation to inform the affected bidder or bidders about the grounds for RailTel's action.

4.3 EOI response Document

The bidder is expected to examine all instructions, forms, terms and conditions and technical specifications in the bidding documents. Submission of bids, not substantially responsive to the bidding document in every aspect will be at the bidder's risk and may result in rejection of its bid without any further reference to the bidder.

All pages of the documents shall be signed by the bidder including the closing page in token of his having studied the EOI document and should be submitted along with the bid.

4.4 Period of Validity of bids and Bid Currency

Bids shall remain valid for a period of 120 days from the date Bid submission date issued by the end Customer organization for which bid is going to submit.

4.5 Bid Earnest Money (EMD)

4.5.1 The Business Associate shall furnish a sum as given in EOI Notice via online

transfer from any bank in India in favour of “RailTel Corporation of India Limited” along with the offer. This will be called as **EOI EMD**.

4.5.2 Offers not accompanied with valid EOI Earnest Money Deposit shall be summarily rejected. EMD if paid via online transfer then the details of the payment (UTR No, Payment Date, etc) should be accompanied along with the bid.

4.5.3 In case if offer is selected for bidding, the partner has to furnish Earnest Money Deposit (for balance amount as mentioned in the customer’s Bid or as applicable) for the bid to RailTel. The selected Business Associate shall have to transfer the balance EMD in proportion to the quoted value/scope of work to RailTel before RailTel’s submission of bid to end customer as applicable.

4.5.4 Return of EMD for unsuccessful Business Associates: EOI EMD of the unsuccessful Business Associate shall be returned without interest after completion of EOI process.

4.5.5 Return of EMD for successful Business Associate: EOI-EMD & Earnest Money Deposit (balance proportionate EMD) if applicable and Integrity Pact BG of the successful bidder will be discharged / returned as promptly as possible after the receipt of RailTel’s EMD/BG from the Customer and or on receipt of Security Deposit Performance Bank Guarantee as applicable (clause no. 4.6) from Business Associate whichever is later.

4.5.6 Forfeiture of EOI EMD or EOI EMD & EMD (balance proportionate EMD) and or Penal action as per EMD Declaration:

4.5.6.1 The EMD may be forfeited and or penal action shall be initiated if a Business Associate withdraws his offer or modifies the terms and conditions of the offer during validity period.

4.5.6.2 In case of non-submission of SD/PBG (as per clause no. 4.6) lead to forfeiture of EMD and Integrity Pact and or suitable action as prescribed in the EMD Declaration shall be initiated as applicable.

4.5.6.3 Having participated with another party/consortium apart from RailTel in RailTel’s end customer Tender

4.5.6.4 Partial or non submission of EMD/Tender Fees or both

4.6 Security Deposit / Performance Bank Guarantee (PBG)

4.6.1 In case the bid is successful, the PBG of requisite amount proportionate to the agreed scope of the work will have to be submitted to RailTel.

4.6.2 As per work share arrangements agreed between RailTel and Business Associate the PBG will be proportionately decided and submitted by the selected Business Associate.

4.7 Last date & time for Submission of EOI response

EOI response must be submitted to RailTel at the email address specified in the preamble not later than the specified date and time mentioned in the preamble.

4.8 Modification and/or Withdrawal of EOI response

EOI response once submitted will be treated, as final and no modification will be permitted

except with the consent of the RailTel.

No Business Associate shall be allowed to withdraw the response after the last date and time for submission.

The successful Business Associate will not be allowed to withdraw or back out from the response commitments. In case of withdrawal or back out by the successful business associate, the Earnest Money Deposit shall be forfeited, and all interests/claims of such Business Associate shall be deemed as foreclosed.

4.9 Details of Financial bid for the above referred tender

Business Associate meeting eligibility criteria and lowest price will be selected for exclusive pre-bid arrangement for optimizing technical and commercial solution so that most winnable solution is submitted to end customer.

In case if there are Two or more Business Associate meeting eligibility criteria and quoting same price, then negotiation will be conducted within these Sole partner in the second stage for the given scope of the work and Sole bidder with overall lowest (L1) offer will be selected for exclusive pre bid arrangement for optimizing technical and commercial solution.

The final bid for the tender will be prepared jointly with the selected Business Associate so that the optimal bid can be put with a good chance of winning the Tender.

4.10 Clarification of EOI Response

To assist in the examination, evaluation and comparison of bids the purchaser may, at its discretion, ask the Business Associate for clarification. The response should be in writing and no change in the price or substance of the EOI response shall be sought, offered or permitted.

4.11 Period of Association/Validity of Agreement

RailTel will enter into a pre-bid agreement with selected bidder with detailed Terms and conditions.

5. Eligibility Criteria for Bidding Business Partner of RailTel

S No	Particulars	Criteria for Tender Package
		(Mandatory Compliance & Document Submission)
A)	Financial Conditions	
i)	Sole bidder should be registered under Companies Act, 1956 or Companies Act 2013 or as amended and should have at least 3 years of operations in India as on bid submission date.	1. Certificate of Incorporation 2. GST Registration 3. PAN Card
ii)	Sole Participating bidder should have cumulative annual turnover of at least INR 27 Cr. for last three years (FY 20-21, 21-22, 22-23).	Turnover Certificate issued by the Chartered Accountant for sole bidder. Certificate should contain UDIN no. issued by ICAI

S No	Particulars	Criteria for Tender Package
		(Mandatory Compliance & Document Submission)
iii)	Sole partner should also have a positive net worth & be profitable in each of the last 3 financial years (i. e. FY 20-21, 21-22, 22-23).	Positive Net Worth and Profitability Certificate issued by the CA for the last three financial years (i. e. FY 20-21, 21-22, 22-23). Certificate should contain UDIN no. issued by ICAI.
B)	Technical Conditions	
iv)	Experience in Design, Supply, Configuration, Installation, Testing and Commissioning of Any work involving provision/O&M of Internet Protocol based Networking Systems and Services following categories during the last seven (7) years from the date of submission of bid. Value of project 1) One Project of 60 % of Scope Value 2) Two Project of 40 % of Scope Value 3) Two Project of 30 % of Scope Value	Work Order + Completion/commissioning Certificates from the client OR Work order + Self certificate of completion (Certified by the authorized signatory); OR Work Order + Phase Completion/commissioning Certificate from the client OR self-certified by authorized signatory
v)	The bidder should have a minimum of 20 staff on its payroll	Certificate from HR Department of Sole Bidder
vi)	Sole Bidder must be registered with the Goods and Service Tax (GST) Authorities	Valid Goods and Service Tax (GST) Registration Certificate.

6. Bidder's Profile

The bidder shall provide the information in the below table:

S. No.	ITEM	Details
1.	Full name of bidder's firm	
2.	Full address, telephone numbers, fax numbers, and email address of the primary office of the organization / main / head / corporate office	
3.	Name, designation and full address of the Chief Executive Officer of the bidder's organization as a whole, including contact numbers and email address	
4.	Full address, telephone and fax numbers, and email addresses of the office of the organization dealing with this tender	
5.	Name, designation and full address of the person dealing with the tender to whom all reference shall be made regarding the tender enquiry. His/her telephone, mobile, Fax and email address	
6.	Bank Details (Bank Branch Name, IFSC Code, Account number)	

7.	GST Registration number	
----	-------------------------	--

7. Evaluation Criteria

7.1 The Business Associates are first evaluated on the basis of the Eligibility Criteria as per clause 5 above.

7.2 The Business Associate qualifying the Eligibility criteria will be selected for exclusive pre-bid arrangement for optimizing technical and commercial solution so that most winnable solution is submitted to end customer.

7.3 In case if there are two or more Sole Bidders meeting eligibility criteria then the price bids will be sought from these Sole Bidder in the second stage for the given scope of the work and Sole Bidder with overall lowest (L1) offer will be selected for exclusive pre bid arrangement for optimizing technical and commercial solution.

7.4 RailTel reserves the right to accept or reject the response against this EOI, without assigning any reasons. The decision of RailTel is final and binding on the participants. The RailTel evaluation committee will determine whether the proposal/ information is complete in all respects and the decision of the evaluation committee shall be final. RailTel may at its discretion assign lead factor to the Business associate as per RailTel policy for shortlisting partner against this EOI.

7.6 All General requirements mentioned in the Technical Specifications are required to be complied. The solution proposed should be robust and scalable.

8 Withdrawal of Bids

A Bidder wishing to withdraw its bid shall notify to RailTel by e-mail prior to the deadline prescribed for bid submission. The notice of withdrawal shall be addressed to RailTel at the address named in the Bid Data Sheet, and bear the Contract name, the <Title> and < Bid No.>, and the words “Bid Withdrawal Notice.” Bid withdrawal notices received after the bid submission deadline will be ignored, and the submitted bid will be deemed to be a valid submitted bid.

No bid can be withdrawn in the interval between the bid submission deadline and the expiration of the bid validity period specified in the Bid Data Sheet. Withdrawal of a bid during this interval may result in the forfeiture of the Bidder’s EMD.

9 Evaluation Process

The evaluation process of the bid proposed to be adopted by RailTel is indicated in this section. The purpose of this section is to provide the Bidder an idea of the evaluation process that RailTel may adopt.

RailTel shall appoint a Bid Evaluation Committee (BEC) to scrutinize and evaluate the technical and commercial bids received. The BEC will examine the Bids to determine whether they are complete, responsive and whether the bid format conforms to the bid requirements. RailTel may waive any informality or non-conformity in a bid which does not constitute a material deviation according to RailTel.

The bid prices should not be mention in any part of the bid other than the Commercial Bid. Any attempt by a bidder to influence the bid evaluation process may result in the rejection of Bid and forfeiture of EMD.

10 Performance Bank Guarantee

The Bidder shall at his own expense, deposit with RailTel, an unconditional and irrevocable Performance Bank Guarantee (PBG) from nationalized banks as per the format given in this bid, payable on demand, for the due performance and fulfillment of the contract by the Bidder.

This Performance Bank Guarantee will be submitted within 21 days of the notification of award of the contract/ Letter of Acceptance (LOA) issuance whichever is earlier. If PBG is not submitted within this time frame a delayed PBG penalty will be attracted. Post 21 days and upto 60 days from date of notification of award of the contract/ Letter of Acceptance (LOA) issuance a penalty at 15% per annum interest of LOA amount will be levied as delayed PBG penalty and this penalty will be deducted from the Invoices & EMD of the Bidder. After these 60 days if PBG is not submitted then it will be assumed that the Bidder is not interested in submitting PBG and the Amount of PBG along with the delayed PBG penalty calculated will be retained from Invoices & EMD of the Bidder. Non submission of PBG can also lead to cancellation of contract and the decision with respect to whether, to retain the PBG Amount and penalty from Invoices & EMD or cancellation of contract, will be at the sole discretion of RailTel. In the event of cancellation of contract EMD will be forfeited. If PBG is retained from Invoices & EMD then the PBG Amount only and not the penalty attracted will be paid to the Bidder in such a case post the contract period plus three months(expected PBG validity date) are over after deducting any applicable deductions (eg: Poor service, etc).

This Performance Bank Guarantee will be for an amount equivalent to 5% of the total contract value. All charges whatsoever such as premium, commission, etc. with respect to the Performance Bank Guarantee shall be borne by the Bidder. The Performance Bank Guarantee format can be found in this document.

The Performance Bank Guarantee may be discharged/ returned by RailTel upon being satisfied that there has been due performance of the obligations of the Bidder under the contract. However, no interest shall be payable on the Performance Bank Guarantee.

In the event of the Bidder being unable to service the contract for whatever reason, RailTel would invoke the PBG. Notwithstanding and without prejudice to any rights whatsoever of RailTel under the Contract in the matter, the proceeds of the PBG shall be payable to RailTel as compensation for any loss resulting from the Bidder's failure to complete its obligations under the Contract. RailTel shall notify the Bidder in writing of the exercise of its right to receive such compensation within 30 days, indicating the contractual obligation(s) for which the Bidder is in default.

The 30days' notice period shall be considered as the 'Cure Period' to facilitate the Implementation Agency to cure the breach. The PBG shall be invoked only if the breach is solely attributable to the bidder and the bidder fails to rectify the breach within the 'Cure Period'.

RailTel shall also be entitled to make recoveries from the Bidder's bills, performance bank guarantee, or from any other amount due to the Bidder, the equivalent value of any payment made to the Bidder due to inadvertence, error, collusion, misconstruction or misstatement.

11 Rights to Terminate the Process

RailTel may terminate the bid process at any time and without assigning any reason. RailTel makes no commitments, express or implied, that this process will result in a business transaction with anyone.

This bid document does not constitute an offer by RailTel. The Bidder's participation in this process may result in RailTel selecting the Bidder to engage in further discussions and negotiations towards execution of a contract. The commencement of such negotiations does not, however, signify a commitment by RailTel to execute a contract or to continue negotiations. RailTel may terminate negotiations at any time without assigning any reason.

12. Payment terms

12.1 RailTel shall make payment to selected Business Associate after receiving payment from Customer for the agreed scope of work. In case of any penalty or deduction made by customer for the portion of work to be done by BA, same shall be passed on to Business Associate.

12.2 All payments by RailTel to the Partner will be made after the receipt of payment by RailTel from end customer organization and upon submission of correct Tax Invoices as per statutory norms.

12.3 The Payments received from end customer will be disbursed Scope wise to the selected BAs. The BA selected for a particular scope will receive payments once end customer releases payments for the specific scope.

13 SLA

The selected bidder will be required to adhere to the SLA matrix as defined in the end Customer organization tender for his scope of work and the SLA breach penalty will be applicable proportionately on the selected bidder, as specified in the end Customer organization Tender. The SLA scoring and penalty deduction mechanism for in-scope of work area shall be followed as specified in the Tender. All associated clarifications, responses to queries, revisions, addendum and corrigendum, associated Prime Services Agreement (PSA)/ MSA/ SLA also included. Any deduction by Customer from RailTel payments on account of SLA breach which is attributable to Partner will be passed on to the Partner proportionately based on its scope of work.

Note:

1. Depending on RailTel's business strategy RailTel may choose to work with

Partner who is most likely to support in submitting a winning bid

- 2. All Documents and requirements like EMD, Tender Fees, PBG, Contract Agreement to be shared/executed Back to Back as per the end customer RFP/Tender with Tender No. GEM/2023/B/4241295 Dt. 30-11-2023**
- 3. In case of any discrepancy or ambiguity in any clause /specification pertaining to scope of work area, the RFP released by end customer organization shall supersede and will be considered sacrosanct. (All associated clarifications, response to queries, revisions, addendum and corrigendum, associated prime service agreement (PSA)/ MSA/ SLA also included.)**
- 4. All clauses such as cost involved, payment term, validity, lock in period, e0.tc will be back to back as per RCF tender**
- 5. All required MAFs is to be arranged by Selected Bidders before RailTel's submission of Bid in end customer tender.**

Annexure 1: Format for COVERING LETTER (to be submitted by sole Bidder)

COVERING LETTER (To be on company letter head)

EoI Reference No: _____ Date: _____

To,

RailTel Corporation of India Ltd.
Western Railway Microwave complex,
Senapati Bapat Marg, Mahalaxmi, Mumbai – 400013

Dear Sir,

SUB: Participation in the EoI process

Having examined the Invitation for EoI document bearing the reference number _____ Dt. _____ released by your esteemed organization, we, undersigned, hereby acknowledge the receipt of the same and offer to participate in conformity with the said Invitation for EoI document.

If our application is accepted, we undertake to abide by all the terms and conditions mentioned in the said Invitation for EoI document.

We hereby declare that all the information and supporting documents furnished as a part of our response to the said Invitation for EoI document, are true to the best of our knowledge. We understand that in case any discrepancy is found in the information submitted by us, our EoI is liable to be rejected.

We hereby Submit EMD amount of Rs. _____ issued vide _____ from Bank _____.

Authorized Signatory Name:

Designation:

Signature:

Seal of the Organization:

Annexure 2: Format for Self-Certificate & Undertaking (to be submitted by sole Bidder)

Self-Certificate (To be on company letter head)

EOI Reference No: _____ Date: _____

To,

RailTel Corporation of India Ltd.
Western Railway Microwave complex,
Senapati Bapat Marg, Mahalaxmi, Mumbai – 400013

Dear Sir,

Sub: Self Certificate for Tender, Technical & other compliances

1. Having examined the Technical specifications mentioned in this EOI & end customer tender, we hereby confirm that we meet all specification.
2. We agree to abide by all the technical, commercial & financial conditions of the end customer RFP for which EOI is submitted (except pricing, termination & risk purchase rights of the RailTel). We understand and agree that RailTel shall release the payment to selected sole partner/lead partner after the receipt of corresponding payment from end customer by RailTel. Further we understand that in case selected sole bidder fails to execute assigned portion of work, then the same shall be executed by RailTel through third party or departmentally at the risk and cost of selected sole partner bidder.
3. We agree to abide by all the technical, commercial & financial conditions of the end customer's RFP for the agreed scope of work for which this EOI is submitted.
4. We hereby agree to comply with all OEM technical & Financial documentation including MAF, Technical certificates/others as per end to end requirement mentioned in the end customer's RFP. We are hereby enclosing the arrangement of OEMs against each of the BOQ item quoted as mentioned end customer's RFP. We also undertake to submit MAF and other documents required in the end Customer organization tender in favour of RailTel against the proposed products.
5. We hereby certify that any services, equipment and materials to be supplied are produced in eligible source country complying with OM/F. No. 6/18/2019 dated 23rd July 2020 issued by DoE, MoF.
6. We hereby undertake to work with RailTel as per end customer's RFP terms and conditions. We confirm to submit all the supporting documents constituting/ in compliance with the Criteria as required in the end customer's RFP terms and conditions like technical certificates, OEM compliance documents.
7. We understand and agree that RailTel is intending to select a sole bidder who is willing to accept all terms & conditions of end customer organization's RFP for the agreed scope of work. RailTel will strategies to retain scope of work where RailTel has competence.
8. We hereby agree to submit that in case of being selected by RailTel as sole bidder for the proposed project (for which EOI is submitted), we will submit all the forms, appendix,

relevant documents etc. to RailTel that is required and desired by end Customer well before the bid submission date by end customer and as and when required.

9. We hereby undertake to sign Pre Bid Agreement, Pre-Contract Integrity Pact and Non-Disclosure Agreement with RailTel on a non-judicial stamp paper of Rs. 500/- in the prescribed Format.
10. We undertake that we will not submit directly or indirectly out bids and techno-commercial solution/association with any other organization once selected in this EOI for pre-bid teaming arrangement (before and after submission of bid to end customer organization by RailTel)

Authorized Signatory Name:

Designation:

Signature:

Seal of the Organization:

Annexure 3: Undertaking for not Being Blacklisted/Debarred (to be submitted by sole bidder)

EoI Reference No: _____ Date: _____

To,

RailTel Corporation of India Ltd.
Western Railway Microwave complex,
Senapati Bapat Marg, Mahalaxmi, Mumbai – 400013

Dear Sir,

Subject: Undertaking for not being Blacklisted/Debarred

We, <Company Name>, having its registered office at <Address> hereby declares that that the Company has not been blacklisted/debarred by any Governmental/ Non-Governmental organization in India for past 3 Years as on bid submission date.

Authorized Signatory Name:

Designation:

Signature:

Seal of the Organization:

Annexure 4: Format of Affidavit (to be submitted by sole bidder)

FORMAT FOR AFFIDAVIT TO BE UPLOADED BY SOLE PARTNER ALONGWITH THE EOI DOCUMENTS

(To be executed in presence of Public notary on non-judicial stamp paper of the value of Rs. 500/-. The paper has to be in the name of the BA) **

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

M/s _____ (hereinafter called the BA) for the purpose of the EOI documents for the work of _____ as per the EOI No. _____ Dt. _____ of (RailTel Corporation of India Ltd.), do hereby solemnly affirm and state on the behalf of the BA including its constituents as under:

1. I/we the BA (s), am/are signing this document after carefully reading the contents.
2. I/we the BA(s) also accept all the conditions of the EOI and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the EOI documents from RailTel website www.railtelindia.com. I/we have verified the content of the document from the website and there is no addition, no deletion or no alternation to be content of the EOI document. In case of any discrepancy noticed at any stage i.e. evaluation of EOI, 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 EOI 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 EOI, it shall lead to forfeiture of the EOI EMD besides banning of business for five years on entire RailTel. Further, I/we (insert name of the BA)* 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 BA

VERIFICATION

I/We above named EOI 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 ADVOCATE

Place:

Dated:

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

Annexure 5: Draft Non-Disclosure Agreement

(To be submitted on a Rs. 500 Stamp Paper)

This Non-Disclosure Agreement (“Non-Disc”) is made and entered into _____ day of _____ month _____ year (effective date) by and between _____ (“Department”) and _____ (“Company”). Whereas, Department and Company have entered into an Agreement (“Agreement”) _____ effective _____ for _____ and

Whereas, each party desires to disclose to the other party certain information in oral or written form which is proprietary and confidential to the disclosing party, (“CONFIDENTIAL INFORMATION”).

NOW, THEREFORE, in consideration of the foregoing and the covenants and agreements contained herein, the parties agree as follows:

1. Definitions. As used herein:

- a. The term “Confidential Information” shall include, without limitation, all information and materials, furnished by either Party to the other in connection with citizen/users/persons/customers data, products and/or services, including information transmitted in writing, orally, visually, (e.g. video terminal display) or on magnetic or optical media, and including all proprietary information, customer and prospect lists, trade secrets, trade names or proposed trade names, methods and procedures of operation, commercial or marketing plans, licensed document know-how, ideas, concepts, designs, drawings, flow charts, diagrams, quality manuals, checklists, guidelines, processes, formulae, source code materials, specifications, programs, software packages, codes and other intellectual property relating to the disclosing party’s data, computer database, products and/or services. Results of any tests, sample surveys, analytics, data mining exercises or usages etc. carried out by the receiving party in connection with the Department’s information including citizen/users/persons/customers personal or sensitive personal information as defined under any law for the time being in force shall also be considered Confidential Information.
- b. The term, “Department” shall include the officers, employees, agents, consultants, contractors and representatives of Department.
- c. The term, “Company” shall include the directors, officers, employees, agents, consultants, contractors and representatives of Company, including its applicable affiliates and subsidiary companies.

2. Protection of Confidential Information: With respect to any Confidential Information disclosed to it or to which it has access, Company affirms that it shall:

- a. Use the Confidential Information as necessary only in connection with Project and in accordance with the terms and conditions contained herein;

- b. Maintain the Confidential Information in strict confidence and take all reasonable steps to enforce the confidentiality obligations imposed hereunder, but in no event take less care with the Confidential Information than the parties take to protect the confidentiality of its own proprietary and confidential information and that of its clients;
 - c. Not to make or retain copy of any commercial or marketing plans, citizen/users/persons/customers database, Bids developed by or originating from Department or any of the prospective clients of Department except as necessary, under prior written intimation from Department, in connection with the Project, and ensure that any such copy is immediately returned to Department even without express demand from Department to do so;
 - d. Not disclose or in any way assist or permit the disclosure of any Confidential Information to any other person or entity without the express written consent of the other party; and
 - e. Return to the other party, or destroy, at Department's discretion, any and all Confidential Information disclosed in a printed form or other permanent record, or in any other tangible form (including without limitation, all copies, notes, extracts, analyses, studies, summaries, records and reproductions thereof) immediately upon the earlier to occur of (i) expiration or termination of either party's engagement in the Project, or (ii) the request of the other party therefore.
 - f. Not to discuss with any member of public, media, press, any or any other person about the nature of arrangement entered between Department and Company or the nature of services to be provided by the Company to the Department.
3. **Onus.** Company shall have the burden of proving that any disclosure or use inconsistent with the terms and conditions hereof falls within any of the foregoing exceptions.
4. **Exceptions.** These restrictions as enumerated in section 1 of this Agreement shall not apply to any Confidential Information:
- a. Which is independently developed by Company or lawfully received from another source free of restriction and without breach of this Agreement; or
 - b. After it has become generally available to the public without breach of this Agreement by Company; or
 - c. Which at the time of disclosure to Company was known to such party free of restriction and evidenced by documentation in such party's possession; or
 - d. Which Department agrees in writing is free of such restrictions.
 - e. Which is received from a third party not subject to the obligation of confidentiality with respect to such Information;
5. **Remedies.** Company acknowledges that

(a) any actual or threatened disclosure or use of the Confidential Information by Company would be a breach of this agreement and may cause immediate and irreparable harm to Department;

(b) Company affirms that damages from such disclosure or use by it may be impossible to measure accurately; and

(c) injury sustained by Department may be impossible to calculate and remedy fully. Therefore, Company acknowledges that in the event of such a breach, Department shall be entitled to specific performance by Company of Company's obligations contained in this Agreement. In addition, Company shall indemnify Department of the actual and liquidated damages which may be demanded by Department. Moreover, Department shall be entitled to recover all costs (including reasonable attorneys' fees) which it or they may incur in connection with defending its interests and enforcement of legal rights arising due to a breach of this agreement by Company.

6. **Need to Know.** Company shall restrict disclosure of such Confidential Information to its employees and/or consultants with a need to know (and advise such employees of the obligations assumed herein), shall use the Confidential Information only for the purposes set forth in the Agreement, and shall not disclose such Confidential Information to any affiliates, subsidiaries, associates and/or third party without prior written approval of the disclosing party.
7. **Intellectual Property Rights Protection.** No license to a party, under any trademark, patent, copyright, design right, mask work protection right, or any other intellectual property right is either granted or implied by the conveying of Confidential Information to such party.
8. **No Conflict.** The parties represent and warrant that the performance of its obligations hereunder do not and shall not conflict with any other agreement or obligation of the respective parties to which they are a party or by which the respective parties are bound.
9. **Authority.** The parties represent and warrant that they have all necessary authority and power to enter into this Agreement and perform their obligations hereunder.
10. **Dispute Resolution.** If any difference or dispute arises between the Department and the Company in connection with the validity, interpretation, implementation or alleged breach of any provision of this Agreement, any such dispute shall be referred appropriately to RailTel/ stakeholders/ partners/ patrons
 - a. The arbitration proceedings shall be conducted in accordance with the (Indian) Arbitration and Conciliation Act, 1996 and amendments thereof.
 - b. The place of arbitration shall be Mumbai.
 - c. The arbitrator's award shall be substantiated in writing and binding on the parties.
 - d. The proceedings of arbitration shall be conducted in English language.
 - e. The arbitration proceedings shall be completed within a period of 180 days from the date of reference of the dispute to arbitration.
11. **Governing Law.** This Agreement shall be interpreted in accordance with and governed by the substantive and procedural laws of India and the parties hereby consent to the exclusive

jurisdiction of Courts and/or Forums situated at Mumbai, India only.

- 12. Entire Agreement.** This Agreement constitutes the entire understanding and agreement of the parties, and supersedes all previous or contemporaneous agreement or communications, both oral and written, representations and under standings among the parties with respect to the subject matter hereof.
- 13. Amendments.** No amendment, modification and/or discharge of this Agreement shall be valid or binding on the parties unless made in writing and signed on behalf of each of the parties by their respective duly authorized officers or representatives.
- 14. Binding Agreement.** This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns.
- 15. Severability.** It is the intent of the parties that in case any one or more of the provisions contained in this Agreement shall be held to be invalid or unenforceable in any respect, such provision shall be modified to the extent necessary to render it, as modified, valid and enforceable under applicable laws, and such invalidity or unenforceability shall not affect the other provisions of this Agreement.
- 16. Waiver.** If either party should waive any breach of any provision of this Agreement, it shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision hereof.
- 17. Survival.** Both parties agree that all of their obligations undertaken herein with respect to Confidential Information received pursuant to this Agreement shall survive till perpetuity even after any expiration or termination of this Agreement.
- 18. Non-solicitation.** During the term of this Agreement and thereafter for a further period of two (2) years Company shall not solicit or attempt to solicit Department's employees and/or consultants, for the purpose of hiring/contract or to proceed to conduct operations/business similar to Department with any employee and/or consultant of the Department who has knowledge of the Confidential Information, without the prior written consent of Department. This section will survive irrespective of the fact whether there exists a commercial relationship between Company and Department.
- 19. Term.** Subject to aforesaid section 17, this Agreement shall remain valid up to _____ years from the "effective date".

IN WITNESS HEREOF, and intending to be legally bound, the parties have executed this Agreement to make it effective from the date and year first written above.

For Department

Name:

Title:

WITNESSES:

1. _____

2. _____

For Company

Name:

Title:

WITNESSES:

1. _____

2. _____

Annexure 6: Integrity Pact

(To be executed on Rs. 500/- Stamp Paper)

EoI Number: _____ Dated: _____

This Integrity Pact is made at on this _____ Day of _____ 2022

BETWEEN

RailTel Corporation of India Ltd (a Govt of India Enterprise under Ministry of Railways) having its registered office at Plate-A, 6th Floor, Office Block Tower-2, East Kidwai Nagar, New Delhi-110023 and Regional Office at Western Railway Microwave Complex, Senapati Bapat Marg, Mahalaxmi, Mumbai – 400013, hereinafter referred to as “The Principal”, which expression shall unless repugnant to the meaning or contract thereof include its successors and permitted assigns
AND

<Bidder Name> having its registered office at <Bidders Registered and Branch Address (if any)> hereinafter referred to as “The Bidder/ Contractor/ Concessionaire/ Consultant” and which expression shall unless repugnant to be meaning or context thereof include its successors and permitted assigns.

Preamble

Whereas, the Principal intends to award, under laid down organizational procedures contract/s for ‘Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railways’. The Principal values full compliance with all relevant laws of the land, rules of land, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and for Contractor(s)/Concessionaire(s)/Consultant(s).

And whereas to meet the purpose aforesaid, both the parties have agreed to enter into this Integrity Pact (hereafter referred to as Integrity Pact) the terms and conditions of which shall also be read as integral part and parcel of the Tender documents and contract between the parties. Now, therefore, in consideration of mutual covenants stipulated in this pact, the parties hereby agree as follows and this pact witnesseth as under:-

Article – 1: Commitments of the Principal

1. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principle:-

- a. No employee of the Principal, personally or through family members, will in connection with the Tender for, or the execution of a contract, demand take a promise for or accept for self or third person any material or immaterial benefit which the person is not legally entitled to.
 - b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c. The Principal will exclude all known prejudiced persons from the process.
2. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act or any other Statutory Acts or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions as per its internal laid down Rules/ Regulations.

Article – 2: Commitments of the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s)

The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

- a. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principals employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- b. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission or bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- c. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not commit any offence under the relevant IPC / PC. Act and other Statutory Acts; further the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not use improperly for purposes of completion or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- d. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) of foreign origin shall disclose the name and address of the Agents/ representatives in India. If any similarly the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) of Indian Nationality shall furnish the name and address of the foreign principle, if any. Further details as mentioned in the 'Guidelines on Indian Agents of Foreign Suppliers' shall be disclosed by the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s). Further, all the payments made to the Indian Agent /Representative have to be Indian Rupees only.
- e. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract. He shall also disclose the details of services agreed upon for such payments.
- f. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- g. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not bring any outside influence through any Govt. bodies/quarters directly or indirectly on the bidding process in furtherance of his bid.
- h. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) who have signed a Integrity pact shall not approach the court while representing the matter to IEMs and shall wait for their decision in the matter.

Article – 3: Disqualification from tender process and exclusion from future contracts

1. If the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) before award or during execution has committed a transgression through a violation of any provision of Article-2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) from the tender process.
2. If the Bidder/Contractor/Concessionaire/Consultant has committed a transgression through a violation of Article-2 such as to put his reliability or credibility into question, the Principal shall be entitled to exclude including blacklist and put on holiday the Bidder/Contractor/Concessionaire/Consultant for any future tenders/contract award process. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the Principal taking into consideration the full facts and circumstances of each case particularly taking into account the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder/Contractor/Concessionaire/Consultant and the amount of the damage. The exclusion will be imposed for a maximum of 1 year.

3. A transgression is considered to have occurred if the Principal after due consideration of the available evidence concludes that “On the basis of facts available there are no material doubts”.
4. The Bidder/ Contractor/Concessionaire/Consultant will its free consent and without any influence agrees and undertakes to respect and uphold the Principal’s absolute rights to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.
5. The decision of the Principal to the effect that a breach of the provisions of this Integrity Pact has been committed by the Bidder/ Contractor/Concessionaire/Consultant shall be final and binding on the Bidder/ Contractor/Concessionaire/Consultant, however, the Bidder/ Contractor/ Concessionaire/ Consultant can approach IEM(s) appointed for the purpose of this Pact.
6. On occurrence of any sanctions/ disqualification etc. arising out from violation of integrity pact, Bidder/ Contractor/Concessionaire/Consultant shall not be entitled for any compensation on this account.
7. Subject to full satisfaction of the Principal, the exclusion of the Bidder/Contractor/Concessionaire/Consultant could be revoked by the Principal if the Bidder/ Contractor/Concessionaire/Consultant can prove that he has restored/recouped the damage caused by him and has installed a suitable corruption prevention system in his organization.

Article – 4: Compensation for Damages

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Article-3, the Principal shall be entitled to forfeit the Earnest Money Deposit/ Bid Security or demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security apart from any other legal right that may have accrued to the Principal.
2. In addition to above, the Principal shall be entitled to take recourse to the relevant provisions of the contract related to Termination of Contract due to Contractor/Concessionaire/Consultant’s Default. In such case, the Principal shall be entitled to forfeit the Performance Bank Guarantee of the Contractor/ Concessionaire/ Consultant and/or demand and recover liquidated and all damages as per the provisions of the contract/Concession agreement against Termination.

Article – 5: Previous Transgression

1. The Bidder declares that no previous transgression occurred in the last 3 years immediately before signing of this integrity pact with any other Company in any country conforming to the anticorruption/Transparency International (TI) approach or with any

other Public Sector Enterprise/Undertaking in India or any Government Department in India that could justify his exclusion from the Tender process.

2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action for his exclusion can be taken as mentioned under Article-3 above for transgression of Article-2 and shall be liable for compensation for damages as per Article-4 above.

Article – 6: Equal treatment of all Bidders/ Contractors/ Concessionaires/ Consultants/ Subcontractors

1. The Bidder(s)/Contractor(s)/Concessionaire(s)/Consultant(s) undertake(s) to demand from all sub-contractors a commitment in conformity with this integrity Pact, and to submit it to the Principal before contract signing.
2. The Principal will enter into agreements with identical conditions as this one with all Bidders/Contractors/Concessionaire/Consultant and Subcontractors.
3. The Principal will disqualify from the Tender process all Bidders who do not sign this Pact violate its provisions.

Article – 7: Criminal charges against violating Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s)/ Sub-contractor(s)

If the Principal obtains knowledge of conduct of a Bidder/ Contractor/ Concessionaire/ Consultant or Subcontractor, or of an employee or a representative or an associate of a Bidder/ Contractor/ Concessionaire/ Consultant or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Article – 8: Independent External Monitor (IEM)

1. The Principal appoints competent and credible Independent External Monitor for this Pact after approval from Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
2. The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, RailTel.
3. The Bidder/Contractor/Concessionaire/Consultant accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Bidder/ Contractor/ Concessionaire/ Consultant. The Bidder/ Contractor/ Concessionaire/ Consultant will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his Project documentation. The same is applicable to Subcontractors.
4. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractors(s) with confidentiality. The Monitor has also

signed on 'Non-disclosure of Confidential Information' and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform CMD, RailTel and recuse himself/herself from that case.

5. The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Bidder/Contractor/Concessionaire/Consultant. The parties offer to the Monitor the option to participate in such meetings.
6. As soon as the Monitor notices, or believes to notice any transgression as given in Article- 2, he may request the Management of the Principal to take corrective action, or to take relevant action. The monitor can in this regard submit non-*binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
7. The Monitor will submit a written report to the CMD, RailTel within 8-10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
8. If the Monitor has reported to the CMD, RailTel, a substantiated suspicion of an offence under relevant IPC/PC Act or any other Statutory Acts, and the CMD, RailTel has not, within the reasonable time taken visible action to proceed against such offence or reported it the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
9. The word 'Monitor' would include both singular and plural.

Article – 9: Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor/Consultant 12 months after his Defect Liability Period is over or 12 months after his last payment under the contract whichever is later and for all other unsuccessful Bidders, 6 months after this Contract has been awarded (In case of BOT projects). It expires for the concessionaire 24 months after his concession period is over and for all other unsuccessful Bidders 6 months after this Contract has been awarded. Any violation of the same would entail disqualification of the bidder and exclusion from future dealings.

If any claim is made/lodged during this time, the same shall be biding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged determined by CMD of RailTel.

Article – 10: Other Provisions

1. This pact is subject to Indian Law, Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.
2. Changes and supplements as well as termination notices need to be made in writing.

3. If the Bidder/Contractor/Concessionaire/Consultant is a partnership or a Joint Venture partner, this pact must be signed by all partners or members.
4. Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid, in this case, the parties will strive to come to an agreement to their original intentions.
5. Issue like warranty / Guarantee etc. shall be outside the purview of IEMs.
6. In the event of any contradiction between the Integrity Pact and its Annexure, the clause in Integrity Pact shall prevail.
7. Any dispute/differences arising between the parties with regard to term of this Pact, any action taken by the Principal in accordance with this Pact or interpretation thereof shall not be subject to any Arbitration.
8. The actions stipulated in the integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

In witness whereof the parties have signed and executed this pact at the place and date first mentioned in the presence of following witnesses:-

(For & On behalf of the (Principal)

(For & On behalf of Bidder/Contractor/
Concessionaire/Consultant)

Place:

Date:

Witness 1:

Witness 2:

Annexure 7: Complete EoI Examination & Nil Deviation Certificate

(To be submitted by Bidder)

To
Deputy General Manager/ Marketing
RailTel Corporation of India Ltd
Western Railway Microwave Complex
Senapati Bapat Marg, Near Railway Sports Ground
Mahalaxmi, Mumbai – 400013

Sub: Complete EoI Examination & Nil Deviation Certificate

Ref: EoI Number: _____ Dated: _____

Dear Sir,

We <Bidder Name> having completely examined the referred EoI, its corrigendum and any other documents/its addendums/corrigendum referred in this EoI, conclude that we have understood the Terms & Conditions of the EoI and its subsequent addendums & corrigendum (if any) and any other documents/its addendums/corrigendum referred in this EoI. We declare that we have sought all clarifications for the same from RailTel or its end customer for anything contained in this EoI & any other documents/its addendums/ corrigendum referred in this EoI and have been satisfied with the clarifications to the fullest extent and there are no terms, clauses, conditions, etc which are ambiguous.

We also declare that there is no deviation from adhering to anything that is contained in this EoI and any other documents/its addendums/corrigendum referred in this EoI and that any deviation later raised by us shall lead to forfeiture of the Bid/Contract at complete discretion of RailTel.

Signature of Authorized Signatory (with official seal)

Name :
Designation :
Address :
Telephone and Fax :
E-mail address :

Annexure 8: Back to Back Compliance Certificate

(To be submitted by Bidder)

To
Deputy General Manager/ Marketing
RailTel Corporation of India Ltd
Western Railway Microwave Complex
Senapati Bapat Marg, Near Railway Sports Ground
Mahalaxmi, Mumbai – 400013

Sub: Complete back to back Compliance Certificate

Ref: 1) EoI Number: _____ Dated: _____

2) Tender Reference No: WR-SnT-STTD-23-2022R2 dated 26/06/2023 and all of its addendums/ corrigendums & published documents

Dear Sir,

Considering reference 1 & 2 we would like to declare that we have read and understood the EoI, its corrigendum and any other documents/its addendums/corrigendum referred in this EoI thoroughly. We would like to give you our back to back compliance for all the tender terms and conditions, clauses, timelines, deliverables and anything explicitly mentioned in the EoI, its corrigendum and any other documents/its addendums/corrigendum referred in this EoI.

Signature of Authorized Signatory (with official seal)

Name :
Designation :
Address :
Telephone and Fax :
E-mail address :

Annexure 9: Performance Bank Guarantee Format

(For a sum of x% of the value of the contract as per RailTel's end customer RFP/tender)
(Stamp Duty to be confirmed by RailTel in co-ordination with RailTel's Legal Department)

Ref. No. :
Date :
Bank Guarantee No. :

To
<Insert complete postal address>

THIS INDENTURE made this <current date> day of <current Month> 2023, BETWEEN THE <Bank Name>, a Company incorporated and registered under the Indian companies act, 1913 and deemed to exist within the companies Act 1956, and governed by the Banking Regulation Act, 1949 and having its registered office at <Address>, and its corporate office at <Address>, India and having one of its Branch Office at <Mumbai Branch Office> (hereinafter referred to as "the Bank" which expression shall be deemed to includes its successors and assigns) of the first part and

<Bidders Company Name> a company incorporated under the Indian Companies Act 1956 having its Registered Office at <Address>, Corporate Office at <Address> and its Regional Office at <Mumbai Office Address> (hereinafter referred to as 'the Contractor/s') of the second part and

RailTel Corporation of India Ltd (hereinafter referred to as 'RailTel') of the third part WHEREAS the Contractor/s have submitted to RailTel EoI/Quotation for the execution of Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railways vide <EoI No> Dated <Date of EoI> and the terms of such EoI/Tender/Quotation/contract require that the Contractor/s shall deposit with RailTel as the security a sum of Rs. <Amount>/- (in figures and words<in words> only Including all Taxes and contingencies and any other costs mentioned as per LOI and RailTel Terms)AND WHEREAS if and when any such EoI/Tender/Quotation is accepted by RailTel the contract to be entered into in furtherance thereof by the Contractor/s will provide that such deposit shall remain with and be appropriated by RailTel towards the security deposit to be taken under the contract and be redeemable by the Contractors/ if they shall duly and faithfully carry out the terms and provision of such contract and shall duly satisfy all claims properly chargeable against them there under AND WHEREAS the Contractor/s are constituents of the Bank and in order to facilitate the keeping of the accounts of the Contractor/s, the Bank with the consent and concurrence of the Contractor/s has requested RailTel to accept the Guarantee of the Bank hereinafter contained, in place of the Contractor/s depositing with RailTel the said sum as security as aforesaid AND WHERE AS accordingly

<Bank Name>has agreed to accept claim from RailTel upon demand in writing, whenever required by him, from time to time upto <Date (contract period + 3 months)> so to do, a sum not exceeding in the whole Rs. <Amount>/- (in figures and words <in words> only incl of Tax) under the terms of the said EoI/Tender/Quotation and/ or the Contract. The Bank Guarantee is valid up to<Date (contract period + 3 months)>.

Notwithstanding anything what has been stated above, <Bank Name> liability under the above guarantee is restricted to Rs. <Amount>/- (in figures and words <in words>only incl of Tax) and guarantee shall remain in force up to <Date (contract period + 3 months)> unless the demand or claim under this guarantee is made on us and we receive in writing on or before <Date (contract period + 3 months)> all your rights under the above guarantee shall be forfeited and we shall be released from all liabilities under the guarantee thereafter whether or not the original bank guarantee is returned to us.

In witness whereof the Bank, through its authorized Officer, has set its hand and stamp on this day of 2023 at

For <Bank Name>

For<Company Name>

Authorized Signatories

Authorized Signatories

EMP No. _____

EMP No. _____

Annexure 10

S. No.	Item Description	Unit Rate	Qty Unit	BRC		ADI		RJT		BVP		Total Qty	Total Value
				Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value		
1	Description:- Supply, installation , Testing & Commissioning of IO Sensors custom hardware for power plant,OFC room temperature, Humidity, Door closure-Open of OFC hut as per specification no.4.24 of chapter-4 of Tender document.	23,000.00	Numbers	87.00	2,001,000.00	-		65.00	1,495,000.00	104.00	2,392,000.00	256.00	5,888,000.00
2	Description:- Platform & application license for 104 stations software with monitoring of each station with respect to user login SMS/Email notification custom report & mobile App support as per specification no.4.32 of chapter-4 of Tender document.	450,000.00	Numbers	1.00	450,000.00	-		1.00	450,000.00	1.00	450,000.00	3.00	1,350,000.00
3	Description:- Supply, installation , Testing & Commissioning of IO Sensors custom hardware for power plant,OFC room temperature, Humidity, Door closure-Open of OFC hut as per specification no.4.24 of chapter-4 of Tender document.	23,000.00	0	-		135.00	3,105,000.00	-		-		135.00	3,105,000.00
4	Description:- Platform & application license for 104 stations software with monitoring of each station with respect to user login SMS/Email notification custom report & mobile App support as per specification no.4.32 of chapter-4 of Tender document.	450,000.00	0	-		1.00	450,000.00	-		-		1.00	450,000.00
Sensors				88.00		136.00		66.00		105.00		395.00	10,793,000.00

S. No.	Item Description	Unit Rate	Qty Unit	BRC		ADI		RJT		BVP		Total Qty	Total Value
				Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value		
5	Description:- Supply & installation of PC Workstation/ Maintenance Console and it shall comply with Para no. G of RDSO Document No. STT/TAN/IP-MPLS/2020 Ver 1.0 as per specification no.4.6 of chapter-4 of Tender document.	101,017.60	Numbers	3.00	303,052.80	2.00	202,035.20	2.00	202,035.20	2.00	202,035.20	9.00	909,158.40
6	Description:- Supply and installation 55-inch full HD Monitor as per specification no.4.8 of chapter-4 of Tender document.	47,529.46	Numbers	4.00	190,117.84	8.00	380,235.68	2.00	95,058.92	6.00	285,176.76	20.00	950,589.20
7	Description:- Supply of factory crimped CAT 6 UTP Patch Cord-2 Mtrs. as per specification no.4.9 of chapter-4 of Tender document.	242.60	Numbers	384.00	93,158.40	870.00	211,062.00	333.00	80,785.80	360.00	87,336.00	1,947.00	472,342.20
8	Description:- Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement as per specification no.4.10 of chapter-4 of Tender document.	135.86	Numbers	945.00	128,387.70	5,000.00	679,300.00	2,280.00	309,760.80	900.00	122,274.00	9,125.00	1,239,722.50
9	Description:- Blowing and drawing of OFC through laid HDPE duct as per approved route plan , taking due care while transporting and sealing both ends as per specification no.4.11 of chapter-4 of Tender document.	12.19	Metre	8,700.00	106,053.00	30,000.00	365,700.00	29,595.00	360,763.05	6,000.00	73,140.00	74,295.00	905,656.05
10	Description:- Supply of 10 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.12 of chapter-4 of Tender document.	38.44	Metre	2,000.00	76,880.00	2,125.00	81,685.00	1,000.00	38,440.00	2,500.00	96,100.00	7,625.00	293,105.00
11	Description:- Supply of 20 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.13 of chapter-4 of Tender document.	73.32	Metre	2,000.00	146,640.00	6,000.00	439,920.00	1,500.00	109,980.00	2,500.00	183,300.00	12,000.00	879,840.00

S. No.	Item Description	Unit Rate	Qty Unit	BRC		ADI		RJT		BVP		Total Qty	Total Value
				Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value		
12	Description:- Supply of 50 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.14 of chapter-4 of Tender document.	180.56	Metre	2,000.00	361,120.00	1,000.00	180,560.00	500.00	90,280.00	2,500.00	451,400.00	6,000.00	1,083,360.00
13	Description:- Supply of 24 Fiber Armoured Optical Fiber Cable as per latest RDSO specification as per specification no.4.15 of chapter-4 of Tender document.	44.63	Metre	8,700.00	388,281.00	5,000.00	223,150.00	15,000.00	669,450.00	3,000.00	133,890.00	31,700.00	1,414,771.00
14	Description:- Supply of Armoured Optical Fiber Cable , 6 Core , Single Mode as per specification no.4.16 of chapter-4 of Tender document.	25.24	Metre	58,500.00	1,476,540.00	70,500.00	1,779,420.00	16,000.00	403,840.00	46,000.00	1,161,040.00	191,000.00	4,820,840.00
15	Description:- Supply of three core PVC insulated flexible power cable in over all PVC Jacket as per specification no.4.17 of chapter-4 of Tender document.	30.86	Metre	425.00	13,115.50	-	-	600.00	18,516.00	600.00	18,516.00	1,625.00	50,147.50
16	Description:- Supply of UTP CAT-6 Cable as per specification no.4.18 of chapter-4 of Tender document.	17.85	Metre	23,950.00	427,507.50	30,000.00	535,500.00	15,250.00	272,212.50	26,000.00	464,100.00	95,200.00	1,699,320.00
17	Description:- Excavation of Trench 1.2 meter deep & 0.3 to 0.6 meter wide (Depth & width of cable trench as per site condition) at the bottom along main line in all types of soil/Strata including clearing of bushes, trees, temporary construction, bailing out water from the trench etc and refilling of the trench by excavated soil and ramming after laying of the required quantity of cable as per instruction of engineer at site. If it is not possible to reach the required depth at any location then proportionate payment will be made to the contractor as per specification no.4.19 of chapter-4 of Tender document.	113.62	Metre	8,705.00	989,062.10	-	-	29,970.00	3,405,191.40	8,000.00	908,960.00	46,675.00	5,303,213.50
18	Description:- Supply and fixing of PVC Trough/Trunking of 50X50 mm with cover of 2 mm thick 2m each. (This includes all materials, clamps etc required for laying, fixing and clamping). As per technical specifications as per specification no.4.20 of chapter-4 of Tender document.	346.93	Metre	870.00	301,829.10	1,400.00	485,702.00	1,500.00	520,395.00	2,000.00	693,860.00	5,770.00	2,001,786.10
19	Description:- Supply of Desk /workstation furniture, 1 table & 2 Chairs as per specification no.4.21 of chapter-4 of Tender document.	6,936.68	Set	60.00	416,200.80	-	-	56.00	388,454.08	80.00	554,934.40	196.00	1,359,589.28
20	Description:- Supply of PLB HDPE Duct of Size 40/33 mm Outer and with all accessories as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest as per specification no.4.22 of chapter-4 of Tender document.	55.62	Metre	8,700.00	483,894.00	5,000.00	278,100.00	32,286.00	1,795,747.32	6,000.00	333,720.00	51,986.00	2,891,461.32
21	Description:- Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long, this include insertion of different dia DWC pipe/ GI pipes coupling etc. as per direction of Engineer In charge and as per technical specification of Chapter-4.23 Note:- Pipe will be supplied by railway. Contactor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable as per specification no.4.23 of chapter-4 of Tender document.	645.00	Metre	870.00	561,150.00	1,000.00	645,000.00	692.00	446,340.00	800.00	516,000.00	3,362.00	2,168,490.00

S. No.	Item Description	Unit Rate	Qty Unit	BRC		ADI		RJT		BVP		Total Qty	Total Value
				Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value		
22	Description:- Supply & installation of GRP/FRP cable tray & required accessories as per specification no.4.28 of chapter-4 of Tender document.	683.91	Metre	680.00	465,058.80	-	-	600.00	410,346.00	1,000.00	683,910.00	2,280.00	1,559,314.80
23	Description:- Laying of 6 core OFC through PVC Pipe/Casing capping and termination in LIUs & FDMS as per specification no.4.29 of chapter-4 of Tender document.	20.56	Metre	58,500.00	1,202,760.00	-	-	12,840.00	263,990.40	40,000.00	822,400.00	111,340.00	2,289,150.40
24	Description:- Laying of PVC/Coaxial cable/Power cable/CAT6 cable through PVC casing capping/pipe on wall including laying material like 3 way/4 way junction box ,T-Joint, flexible PVC pipes etc as per specification no.4.30 of chapter-4 of Tender document.	7.18	Metre	27,400.00	196,732.00	-	-	25,780.00	185,100.40	34,100.00	244,838.00	87,280.00	626,670.40
25	Description:- Laying of HDPE pipe duct in trenches/GI Pipe/RCC pipe/on wall/on PF, including jointing and levelling using couplers and sealing the section etc as per site requirement as per specification no.4.31 of chapter- 4 of Tender document.	9.20	Metre	8,700.00	80,040.00	-	-	27,500.00	253,000.00	6,000.00	55,200.00	42,200.00	388,240.00
26	Description:- Supply of 24 port Rack mounted LIU along with all accessories with installation as per specification no.4.33 of chapter-4 of Tender document.	13,557.52	Numbers	90.00	1,220,176.80	150.00	2,033,628.00	100.00	1,355,752.00	40.00	542,300.80	380.00	5,151,857.60
27	Description:- Supply of 12 port rack mountable LIU alongwith all accessories with installation as per specification no.4.34 of chapter-4 of Tender document.	5,854.57	Numbers	259.00	1,516,333.63	500.00	2,927,285.00	158.00	925,022.06	210.00	1,229,459.70	1,127.00	6,598,100.39
28	Description:- Supply of 42 U 800 mm x 1000 mm rack with cooling system & its standard installation as per specification no.4.35 of chapter-4 of Tender document.	190,310.00	Numbers	12.00	2,283,720.00	-	-	-	-	6.00	1,141,860.00	18.00	3,425,580.00
29	Description:- Supply & Installation of 19" 42U 1200mm Depth Telecom Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type and as per technical specification as per specification no.4.36 of chapter-4 of Tender document.	33,967.78	Numbers	3.00	101,903.34	10.00	339,677.80	4.00	135,871.12	19.00	645,387.82	36.00	1,222,840.08
30	Description:- Supply and Installation of 19 inch 42U 600mm Depth Telecom Rack with Standard Accessories (Closed type)Front Door Glass type, all doors should be removable type and as per technical specification as per specification no.4.37 of chapter-4 of Tender document.	29,782.79	Numbers	75.00	2,233,709.25	157.00	4,675,898.03	8.00	238,262.32	85.00	2,531,537.15	325.00	9,679,406.75
31	Description:- Supply and Installation of 19" 9U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray, Patch Panel,Cable Manager, Spike Buster/PDU and as per technical specification as per specification no.4.38 of chapter-4 of Tender document.	10,032.89	Numbers	60.00	601,973.40	150.00	1,504,933.50	130.00	1,304,275.70	200.00	2,006,578.00	540.00	5,417,760.60
32	Description:- Opening of existing Joint enclosure and Splicing 2/4 additional fiber Inside already prepared jointing pit and Providing anti termite/ant Powder. Closing of Existing Joint and Back filling is included. This does not Include provision of joint chambers, top plate as per specification no.4.39 of chapter-4 of Tender document.	4,227.41	Numbers	87.00	367,784.67	135.00	570,700.35	63.00	266,326.83	80.00	338,192.80	365.00	1,543,004.65
33	Description:- Splicing /Dropping/Termination of each Fiber /Pigtail in the LIU/FDMS/IOBox/Termination Joints through fusion Splicing of the termination of OFC Cables as per specification no.4.41 of chapter-4 of Tender document.	35.10	CORE	2,040.00	71,604.00	6,000.00	210,600.00	4,800.00	168,480.00	6,000.00	210,600.00	18,840.00	661,284.00

S. No.	Item Description	Unit Rate	Qty Unit	BRC		ADI		RJT		BVP		Total Qty	Total Value
				Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value		
34	Description:- Supply and fixing of GI pipes - 50mm dia -3.65mm thick, along with clamps and all the accessories required for installations as per specification no.4.42 of chapter-4 of Tender document.	379.45	Metre	510.00	193,519.50	300.00	113,835.00	96.00	36,427.20	-	-	906.00	343,781.70
35	Description:- Supply and Laying of DWC Pipe 77/63 mm dia with couplers as per RDSO Spec NoRDSO/SPN/204/2011 Version 1.1 and as per the direction of site Engineer & technical specification as per specification no.4.43 of chapter-4 of Tender document.	166.28	Metre	510.00	84,802.80	600.00	99,768.00	692.00	115,065.76	600.00	99,768.00	2,402.00	399,404.56
36	Description:- Surge Protection Device for LAN Networks as per technical specifications as per specification no.4.44 of chapter-4 of Tender document.	2,779.54	Numbers	172.00	478,080.88	135.00	375,237.90	121.00	336,324.34	100.00	277,954.00	528.00	1,467,597.12
37	Description:- Transportation of S&T materials by road as per the instruction of railway representatives at site. The work also include loading and unloading of the materials . Upto 100kms as per specification no.4.45 of chapter-4 of Tender document.	18.22	MT-Km	725.00	13,209.50	4,000.00	72,880.00	1,500.00	27,330.00	1,500.00	27,330.00	7,725.00	140,749.50
38	Description:- Supply and installation 1 KVA/168VAH on line UPS (Single Phase) with 1 Hour Backup and all the accessories required for installations as per specification no.4.46 of chapter-4 of Tender document.	8,401.55	Numbers	-	-	-	-	-	-	-	-	-	-
39	Description:- Supply, Installation and Commissioning of 2x10 KVA UPS at least 1 Hour Back up in full load condition, connected in parallel redundant mode in separate chassis. Complete with all accessories as per specification no.4.47 of chapter-4 of Tender document.	641,724.23	Numbers	1.00	641,724.23	4.00	2,566,896.92	2.00	1,283,448.46	2.00	1,283,448.46	9.00	5,775,518.07
40	Description:- Training of Staff as per RDSO/SPN/TC/ 99/2012 Rev.2 or Latest as per specification no.4.65 of chapter-4 of Tender document.	22,182.35	Man-Week	5.00	110,911.75	10.00	221,823.50	12.00	266,188.20	10.00	221,823.50	37.00	820,746.95
41	Description:- Supply of Maintenance free VRLA Batteries set of 48V-200AH and its standard installation as per latest RDSO Specification. Each battery set shall be of 24 batteries of 2V-200 AH as per specification no.4.68 of chapter-4 of Tender document.	64,496.10	Set	18.00	1,160,929.80	-	-	-	-	-	-	18.00	1,160,929.80
42	Description:- Supply of SMPS Based Battery Charger suitable for both low maintenance & Maintenance free batteries & its standard installation as per RDSO Specification RDSO/SPN/23/99(Ver.4) or latest as per specification no.4.69 of chapter-4 of Tender document.	97,719.62	Numbers	11.00	1,074,915.82	-	-	-	-	10.00	977,196.20	21.00	2,052,112.02
43	Description:- Supply of 19" 24U rack with all accessories and its standard installation as per specification no.4.70 of chapter-4 of Tender document.	11,362.00	Numbers	44.00	499,928.00	-	-	12.00	136,344.00	70.00	795,340.00	126.00	1,431,612.00
44	Description:- Supply & installation of CAT6 Surface mount info-outlet as per specification as per specification no.4.71 of chapter-4 of Tender document.	210.00	Numbers	250.00	52,500.00	-	-	220.00	46,200.00	200.00	42,000.00	670.00	140,700.00
45	Description:- Supply of 38 mm PVC Casing-Capping as per specification no.4.72 of chapter-4 of Tender document.	34.06	Metre	4,000.00	136,240.00	6,000.00	204,360.00	2,000.00	68,120.00	500.00	17,030.00	12,500.00	425,750.00
46	Description:- Supply of PVC rigid pipe 25mm dia with ISI mark & reputed make as per specification no.4.73 of chapter-4 of Tender document.	17.00	Metre	12,007.00	204,119.00	15,000.00	255,000.00	8,000.00	136,000.00	47,000.00	799,000.00	82,007.00	1,394,119.00
47	Description:- Supply of Remote Craft Terminal as per specification no.4.74 of chapter-4 of Tender document.	51,520.00	Numbers	3.00	154,560.00	2.00	103,040.00	2.00	103,040.00	3.00	154,560.00	10.00	515,200.00

S. No.	Item Description	Unit Rate	Qty Unit	BRC		ADI		RJT		BVP		Total Qty	Total Value
				Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value		
48	Description:- Supply of Client System for NMS as per specification & its standard installation as per specification no.4.75 of chapter-4 of Tender document.	31,549.00	Numbers	2.00	63,098.00	-	-	1.00	31,549.00	3.00	94,647.00	6.00	189,294.00
49	Description:- Supply of wall mounting 19" 15U rack as per specification no.4.77 of chapter-4 of Tender document.	7,121.64	0	75.00	534,123.00	-	-	-	-	-	-	75.00	534,123.00
50	Description:- Installation of 15U wall mounting rack as per consignee in charge as per specification no.4.78 of chapter-4 of Tender document.	704.17	0	75.00	52,812.75	-	-	-	-	-	-	75.00	52,812.75
51	Description:- LAN Extender as per RDSO specification No. RDSO/SPN/TC/80/2020 Rev.2.0 or latest.as per specification no.4.79 of chapter-4 of Tender document.	18,526.00	0	-	-	-	-	-	-	-	-	-	-
52	Description:- Supply,Installation and commissioning of Online 5 KVA UPS, 60 Minutes back up with battery/8193 VAH. Batteries shall supply with rack, Management port preferably SNMP based with management software, warranty for UPS(On site comprehensive warranty) 5 Years warranty for battery replacement as per specification	112,572.00	0	-	-	-	-	-	-	-	-	-	-
53	Description:- Supply of MS trough with size of 1 mtr. lengthx200mmx100mmx1mm thickness perforated cable Tray with suitable j-angular for platform L angle should be used 3mm thickness for making suitable clamps for fixing trough necessary painting for angles and trough should be carried out as per instructions of site incharge as per specification no.4.81 of chapter-4 of Tender document.	817.15	0	-	-	-	-	-	-	-	-	-	-
54	Description:- Fixing of tray for housing of all type of telecom cable as per specification no.4.82 of chapter-4 of Tender document.	150.37	0	-	-	-	-	-	-	-	-	-	-
55	Description:- 6 Core Single mode flexible OFC Cable for outdoor purpose (un Armoured) Make-Dlink/BEE- LINK/M CORE as per specification no.4.83 of chapter-4 of Tender document.	17.34	0	-	-	-	-	-	-	-	-	-	-
56	Description:- Breaking of Pucca/Concrete Road, PF Cutting/wall cutting ,Laying of OFC/STP/Power cable etc in Trenches and through a 11 types of protection Viz HDPE/GI/RCC/DWC/PVC Pipes as the case may be. This includes restoration of surface and stone pavement/Pavers as per specification no.4.90 of chapter-4 of Tender document.	411.06	0	-	-	2,000.00	822,120.00	2,160.00	887,889.60	-	-	4,160.00	1,710,009.60
57	Description:- Supply, installations and commissioning of NMS(Network Monitoring Server) and Emergency Room Communication Console detail specification enclosed. Model Reputed make as per specification no.4.84 of chapter-4 of Tender document.	646,861.84	0	-	-	2.00	1,293,723.68	-	-	-	-	2.00	1,293,723.68
58	Description:- Supply of CAT-6 Patch Cord-5mtrs length as per specification no.4.85 of chapter-4 of Tender document.	370.98	0	-	-	300.00	111,294.00	-	-	-	-	300.00	111,294.00
59	Description:- Supply of three core PVC insulated flexible power cable in over all PVC Jacket as per specification no.4.17 of chapter-4 of Tender document.	30.86	0	-	-	1,700.00	52,462.00	-	-	-	-	1,700.00	52,462.00

S. No.	Item Description	Unit Rate	Qty Unit	BRC		ADI		RJT		BVP		Total Qty	Total Value
				Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value		
60	Description:- Excavation of Trench 1.2 meter deep & 0.3 to 0.6 meter wide (Depth & width of cable trench as per site condition) at the bottom along main line in all types of soil/Strata including clearing of bushes, trees, temporary construction, bailing out water from the trench etc and refilling of the trench by excavated soil and ramming after laying of the required quantity of cable as per instruction of engineer at site. If it is not possible to reach the required depth at any location then proportionate payment will be made to the contractor as per specification no.4.19 of chapter-4 of Tender document.	113.62	0	-	-	2,000.00	227,240.00	-	-	-	-	2,000.00	227,240.00
61	Description:- Supply & installation of GRP/FRP cable tray & required accessories as per specification no.4.28 of chapter-4 of Tender document.	683.91	0	-	-	2,000.00	1,367,820.00	-	-	-	-	2,000.00	1,367,820.00
62	Description:- Laying of 6 core OFC through PVC Pipe/Casing capping and termination in LIUs & FDMS as per specification no.4.29 of chapter-4 of Tender document.	20.56	0	-	-	50,000.00	1,028,000.00	-	-	-	-	50,000.00	1,028,000.00
63	Description:- Laying of PVC/Coaxial cable/Power cable/CAT6 cable through PVC casing capping/pipe on wall including laying material like 3 way/4 way junction box ,T-Joint, flexible PVC pipes etc as per specification no.4.30 of chapter-4 of Tender document.	7.18	0	-	-	10,000.00	71,800.00	-	-	-	-	10,000.00	71,800.00
64	Description:- Laying of HDPE pipe duct in trenches/GI Pipe/RCC pipe/on wall/on PF, including jointing and levelling using couplers and sealing the section etc as per site requirement as per specification no.4.31 of chapter- 4 of Tender document.	9.20	0	-	-	5,000.00	46,000.00	-	-	-	-	5,000.00	46,000.00
65	Description:- Supply of Single Mode Patch Cord length 10 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement as per specification no.4.89 of chapter-4 of Tender document.	590.00	0	-	-	-	-	240.00	141,600.00	-	-	240.00	141,600.00
66	Description:- Supply of RJ 45 connector suitable for STP/UTP Cable (D-Link)as per specification no.4.91 of chapter-4 of Tender document.	2.20	0	-	-	-	-	1,000.00	2,200.00	-	-	1,000.00	2,200.00
67	Description:- Supply, installation of 19"12 U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray ,Patch Panel, Cable Manager, Spike Buster/PDU. [Detailed Specification in Technical Document]Inspection: RITES as per specification no.4.92 of chapter-4 of Tender document.	12,766.00	0	-	-	-	-	10.00	127,660.00	-	-	10.00	127,660.00
68	Description:- LAN Extender as per RDSO specification No. RDSO/SPN/TC/82/2020 Rev.2.0 or latest.as per specification no.4.86 of chapter-4 of Tender document.	15,500.00	0	-	-	-	-	-	-	70.00	1,085,000.00	70.00	1,085,000.00
69	Description:- Cutting of platform with tile/rock cutting machine or manually to 30 cm depth and 12 cm wide approx. by removing slabs/tiles neatly and filling the trench with river sand replacing the top surface smooth finish as per specification no. 4.87 of chapter-4 of Tender document.	90.57	0	-	-	-	-	-	-	2,000.00	181,140.00	2,000.00	181,140.00

S. No.	Item Description	Unit Rate	Qty Unit	BRC		ADI		RJT		BVP		Total Qty	Total Value
				Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value	Item Qty	Basic Value		
70	Description:- Supply and installation of Maintenance Free Safe Earthing for Telecom Installations as per specification No. RDSO /SPN /TC/197/2008 with latest amendments consisting of single earth pit. The number of electrodes to be provided at each station will be decided by engineer in charge of the work as per specification no.4.88 of chapter-4 of Tender document.	15,146.00	0	-	-	-	-	-	-	20.00	302,920.00	20.00	302,920.00
Passive Components				243,130.00		264,060.00		234,617.00		247,076.00		988,883.00	91,599,921.47

Final Track Total (Incl Taxes)	102,392,921.47
---------------------------------------	-----------------------

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

Sr.DSTE/BCT acting for and on behalf of The President of India invites E-Tenders against Tender No **WR-SnT-STTD-23-2022R2** Closing Date/Time 20/07/2023 15:00 Hrs. Bidders will be able to submit their original/revised bids upto closing date and time only. Manual offers are not allowed against this tender, and any such manual offer received shall be ignored.

1. NIT HEADER

Name of Work	Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railway.		
Bidding type	Two Stage Reverse Auction		
Tender Type	Open	Bidding System	Two Packet System
Tender Closing Date Time	20/07/2023 15:00	Date Time Of Uploading Tender	26/06/2023 16:51
Pre-Bid Conference Required	No	Pre-Bid Conference Date Time	Not Applicable
Advertised Value	878381675.77	Tendering Section	TELE/SOUTH
Bidding Style	Single Rate for Tender	Bidding Unit	Above/Below/Par
Earnest Money (Rs.)	4541900.00	Validity of Offer (Days)	90
Tender Doc. Cost (Rs.)	0.00	Period of Completion	18 Months
Contract Type	Works	Contract Category	Expenditure
Bidding Start Date	06/07/2023	Are Joint Venture (JV) firms allowed to bid	Yes
Ranking Order For Bids	Lowest to Highest	Expenditure Type	Capital (Works)
Auto Elimination rules applicable	Yes	Minimum Decrement (%)	.25
Initial Cooling Off Period (HH:MM)	04:00	Subsequent Cooling Off Period (HH:MM)	00:20

2. SCHEDULE

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule A-SCHEDULE(MMCT)							202001914.13	
1	1	100.00	Numbers	102874.84	10287484.00	AT Par	10287484.00	
	Description:- Supply and installation of 16 port E1 Card (2 x 8port) along with Patch panel/Krone Module and wiring for Routers with all accessories etc. as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.1 of chapter-4 of Tender document.							
2	2	100.00	Numbers	375048.14	37504814.00	AT Par	37504814.00	
	Description:- Supply of Standard 19" Rack Mountable LER (Label Edge Router) with all necessary accessories & Software, Perpetual Licenses as per RDSO Document No.STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.2 of chapter-4 of Tender document. {supply of E1 cards is not included in this item and is catered in separate item}.							
3	3	112.00	Numbers	12328.15	1380752.80	AT Par	1380752.80	
	Description:- Installation, Commissioning & Testing of LER & LSR IP MPLS Routers including supply & Installation of all the accessories like Power cable, Earthing Cable, Optical Patch Cords of 3 mtr- 6 Nos. for LERs & 10 Nos. for LSRs, Cat 6 Patch Cords of 1 mtr -4 Nos , one 6A MCB for each LER and LSR , wiring etc. as required for Routers as per specification no.4.4 of chapter-4 of Tender document.							
4	4	12.00	Numbers	1699313.37	20391760.44	AT Par	20391760.44	
	Description:- Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) with all necessary accessories & Software, Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.3 of chapter-4 of Tender document.							
5	5	1.00	Numbers	51305928.00	51305928.00	AT Par	51305928.00	
	Description:- Supply, installation, Testing and Commissioning of Network Management System (NMS) inclusive of Software, Hardware and Perpetual Licenses for Network Elements as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.5 of chapter-4 of Tender document.							
	6	1.00	Numbers	101017.60	101017.60	AT Par	101017.60	

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

6	Description:- Supply & installation of PC Workstation as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.6 of chapter-4 of Tender document.						
7	7	6.00	Man-Week	33255.59	199533.54	AT Par	199533.54
	Description:- Training of personnel over and above the on-site/ OEM/OEM authorized training partner premises training, during the installation, maintenance and supervision period as detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by the Railway as per specification no.4.7 of chapter-4 of Tender document.						
8	8	8.00	Numbers	47529.46	380235.68	AT Par	380235.68
	Description:- Supply and installation 55-inch full HD Monitor as per specification no.4.8 of chapter-4 of Tender document.						
9	9	374.00	Numbers	242.60	90732.40	AT Par	90732.40
	Description:- Supply of factory crimped CAT 6 UTP Patch Cord-2 Mtrs. as per specification no.4.9 of chapter-4 of Tender document.						
10	10	4825.00	Numbers	135.86	655524.50	AT Par	655524.50
	Description:- Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement as per specification no.4.10 of chapter-4 of Tender document.						
11	11	6000.00	Metre	12.19	73140.00	AT Par	73140.00
	Description:- Blowing and drawing of OFC through laid HDPE duct as per approved route plan , taking due care while transporting and sealing both ends as per specification no.4.11 of chapter-4 of Tender document.						
12	12	1500.00	Metre	38.44	57660.00	AT Par	57660.00
	Description:- Supply of 10 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.12 of chapter-4 of Tender document.						
13	13	5000.00	Metre	73.32	366600.00	AT Par	366600.00
	Description:- Supply of 20 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.13 of chapter-4 of Tender document.						
14	14	1280.00	Metre	180.56	231116.80	AT Par	231116.80
	Description:- Supply of 50 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.14 of chapter-4 of Tender document.						
15	15	6000.00	Metre	44.63	267780.00	AT Par	267780.00
	Description:- Supply of 24 Fiber Armoured Optical Fiber Cable as per latest RDSO specification as per specification no.4.15 of chapter-4 of Tender document.						
16	16	76000.00	Metre	25.24	1918240.00	AT Par	1918240.00
	Description:- Supply of Armoured Optical Fiber Cable , 6 Core , Single Mode as per specification no.4.16 of chapter-4 of Tender document.						
17	17	500.00	Metre	30.86	15430.00	AT Par	15430.00
	Description:- Supply of three core PVC insulated flexible power cable in over all PVC Jacket as per specification no.4.17 of chapter-4 of Tender document.						
18	18	28725.00	Metre	17.85	512741.25	AT Par	512741.25
	Description:- Supply of UTP CAT-6 Cable as per specification no.4.18 of chapter-4 of Tender document.						
19	19	1500.00	Metre	113.62	170430.00	AT Par	170430.00
	Description:- Excavation of Trench 1.2 meter deep & 0.3 to 0.6 meter wide (Depth & width of cable trench as per site condition) at the bottom along main line in all types of soil/Strata including clearing of bushes, trees, temporary construction, bailing out water from the trench etc and refilling of the trench by excavated soil and ramming after laying of the required quantity of cable as per instruction of engineer at site. If it is not possible to reach the required depth at any location then proportionate payment will be made to the contractor as per specification no.4.19 of chapter-4 of Tender document.						
20	20	1500.00	Metre	346.93	520395.00	AT Par	520395.00
	Description:- Supply and fixing of PVC Trough/Trunking of 50X50 mm with cover of 2 mm thick 2m each. (This includes all materials, clamps etc required for laying, fixing and clamping). As per technical specifications as per specification no.4.20 of chapter-4 of Tender document.						
21	21	93.00	Set	6936.68	645111.24	AT Par	645111.24
	Description:- Supply of Desk /workstation furniture, 1 table & 2 Chairs as per specification no.4.21 of chapter-4 of Tender document.						
22	22	4800.00	Metre	55.62	266976.00	AT Par	266976.00
	Description:- Supply of PLB HDPE Duct of Size 40/33 mm Outer and with all accessories as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest as per specification no.4.22 of chapter-4 of Tender document.						
	23	642.00	Metre	645.00	414090.00	AT Par	414090.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

23	Description:- Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long. this include insertion of different dia DWC pipe/ GI pipes coupling etc. as per direction of Engineer In charge and as per technical specification of Chapter-4.23 Note:- Pipe will be supplied by railway. Contactor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable as per specification no.4.23 of chapter-4 of Tender document.						
24	24	100.00	Numbers	23000.00	2300000.00	AT Par	2300000.00
	Description:- Supply, installation , Testing & Commissioning of IO Sensors custom hardware for power plant, OFC room temperature, Humidity, Door closure-Open of OFC hut as per specification no.4.24 of chapter-4 of Tender document.						
25	25	40.00	Numbers	182919.00	7316760.00	AT Par	7316760.00
	Description:- Supply of Layer 2, 24 port Aggregate Managed switch and its standard installation as per Specification as per specification no.4.25 of chapter-4 of Tender document.						
26	26	93.00	Numbers	49607.46	4613493.78	AT Par	4613493.78
	Description:- Supply Installation & Commissioning of Standard 19- inch Rack Mountable 24 Port managed Non-POE switch , 24 GE 10/100/1000 BaseX Ethernet port, fully loaded with SFP modules, including mounting kit and all the accessories as per RDSO Specification NO. RDSO/SPN/TC/83/2020 Rev 2 as per specification no.4.26 of chapter-4 of Tender document.						
27	27	370.00	Numbers	12230.55	4525303.50	AT Par	4525303.50
	Description:- Supply and installation of 8 port manageable poe switch as per RDSO specification no.4.27 of chapter-4 of Tender document.						
28	28	500.00	Metre	683.91	341955.00	AT Par	341955.00
	Description:- Supply & installation of GRP/FRP cable tray & required accessories as per specification no.4.28 of chapter-4 of Tender document.						
29	29	76000.00	Metre	20.56	1562560.00	AT Par	1562560.00
	Description:- Laying of 6 core OFC through PVC Pipe/Casing capping and termination in LIUs & FDMS as per specification no.4.29 of chapter-4 of Tender document.						
30	30	37005.00	Metre	7.18	265695.90	AT Par	265695.90
	Description:- Laying of PVC/Coaxial cable/Power cable/CAT6 cable through PVC casing capping/pipe on wall including laying material like 3 way/4 way junction box , T-Joint, flexible PVC pipes etc as per specification no.4.30 of chapter-4 of Tender document.						
31	31	4800.00	Metre	9.20	44160.00	AT Par	44160.00
	Description:- Laying of HDPE pipe duct in trenches/GI Pipe/RCC pipe/on wall/on PF, including jointing and levelling using couplers and sealing the section etc as per site requirement as per specification no.4.31 of chapter-4 of Tender document.						
32	32	1.00	Numbers	450000.00	450000.00	AT Par	450000.00
	Description:- Platform & application license for 104 stations software with monitoring of each station with respect to user login SMS/Email notification custom report & mobile App support as per specification no.4.32 of chapter-4 of Tender document.						
33	33	100.00	Numbers	13557.52	1355752.00	AT Par	1355752.00
	Description:- Supply of 24 port Rack mounted LIU along with all accessories with installation as per specification no.4.33 of chapter-4 of Tender document.						
34	34	477.00	Numbers	5854.57	2792629.89	AT Par	2792629.89
	Description:- Supply of 12 port rack mountable LIU alongwith all accessories with installation as per specification no.4.34 of chapter-4 of Tender document.						
35	35	20.00	Numbers	190310.00	3806200.00	AT Par	3806200.00
	Description:- Supply of 42 U 800 mm x 1000 mm rack with cooling system & its standard installation as per specification no.4.35 of chapter-4 of Tender document.						
36	36	15.00	Numbers	33967.78	509516.70	AT Par	509516.70
	Description:- Supply & Installation of 19" 42U 1200mm Depth Telecom Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type and as per technical specification as per specification no.4.36 of chapter-4 of Tender document.						
37	37	60.00	Numbers	29782.79	1786967.40	AT Par	1786967.40
	Description:- Supply and Installation of 19 inch 42U 600mm Depth Telecom Rack with Standard Accessories (Closed type)Front Door Glass type, all doors should be removable type and as per technical specification as per specification no.4.37 of chapter-4 of Tender document.						
	38	135.00	Numbers	10032.89	1354440.15	AT Par	1354440.15

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

38	Description:- Supply and Installation of 19" 9U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray, Patch Panel,Cable Manager, Spike Buster/PDU and as per technical specification as per specification no.4.38 of chapter-4 of Tender document.						
39	39	107.00	Numbers	4227.41	452332.87	AT Par	452332.87
	Description:- Opening of existing Joint enclosure and Splicing 2/4 additional fiber Inside already prepared jointing pit and Providing anti termites/ant Powder. Closing of Existing Joint and Back filling is included. This does not Include provision of joint chambers, top plate as per specification no.4.39 of chapter-4 of Tender document.						
40	40	20.00	Numbers	5658.12	113162.40	AT Par	113162.40
	Description:- Supply of 10/100/1000 Base-T Copper Ethernet Transceiver SFP Module with all accessories as per specification no.4.40 of chapter-4 of Tender document.						
41	41	4800.00	CORE	35.10	168480.00	AT Par	168480.00
	Description:- Splicing /Dropping/Termination of each Fiber /Pigtail in the LIU/FDMS/IOBox/Termination Joints through fusion Splicing of the termination of OFC Cables as per specification no.4.41 of chapter-4 of Tender document.						
42	42	642.00	Metre	379.45	243606.90	AT Par	243606.90
	Description:- Supply and fixing of GI pipes - 50mm dia -3.65mm thick, along with clamps and all the accessories required for installations as per specification no.4.42 of chapter-4 of Tender document.						
43	43	642.00	Metre	166.28	106751.76	AT Par	106751.76
	Description:- Supply and Laying of DWC Pipe 77/63 mm dia with couplers as per RDSO Spec NoRDSO/SPN/204/2011 Version 1.1 and as per the direction of site Engineer & technical specification as per specification no.4.43 of chapter-4 of Tender document.						
44	44	100.00	Numbers	2779.54	277954.00	AT Par	277954.00
	Description:- Surge Protection Device for LAN Networks as per technical specifications as per specification no.4.44 of chapter-4 of Tender document.						
45	45	1500.00	MT-Km	18.22	27330.00	AT Par	27330.00
	Description:- Transportation of S&T materials by road as per the instruction of railway representatives at site. The work also include loading and unloading of the materials . Upto 100kms as per specification no.4.45 of chapter-4 of Tender document.						
47	47	4.00	Numbers	641724.23	2566896.92	AT Par	2566896.92
	Description:- Supply, Installation and Commissioning of 2x10 KVA UPS at least 1 Hour Back up in full load condition, connected in parallel redundant mode in separate chassis. Complete with all accessories as per specification no.4.47 of chapter-4 of Tender document.						
48	48	40.00	Numbers	31844.87	1273794.80	AT Par	1273794.80
	Description:- Supply of 8 Port FXS Gateway (DC or AC based as per site requirement) including mounting kit and all the accessories & its standard installation as per technical specifications as per specification no.4.48 of chapter-4 of Tender document.						
49	49	125.00	Numbers	71634.00	8954250.00	AT Par	8954250.00
	Description:- Supply , Installation, Testing & Commissioning of 48 Port FXS Gateway (Analog gateway) as per specification no.4.49 of chapter-4 of Tender document.						
50	50	32.00	Numbers	147461.00	4718752.00	AT Par	4718752.00
	Description:- Supply , Installation, Testing & Commissioning of 112 Port FXS Gateway (Analog gateway) as per specification no.4.50 of chapter-4 of Tender document.						
51	51	4.00	Job	23609.60	94438.40	AT Par	94438.40
	Description:- Installation, Testing & Commissioning of VoIP Server as per specification no.4.51 of chapter-4 of Tender document.						
52	52	4.00	Numbers	455892.78	1823571.12	AT Par	1823571.12
	Description:- Supply of VoIP redundant Server with perpetual Server License, RAID Controller, Duplicated PSU as per specification no.4.52 of chapter-4 of Tender document.						
53	53	2.00	Numbers	12255.80	24511.60	AT Par	24511.60
	Description:- Supply and Installation of Mobile application for Event Notification Gateway and NMS Server as per scope of work as per RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.53 of chapter-4 of Tender document.						
54	54	2.00	Set	2339169.80	4678339.60	AT Par	4678339.60
	Description:- Supply, Installation and Commissioning of Communication Server as per Clause 5and 6 RDSO/SPN/TC/99/2012 Rev.2 or latest. Communication Server Block shall be provided 1+2or 1:2 Redundancy. Total 3 servers, 2 numbers at main location and one at remote location as per specification no.4.54 of chapter-4 of Tender document.						
	55	127.00	Numbers	16929.03	2149986.81	AT Par	2149986.81

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

55	Description:- Supply and Installation of Control IP Telephones with Hands Free and Gooseneck Operation for Way Side Station as Per Clause 11 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.55 of chapter-4 of Tender document.						
56	56	18.00	Numbers	291316.92	5243704.56	AT Par	5243704.56
56	Description:- Supply, Installation and Commissioning of Controller Console as Per Clause 9 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.56 of chapter-4 of Tender document.						
57	57	100.00	Numbers	17416.30	1741630.00	AT Par	1741630.00
57	Description:- Supply, Installation and Commissioning for 4 Port Gateway to support 4 Port Concurrent Emergency Communication at HQ/Way station to support 4 wire ports/ 4 Port Gateway with built in 2 wires to 4 wire Hybrid convertor to support 4 wire output as Per Clause 13 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.57 of chapter-4 of Tender document.						
58	58	2.00	Numbers	277301.20	554602.40	AT Par	554602.40
58	Description:- Supply, Installation and Commissioning of Event Notification Gateway as per Clause 12.3 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.58 of chapter-4 of Tender document.						
59	59	2.00	Numbers	72366.67	144733.34	AT Par	144733.34
59	Description:- Supply of Portable Maintenance Terminal (Similar to Laptop) as Per Clause No 8.7 and 8.9 RDSO/SPN/TC /99/2012 Rev.2. or latest as per specification no.4.59 of chapter-4 of Tender document.						
60	60	1.00	Numbers	375812.40	375812.40	AT Par	375812.40
60	Description:- Supply, Installation and Commissioning of Network Management Server as per Clause 5 and 8 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.60 of chapter-4 of Tender document.						
61	61	2.00	Numbers	62348.04	124696.08	AT Par	124696.08
61	Description:- Supply, Installation and Commissioning of Desktop Client PC As per clause 8.7 and 8.8 of RDSO/SPN/TC/99/2012 Rev.2 or latest along with 600VA UPS as per specification no.4.61 of chapter-4 of Tender document.						
62	62	2.00	Numbers	76521.52	153043.04	AT Par	153043.04
62	Description:- Supply, Installation and Commissioning of Client PC for Voice Record Server as per Clause 8 RDSO/SPN/TC/99/2012 Rev.2 along with 600VA UPS as per specification no.4.62 of chapter-4 of Tender document.						
63	63	2.00	Numbers	444214.00	888428.00	AT Par	888428.00
63	Description:- Supply, Installation and Commissioning of Voice Recording Server as per Clause 5 and 7 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.63 of chapter-4 of Tender document.						
64	64	2.00	Numbers	419785.71	839571.42	AT Par	839571.42
64	Description:- Supply, Installation and Commissioning of Test Room Console as Per Clause 10 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.64 of chapter-4 of Tender document.						
65	65	10.00	Man-Week	22182.35	221823.50	AT Par	221823.50
65	Description:- Training of Staff as per RDSO/SPN/TC/ 99/2012 Rev.2 or Latest as per specification no.4.65 of chapter-4 of Tender document.						
68	68	12.00	Set	64496.10	773953.20	AT Par	773953.20
68	Description:- Supply of Maintenance free VRLA Batteries set of 48V-200AH and its standard installation as per latest RDSO Specification. Each battery set shall be of 24 batteries of 2V-200 AH as per specification no.4.68 of chapter-4 of Tender document.						
69	69	12.00	Numbers	97719.62	1172635.44	AT Par	1172635.44
69	Description:- Supply of SMPS Based Battery Charger suitable for both low maintenance & Maintenance free batteries & its standard installation as per RDSO Specification RDSO/SPN/23/99(Ver.4) or latest as per specification no.4.69 of chapter-4 of Tender document.						
70	70	40.00	Numbers	11362.00	454480.00	AT Par	454480.00
70	Description:- Supply of 19" 24U rack with all accessories and its standard installation as per specification no.4.70 of chapter-4 of Tender document.						
71	71	250.00	Numbers	210.00	52500.00	AT Par	52500.00
71	Description:- Supply & installation of CAT6 Surface mount info-outlet as per specification as per specification no.4.71 of chapter-4 of Tender document.						
72	72	6000.00	Metre	34.06	204360.00	AT Par	204360.00
72	Description:- Supply of 38 mm PVC Casing-Capping as per specification no.4.72 of chapter-4 of Tender document.						
73	73	15000.00	Metre	17.00	255000.00	AT Par	255000.00
73	Description:- Supply of PVC rigid pipe 25mm dia with ISI mark & reputed make as per specification no.4.73 of chapter-4 of Tender document.						

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

74	74	3.00	Numbers	51520.00	154560.00	AT Par	154560.00	
	Description:- Supply of Remote Craft Terminal as per specification no.4.74 of chapter-4 of Tender document.							
75	75	6.00	Numbers	31549.00	189294.00	AT Par	189294.00	
	Description:- Supply of Client System for NMS as per specification & its standard installation as per specification no.4.75 of chapter-4 of Tender document.							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B-SCHEDULE(BRC)							126992077.90	
1	1	89.00	Numbers	102874.84	9155860.76	AT Par	9155860.76	
	Description:- Supply and installation of 16 port E1 Card (2 x 8port) along with Patch panel/Krone Module and wiring for Routers with all accessories etc. as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.1 of chapter-4 of Tender document.							
2	2	89.00	Numbers	375048.14	33379284.46	AT Par	33379284.46	
	Description:- Supply of Standard 19" Rack Mountable LER (Label Edge Router) with all necessary accessories & Software, Perpetual Licenses as per RDSO Document No.STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.2 of chapter-4 of Tender document. {supply of E1 cards is not included in this item and is catered in separate item}.							
3	3	98.00	Numbers	12328.15	1208158.70	AT Par	1208158.70	
	Description:- Installation, Commissioning & Testing of LER & LSR IP MPLS Routers including supply & Installation of all the accessories like Power cable, Earthing Cable, Optical Patch Cords of 3 mtr- 6 Nos. for LERs & 10 Nos. for LSRs, Cat 6 Patch Cords of 1 mtr -4 Nos , one 6A MCB for each LER and LSR , wiring etc. as required for Routers as per specification no.4.4 of chapter-4 of Tender document.							
4	4	9.00	Numbers	1699313.37	15293820.33	AT Par	15293820.33	
	Description:- Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) with all necessary accessories & Software, Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.3 of chapter-4 of Tender document.							
5	5	3.00	Numbers	101017.60	303052.80	AT Par	303052.80	
	Description:- Supply & installation of PC Workstation as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.6 of chapter-4 of Tender document.							
6	6	6.00	Man-Week	33255.59	199533.54	AT Par	199533.54	
	Description:- Training of personnel over and above the on-site/ OEM/OEM authorized training partner premises training, during the installation, maintenance and supervision period as detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by the Railway as per specification no.4.7 of chapter-4 of Tender document.							
7	7	4.00	Numbers	47529.46	190117.84	AT Par	190117.84	
	Description:- Supply and installation 55-inch full HD Monitor as per specification no.4.8 of chapter-4 of Tender document.							
8	8	384.00	Numbers	242.60	93158.40	AT Par	93158.40	
	Description:- Supply of factory crimped CAT 6 UTP Patch Cord-2 Mtrs. as per specification no.4.9 of chapter-4 of Tender document.							
9	9	945.00	Numbers	135.86	128387.70	AT Par	128387.70	
	Description:- Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement as per specification no.4.10 of chapter-4 of Tender document.							
10	10	8700.00	Metre	12.19	106053.00	AT Par	106053.00	
	Description:- Blowing and drawing of OFC through laid HDPE duct as per approved route plan , taking due care while transporting and sealing both ends as per specification no.4.11 of chapter-4 of Tender document.							
11	11	2000.00	Metre	38.44	76880.00	AT Par	76880.00	
	Description:- Supply of 10 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.12 of chapter-4 of Tender document.							
12	12	2000.00	Metre	73.32	146640.00	AT Par	146640.00	
	Description:- Supply of 20 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.13 of chapter-4 of Tender document							
13	13	2000.00	Metre	180.56	361120.00	AT Par	361120.00	
	Description:- Supply of 50 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.14 of chapter-4 of Tender document.							
14	14	8700.00	Metre	44.63	388281.00	AT Par	388281.00	

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

14	Description:- Supply of 24 Fiber Armoured Optical Fiber Cable as per latest RDSO specification as per specification no.4.15 of chapter-4 of Tender document.						
15	15	58500.00	Metre	25.24	1476540.00	AT Par	1476540.00
	Description:- Supply of Armoured Optical Fiber Cable , 6 Core , Single Mode as per specification no.4.16 of chapter-4 of Tender document.						
16	16	425.00	Metre	30.86	13115.50	AT Par	13115.50
	Description:- Supply of three core PVC insulated flexible power cable in over all PVC Jacket as per specification no.4.17 of chapter-4 of Tender document.						
17	17	23950.00	Metre	17.85	427507.50	AT Par	427507.50
	Description:- Supply of UTP CAT-6 Cable as per specification no.4.18 of chapter-4 of Tender document.						
18	18	8705.00	Metre	113.62	989062.10	AT Par	989062.10
	Description:- Excavation of Trench 1.2 meter deep & 0.3 to 0.6 meter wide (Depth & width of cable trench as per site condition) at the bottom along main line in all types of soil/Strata including clearing of bushes, trees, temporary construction, bailing out water from the trench etc and refilling of the trench by excavated soil and ramming after laying of the required quantity of cable as per instruction of engineer at site. If it is not possible to reach the required depth at any location then proportionate payment will be made to the contractor as per specification no.4.19 of chapter-4 of Tender document.						
19	19	870.00	Metre	346.93	301829.10	AT Par	301829.10
	Description:- Supply and fixing of PVC Trough/Trunking of 50X50 mm with cover of 2 mm thick 2m each. (This includes all materials, clamps etc required for laying, fixing and clamping). As per technical specifications as per specification no.4.20 of chapter-4 of Tender document.						
20	20	60.00	Set	6936.68	416200.80	AT Par	416200.80
	Description:- Supply of Desk /workstation furniture, 1 table & 2 Chairs as per specification no.4.21 of chapter-4 of Tender document.						
21	21	8700.00	Metre	55.62	483894.00	AT Par	483894.00
	Description:- Supply of PLB HDPE Duct of Size 40/33 mm Outer and with all accessories as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest as per specification no.4.22 of chapter-4 of Tender document.						
22	22	870.00	Metre	645.00	561150.00	AT Par	561150.00
	Description:- Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long. this include insertion of different dia DWC pipe/ GI pipes coupling etc. as per direction of Engineer In charge and as per technical specification of Chapter-4.23 Note:- Pipe will be supplied by railway. Contactor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable as per specification no.4.23 of chapter-4 of Tender document.						
23	23	87.00	Numbers	23000.00	2001000.00	AT Par	2001000.00
	Description:- Supply, installation , Testing & Commissioning of IO Sensors custom hardware for power plant, OFC room temperature, Humidity, Door closure-Open of OFC hut as per specification no.4.24 of chapter-4 of Tender document.						
24	24	28.00	Numbers	182919.00	5121732.00	AT Par	5121732.00
	Description:- Supply of Layer 2, 24 port Aggregate Managed switch and its standard installation as per Specification as per specification no.4.25 of chapter-4 of Tender document.						
25	25	77.00	Numbers	49607.46	3819774.42	AT Par	3819774.42
	Description:- Supply Installation & Commissioning of Standard 19- inch Rack Mountable 24 Port managed Non-POE switch , 24 GE 10/100/1000 BaseX Ethernet port, fully loaded with SFP modules, including mounting kit and all the accessories as per RDSO Specification NO. RDSO/SPN/TC/83/2020 Rev 2 as per specification no.4.26 of chapter-4 of Tender document.						
26	26	425.00	Numbers	12230.55	5197983.75	AT Par	5197983.75
	Description:- Supply and installation of 8 port manageable POE Switch as per RDSO specification no.4.27 of chapter-4 of Tender document.						
27	27	680.00	Metre	683.91	465058.80	AT Par	465058.80
	Description:- Supply & installation of GRP/FRP cable tray & required accessories as per specification no.4.28 of chapter-4 of Tender document.						
28	28	58500.00	Metre	20.56	1202760.00	AT Par	1202760.00
	Description:- Laying of 6 core OFC through PVC Pipe/Casing capping and termination in LIUs & FDMS as per specification no.4.29 of chapter-4 of Tender document.						
	29	27400.00	Metre	7.18	196732.00	AT Par	196732.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

29	Description:- Laying of PVC/Coaxial cable/Power cable/CAT6 cable through PVC casing capping/pipe on wall including laying material like 3 way/4 way junction box ,T-Joint, flexible PVC pipes etc as per specification no.4.30 of chapter-4 of Tender document.						
30	30	8700.00	Metre	9.20	80040.00	AT Par	80040.00
	Description:- Laying of HDPE pipe duct in trenches/GI Pipe/RCC pipe/on wall/on PF, including jointing and levelling using couplers and sealing the section etc as per site requirement as per specification no.4.31 of chapter-4 of Tender document.						
31	31	1.00	Numbers	450000.00	450000.00	AT Par	450000.00
	Description:- Platform & application license for 104 stations software with monitoring of each station with respect to user login SMS/Email notification custom report & mobile App support as per specification no.4.32 of chapter-4 of Tender document.						
32	32	90.00	Numbers	13557.52	1220176.80	AT Par	1220176.80
	Description:- Supply of 24 port Rack mounted LIU along with all accessories with installation as per specification no.4.33 of chapter-4 of Tender document.						
33	33	259.00	Numbers	5854.57	1516333.63	AT Par	1516333.63
	Description:- Supply of 12 port rack mountable LIU alongwith all accessories with installation as per specification no.4.34 of chapter-4 of Tender document.						
34	34	12.00	Numbers	190310.00	2283720.00	AT Par	2283720.00
	Description:- Supply of 42 U 800 mm x 1000 mm rack with cooling system & its standard installation as per specification no.4.35 of chapter-4 of Tender document.						
35	35	3.00	Numbers	33967.78	101903.34	AT Par	101903.34
	Description:- Supply & Installation of 19" 42U 1200mm Depth Telecom Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type and as per technical specification as per specification no.4.36 of chapter-4 of Tender document.						
36	36	75.00	Numbers	29782.79	2233709.25	AT Par	2233709.25
	Description:- Supply and Installation of 19 inch 42U 600mm Depth Telecom Rack with Standard Accessories (Closed type)Front Door Glass type, all doors should be removable type and as per technical specification as per specification no.4.37 of chapter-4 of Tender document.						
37	37	60.00	Numbers	10032.89	601973.40	AT Par	601973.40
	Description:- Supply and Installation of 19" 9U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray, Patch Panel,Cable Manager, Spike Buster/PDU and as per technical specification as per specification no.4.38 of chapter-4 of Tender document.						
38	38	87.00	Numbers	4227.41	367784.67	AT Par	367784.67
	Description:- Opening of existing Joint enclosure and Splicing 2/4 additional fiber Inside already prepared jointing pit and Providing anti termites/ant Powder. Closing of Existing Joint and Back filling is included. This does not Include provision of joint chambers, top plate as per specification no.4.39 of chapter-4 of Tender document.						
39	39	10.00	Numbers	5658.12	56581.20	AT Par	56581.20
	Description:- Supply of 10/100/1000 Base-T Copper Ethernet Transceiver SFP Module with all accessories as per specification no.4.40 of chapter-4 of Tender document.						
40	40	2040.00	CORE	35.10	71604.00	AT Par	71604.00
	Description:- Splicing /Dropping/Termination of each Fiber /Pigtail in the LIU/FDMS/IOBox/Termination Joints through fusion Splicing of the termination of OFC Cables as per specification no.4.41 of chapter-4 of Tender document.						
41	41	510.00	Metre	379.45	193519.50	AT Par	193519.50
	Description:- Supply and fixing of GI pipes - 50mm dia -3.65mm thick, along with clamps and all the accessories required for installations as per specification no.4.42 of chapter-4 of Tender document.						
42	42	510.00	Metre	166.28	84802.80	AT Par	84802.80
	Description:- Supply and Laying of DWC Pipe 77/63 mm dia with couplers as per RDSO Spec NoRDSO/SPN/204/2011 Version 1.1 and as per the direction of site Engineer & technical specification as per specification no.4.43 of chapter-4 of Tender document.						
43	43	172.00	Numbers	2779.54	478080.88	AT Par	478080.88
	Description:- Surge Protection Device for LAN Networks as per technical specifications as per specification no.4.44 of chapter-4 of Tender document.						
44	44	725.00	MT-Km	18.22	13209.50	AT Par	13209.50
	Description:- Transportation of S&T materials by road as per the instruction of railway representatives at site. The work also include loading and unloading of the materials . Upto 100kms as per specification no.4.45 of chapter-4 of Tender document.						
	46	1.00	Numbers	641724.23	641724.23	AT Par	641724.23

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

46	Description:- Supply, Installation and Commissioning of 2x10 KVA UPS at least 1 Hour Back up in full load condition, connected in parallel redundant mode in separate chassis. Complete with all accessories as per specification no.4.47 of chapter-4 of Tender document.						
47	47	40.00	Numbers	31844.87	1273794.80	AT Par	1273794.80
	Description:- Supply of 8 Port FXS Gateway (DC or AC based as per site requirement) including mounting kit and all the accessories & its standard installation as per technical specifications as per specification no.4.48 of chapter-4 of Tender document.						
48	48	90.00	Numbers	71634.00	6447060.00	AT Par	6447060.00
	Description:- Supply , Installation, Testing & Commissioning of 48 Port FXS Gateway (Analog gateway) as per specification no.4.49 of chapter-4 of Tender document.						
49	49	15.00	Numbers	147461.00	2211915.00	AT Par	2211915.00
	Description:- Supply , Installation, Testing & Commissioning of 112 Port FXS Gateway (Analog gateway) as per specification no.4.50 of chapter-4 of Tender document.						
50	50	10.00	Job	23609.60	236096.00	AT Par	236096.00
	Description:- Installation, Testing & Commissioning of VoIP Server as per specification no.4.51 of chapter-4 of Tender document.						
51	51	10.00	Numbers	455892.78	4558927.80	AT Par	4558927.80
	Description:- Supply of VoIP redundant Server with perpetual Server License, RAID Controller, Duplicated PSU as per specification no.4.52 of chapter-4 of Tender document.						
52	52	1.00	Numbers	12255.80	12255.80	AT Par	12255.80
	Description:- Supply and Installation of Mobile application for Event Notification Gateway and NMS Server as per scope of work as per RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.53 of chapter-4 of Tender document.						
53	53	1.00	Set	2339169.80	2339169.80	AT Par	2339169.80
	Description:- Supply, Installation and Commissioning of Communication Server as per Clause 5 and 6 RDSO/SPN/TC/99/2012 Rev.2 or latest. Communication Server Block shall be provided 1+2or 1:2 Redundancy. Total 3 servers, 2 numbers at main location and one at remote location as per specification no.4.54 of chapter-4 of Tender document.						
54	54	150.00	Numbers	16929.03	2539354.50	AT Par	2539354.50
	Description:- Supply and Installation of Control IP Telephones with Hands Free and Gooseneck Operation for Way Side Station as Per Clause 11 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.55 of chapter-4 of Tender document.						
55	55	14.00	Numbers	291316.92	4078436.88	AT Par	4078436.88
	Description:- Supply, Installation and Commissioning of Controller Console as Per Clause 9 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.56 of chapter-4 of Tender document.						
56	56	87.00	Numbers	17416.30	1515218.10	AT Par	1515218.10
	Description:- Supply, Installation and Commissioning for 4 Port Gateway to support 4 Port Concurrent Emergency Communication at HQ/Way station to support 4 wire ports/ 4 Port Gateway with built in 2 wires to 4 wire Hybrid convertor to support 4 wire output as Per Clause 13 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.57 of chapter-4 of Tender document.						
57	57	1.00	Numbers	277301.20	277301.20	AT Par	277301.20
	Description:- Supply, Installation and Commissioning of Event Notification Gateway as per Clause 12.3 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.58 of chapter-4 of Tender document.						
58	58	1.00	Numbers	72366.67	72366.67	AT Par	72366.67
	Description:- Supply of Portable Maintenance Terminal (Similar to Laptop) as Per Clause No 8.7 and 8.9 RDSO/SPN/TC /99/2012 Rev.2. or latest as per specification no.4.59 of chapter-4 of Tender document.						
59	59	1.00	Numbers	375812.40	375812.40	AT Par	375812.40
	Description:- Supply, Installation and Commissioning of Network Management Server as per Clause 5 and 8 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.60 of chapter-4 of Tender document.						
60	60	20.00	Numbers	62348.04	1246960.80	AT Par	1246960.80
	Description:- Supply, Installation and Commissioning of Desktop Client PC As per clause 8.7 and 8.8 of RDSO/SPN/TC/99/2012 Rev.2 or latest along with 600VA UPS as per specification no.4.61 of chapter-4 of Tender document.						
61	61	1.00	Numbers	76521.52	76521.52	AT Par	76521.52
	Description:- Supply, Installation and Commissioning of Client PC for Voice Record Server as per Clause 8 RDSO/SPN/TC/99/2012 Rev.2 along with 600VA UPS as per specification no.4.62 of chapter-4 of Tender document.						
	62	1.00	Numbers	444214.00	444214.00	AT Par	444214.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

62	Description:- Supply, Installation and Commissioning of Voice Recording Server as per Clause 5 and 7 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.63 of chapter-4 of Tender document.						
63	63	1.00	Numbers	419785.71	419785.71	AT Par	419785.71
63	Description:- Supply, Installation and Commissioning of Test Room Console as Per Clause 10 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.64 of chapter-4 of Tender document.						
64	64	5.00	Man-Week	22182.35	110911.75	AT Par	110911.75
64	Description:- Training of Staff as per RDSO/SPN/TC/ 99/2012 Rev.2 or Latest as per specification no.4.65 of chapter-4 of Tender document.						
67	67	18.00	Set	64496.10	1160929.80	AT Par	1160929.80
67	Description:- Supply of Maintenance free VRLA Batteries set of 48V-200AH and its standard installation as per latest RDSO Specification. Each battery set shall be of 24 batteries of 2V-200 AH as per specification no.4.68 of chapter-4 of Tender document.						
68	68	11.00	Set	97719.62	1074915.82	AT Par	1074915.82
68	Description:- Supply of SMPS Based Battery Charger suitable for both low maintenance & Maintenance free batteries & its standard installation as per RDSO Specification RDSO/SPN/23/99(Ver.4) or latest as per specification no.4.69 of chapter-4 of Tender document.						
69	69	146.00	Numbers	4951.35	722897.10	AT Par	722897.10
69	Description:- Supply of SIP Based Medium IP Phone with 240X120 Pixel or better Graphical LCD with Backlight, Minimum 8 No of One Touch line key as per Specification. Inspection RITES as per specification no.4.76 of chapter-4 of Tender document.						
70	70	44.00	Numbers	11362.00	499928.00	AT Par	499928.00
70	Description:- Supply of 19" 24U rack with all accessories and its standard installation as per specification no.4.70 of chapter-4 of Tender document.						
71	71	250.00	Numbers	210.00	52500.00	AT Par	52500.00
71	Description:- Supply & installation of CAT6 Surface mount info-outlet as per specification as per specification no.4.71 of chapter-4 of Tender document.						
72	72	4000.00	Metre	34.06	136240.00	AT Par	136240.00
72	Description:- Supply of 38 mm PVC Casing-Capping as per specification no.4.72 of chapter-4 of Tender document.						
73	73	12007.00	Metre	17.00	204119.00	AT Par	204119.00
73	Description:- Supply of PVC rigid pipe 25mm dia with ISI mark & reputed make as per specification no.4.73 of chapter-4 of Tender document.						
74	74	3.00	Numbers	51520.00	154560.00	AT Par	154560.00
74	Description:- Supply of Remote Craft Terminal as per specification no.4.74 of chapter-4 of Tender document.						
75	75	2.00	Numbers	31549.00	63098.00	AT Par	63098.00
75	Description:- Supply of Client System for NMS as per specification & its standard installation as per specification no.4.75 of chapter-4 of Tender document.						
76	76	75.00	Numbers	7121.64	534123.00	AT Par	534123.00
76	Description:- Supply of wall mounting 19" 15U rack as per specification no.4.77 of chapter-4 of Tender document.						
77	77	75.00	Numbers	704.17	52812.75	AT Par	52812.75
77	Description:- Installation of 15U wall mounting rack as per consignee in charge as per specification no.4.78 of chapter-4 of Tender document.						

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C-SCHEDULE(RTM)							153161895.54	
1	1	110.00	Numbers	102874.84	11316232.40	AT Par	11316232.40	
1	Description:- Supply and installation of 16 port E1 Card (2 x 8port) along with Patch panel/Krone Module and wiring for Routers with all accessories etc. as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.1 of chapter-4 of Tender document.							
2	2	118.00	Numbers	375048.14	44255680.52	AT Par	44255680.52	
2	Description:- Supply of Standard 19" Rack Mountable LER (Label Edge Router) with all necessary accessories & Software, Perpetual Licenses as per RDSO Document No.STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.2 of chapter-4 of Tender document. {supply of E1 cards is not included in this item and is catered in separate item}.							
	3	118.00	Numbers	12328.15	1454721.70	AT Par	1454721.70	

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

3	Description:- Installation, Commissioning & Testing of LER & LSR IP MPLS Routers including supply & Installation of all the accessories like Power cable, Earthing Cable, Optical Patch Cords of 3 mtr- 6 Nos. for LERs & 10 Nos. for LSRs, Cat 6 Patch Cords of 1 mtr -4 Nos , one 6A MCB for each LER and LSR , wiring etc. as required for Routers as per specification no.4.4 of chapter-4 of Tender document.						
4	4	8.00	Numbers	1699313.37	13594506.96	AT Par	13594506.96
	Description:- Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) with all necessary accessories & Software, Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.3 of chapter-4 of Tender document.						
5	5	2.00	Numbers	101017.60	202035.20	AT Par	202035.20
	Description:- Supply & installation of PC Workstation as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.6 of chapter-4 of Tender document.						
6	6	6.00	Man-Week	33255.59	199533.54	AT Par	199533.54
	Description:- Training of personnel over and above the on-site/ OEM/OEM authorized training partner premises training, during the installation, maintenance and supervision period as detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by the Railway as per specification no.4.7 of chapter-4 of Tender document.						
7	7	4.00	Numbers	47529.46	190117.84	AT Par	190117.84
	Description:- Supply and installation 55-inch full HD Monitor as per specification no.4.8 of chapter-4 of Tender document.						
8	8	660.00	Numbers	242.60	160116.00	AT Par	160116.00
	Description:- Supply of factory crimped CAT 6 UTP Patch Cord-2 Mtrs. as per specification no.4.9 of chapter-4 of Tender document.						
9	9	1965.00	Numbers	135.86	266964.90	AT Par	266964.90
	Description:- Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement as per specification no.4.10 of chapter-4 of Tender document.						
10	10	20000.00	Metre	12.19	243800.00	AT Par	243800.00
	Description:- Blowing and drawing of OFC through laid HDPE duct as per approved route plan , taking due care while transporting and sealing both ends as per specification no.4.11 of chapter-4 of Tender document.						
11	11	1650.00	Metre	38.44	63426.00	AT Par	63426.00
	Description:- Supply of 10 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.12 of chapter-4 of Tender document.						
12	12	550.00	Metre	73.32	40326.00	AT Par	40326.00
	Description:- Supply of 20 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.13 of chapter-4 of Tender document.						
13	13	440.00	Metre	180.56	79446.40	AT Par	79446.40
	Description:- Supply of 50 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.14 of chapter-4 of Tender document.						
14	14	9000.00	Metre	44.63	401670.00	AT Par	401670.00
	Description:- Supply of 24 Fiber Armoured Optical Fiber Cable as per latest RDSO specification as per specification no.4.15 of chapter-4 of Tender document.						
15	15	19000.00	Metre	25.24	479560.00	AT Par	479560.00
	Description:- Supply of Armoured Optical Fiber Cable , 6 Core , Single Mode as per specification no.4.16 of chapter-4 of Tender document.						
16	16	800.00	Metre	30.86	24688.00	AT Par	24688.00
	Description:- Supply of three core PVC insulated flexible power cable in over all PVC Jacket as per specification no.4.17 of chapter-4 of Tender document.						
17	17	34775.00	Metre	17.85	620733.75	AT Par	620733.75
	Description:- Supply of UTP CAT-6 Cable as per specification no.4.18 of chapter-4 of Tender document.						
18	18	20000.00	Metre	113.62	2272400.00	AT Par	2272400.00
	Description:- Excavation of Trench 1.2 meter deep & 0.3 to 0.6 meter wide (Depth & width of cable trench as per site condition) at the bottom along main line in all types of soil/Strata including clearing of bushes, trees, temporary construction, bailing out water from the trench etc and refilling of the trench by excavated soil and ramming after laying of the required quantity of cable as per instruction of engineer at site. If it is not possible to reach the required depth at any location then proportionate payment will be made to the contractor as per specification no.4.19 of chapter-4 of Tender document.						
19	19	3000.00	Metre	346.93	1040790.00	AT Par	1040790.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

		Description:- Supply and fixing of PVC Trough/Trunking of 50X50 mm with cover of 2 mm thick 2m each. (This includes all materials, clamps etc required for laying, fixing and clamping). As per technical specifications as per specification no.4.20 of chapter-4 of Tender document.					
20	20	60.00	Set	6936.68	416200.80	AT Par	416200.80
		Description:- Supply of Desk /workstation furniture, 1 table & 2 Chairs as per specification no.4.21 of chapter-4 of Tender document.					
21	21	20000.00	Metre	55.62	1112400.00	AT Par	1112400.00
		Description:- Supply of PLB HDPE Duct of Size 40/33 mm Outer and with all accessories as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest as per specification no.4.22 of chapter-4 of Tender document.					
22	22	1100.00	Metre	645.00	709500.00	AT Par	709500.00
		Description:- Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long. this include insertion of different dia DWC pipe/ GI pipes coupling etc. as per direction of Engineer in charge and as per technical specification of Chapter-4.23 Note:- Pipe will be supplied by railway. Contactor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable as per specification no.4.23 of chapter-4 of Tender document.					
23	23	104.00	Numbers	23000.00	2392000.00	AT Par	2392000.00
		Description:- Supply, installation , Testing & Commissioning of IO Sensors custom hardware for power plant, OFC room temperature, Humidity, Door closure-Open of OFC hut as per specification no.4.24 of chapter-4 of Tender document.					
24	24	33.00	Numbers	182919.00	6036327.00	AT Par	6036327.00
		Description:- Supply of Layer 2, 24 port Aggregate Managed switch and its standard installation as per Specification as per specification no.4.25 of chapter-4 of Tender document.					
25	25	100.00	Numbers	49607.46	4960746.00	AT Par	4960746.00
		Description:- Supply Installation & Commissioning of Standard 19- inch Rack Mountable 24 Port managed Non-POE switch , 24 GE 10/100/1000 BaseX Ethernet port, fully loaded with SFP modules, including mounting kit and all the accessories as per RDSO Specification NO. RDSO/SPN/TC/83/2020 Rev 2 as per specification no.4.26 of chapter-4 of Tender document.					
26	26	330.00	Numbers	12230.55	4036081.50	AT Par	4036081.50
		Description:- Supply and installation of 8 port manageable poe switch as per RDSO specification no.4.27 of chapter-4 of Tender document.					
27	27	700.00	Metre	683.91	478737.00	AT Par	478737.00
		Description:- Supply & installation of GRP/FRP cable tray & required accessories as per specification no.4.28 of chapter-4 of Tender document.					
28	28	14000.00	Metre	20.56	287840.00	AT Par	287840.00
		Description:- Laying of 6 core OFC through PVC Pipe/Casing capping and termination in LIUs & FDMS as per specification no.4.29 of chapter-4 of Tender document.					
29	29	35171.00	Metre	7.18	252527.78	AT Par	252527.78
		Description:- Laying of PVC/Coaxial cable/Power cable/CAT6 cable through PVC casing capping/pipe on wall including laying material like 3 way/4 way junction box , T-Joint, flexible PVC pipes etc as per specification no.4.30 of chapter-4 of Tender document.					
30	30	20000.00	Metre	9.20	184000.00	AT Par	184000.00
		Description:- Laying of HDPE pipe duct in trenches/GI Pipe/RCC pipe/on wall/on PF, including jointing and levelling using couplers and sealing the section etc as per site requirement as per specification no.4.31 of chapter-4 of Tender document.					
31	31	1.00	Numbers	450000.00	450000.00	AT Par	450000.00
		Description:- Platform & application license for 104 stations software with monitoring of each station with respect to user login SMS/Email notification custom report & mobile App support as per specification no.4.32 of chapter-4 of Tender document.					
32	32	220.00	Numbers	13557.52	2982654.40	AT Par	2982654.40
		Description:- Supply of 24 port Rack mounted LIU along with all accessories with installation as per specification no.4.33 of chapter-4 of Tender document.					
33	33	220.00	Numbers	5854.57	1288005.40	AT Par	1288005.40
		Description:- Supply of 12 port rack mountable LIU alongwith all accessories with installation as per specification no.4.34 of chapter-4 of Tender document.					
34	34	15.00	Numbers	190310.00	2854650.00	AT Par	2854650.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

35	35	4.00	Numbers	33967.78	135871.12	AT Par	135871.12	Description:- Supply of 42 U 800 mm x 1000 mm rack with cooling system & its standard installation as per specification no.4.35 of chapter-4 of Tender document.
36	36	125.00	Numbers	29782.79	3722848.75	AT Par	3722848.75	Description:- Supply & Installation of 19" 42U 1200mm Depth Telecom Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type and as per technical specification as per specification no.4.36 of chapter-4 of Tender document.
37	37	65.00	Numbers	10032.89	652137.85	AT Par	652137.85	Description:- Supply and Installation of 19 inch 42U 600mm Depth Telecom Rack with Standard Accessories (Closed type)Front Door Glass type, all doors should be removable type and as per technical specification as per specification no.4.37 of chapter-4 of Tender document.
38	38	70.00	Numbers	4227.41	295918.70	AT Par	295918.70	Description:- Supply and Installation of 19" 9U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray, Patch Panel,Cable Manager, Spike Buster/PDU and as per technical specification as per specification no.4.38 of chapter-4 of Tender document.
39	39	20.00	Numbers	5658.12	113162.40	AT Par	113162.40	Description:- Opening of existing Joint enclosure and Splicing 2/4 additional fiber Inside already prepared jointing pit and Providing anti termites/ant Powder. Closing of Existing Joint and Back filling is included. This does not Include provision of joint chambers, top plate as per specification no.4.39 of chapter-4 of Tender document.
40	40	20.00	Numbers	5658.12	113162.40	AT Par	113162.40	Description:- Supply of 10/100/1000 Base-T Copper Ethernet Transceiver SFP Module with all accessories as per specification no.4.40 of chapter-4 of Tender document.
41	41	5200.00	CORE	35.10	182520.00	AT Par	182520.00	Description:- Splicing /Dropping/Termination of each Fiber /Pigtail in the LIU/FDMS/IOBox/Termination Joints through fusion Splicing of the termination of OFC Cables as per specification no.4.41 of chapter-4 of Tender document.
42	42	1000.00	Metre	379.45	379450.00	AT Par	379450.00	Description:- Supply and fixing of GI pipes - 50mm dia -3.65mm thick, along with clamps and all the accessories required for installations as per specification no.4.42 of chapter-4 of Tender document.
43	43	1000.00	Metre	166.28	166280.00	AT Par	166280.00	Description:- Supply and Laying of DWC Pipe 77/63 mm dia with couplers as per RDSO Spec NoRDSO/SPN/204/2011 Version 1.1 and as per the direction of site Engineer & technical specification as per specification no.4.43 of chapter-4 of Tender document.
44	44	220.00	Numbers	2779.54	611498.80	AT Par	611498.80	Description:- Surge Protection Device for LAN Networks as per technical specifications as per specification no.4.44 of chapter-4 of Tender document.
45	45	1000.00	MT-Km	18.22	18220.00	AT Par	18220.00	Description:- Transportation of S&T materials by road as per the instruction of railway representatives at site. The work also include loading and unloading of the materials . Upto 100kms as per specification no.4.45 of chapter-4 of Tender document.
46	46	1.00	Numbers	641724.23	641724.23	AT Par	641724.23	Description:- Supply, Installation and Commissioning of 2x10 KVA UPS at least 1 Hour Back up in full load condition, connected in parallel redundant mode in separate chassis. Complete with all accessories as per specification no.4.47 of chapter-4 of Tender document.
47	47	110.00	Numbers	31844.87	3502935.70	AT Par	3502935.70	Description:- Supply of 8 Port FXS Gateway (DC or AC based as per site requirement) including mounting kit and all the accessories & its standard installation as per technical specifications as per specification no.4.48 of chapter-4 of Tender document.
48	48	15.00	Numbers	71634.00	1074510.00	AT Par	1074510.00	Description:- Supply , Installation, Testing & Commissioning of 48 Port FXS Gateway (Analog gateway) as per specification no.4.49 of chapter-4 of Tender document.
49	49	25.00	Numbers	147461.00	3686525.00	AT Par	3686525.00	Description:- Supply , Installation, Testing & Commissioning of 112 Port FXS Gateway (Analog gateway) as per specification no.4.50 of chapter-4 of Tender document.
50	50	10.00	Job	23609.60	236096.00	AT Par	236096.00	Description:- Installation, Testing & Commissioning of VoIP Server as per specification no.4.51 of chapter-4 of Tender document.
51	51	10.00	Numbers	455892.78	4558927.80	AT Par	4558927.80	

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

	Description:- Supply of VoIP redundant Server with perpetual Server License, RAID Controller, Duplicated PSU as per specification no.4.52 of chapter-4 of Tender document.						
52	52	2.00	Numbers	12255.80	24511.60	AT Par	24511.60
	Description:- Supply and Installation of Mobile application for Event Notification Gateway and NMS Server as per scope of work as per RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.53 of chapter-4 of Tender document.						
53	53	1.00	Set	2339169.80	2339169.80	AT Par	2339169.80
	Description:- Supply, Installation and Commissioning of Communication Server as per Clause 5 and 6 RDSO/SPN/TC/99/2012 Rev.2 or latest. Communication Server Block shall be provided 1+2or 1:2 Redundancy. Total 3 servers, 2 numbers at main location and one at remote location as per specification no.4.54 of chapter-4 of Tender document.						
54	54	150.00	Numbers	16929.03	2539354.50	AT Par	2539354.50
	Description:- Supply and Installation of Control IP Telephones with Hands Free and Gooseneck Operation for Way Side Station as Per Clause 11 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.55 of chapter-4 of Tender document.						
55	55	19.00	Numbers	291316.92	5535021.48	AT Par	5535021.48
	Description:- Supply, Installation and Commissioning of Controller Console as Per Clause 9 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.56 of chapter-4 of Tender document.						
56	56	115.00	Numbers	17416.30	2002874.50	AT Par	2002874.50
	Description:- Supply, Installation and Commissioning for 4 Port Gateway to support 4 Port Concurrent Emergency Communication at HQ/Way station to support 4 wire ports/ 4 Port Gateway with built in 2 wires to 4 wire Hybrid convertor to support 4 wire output as Per Clause 13 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.57 of chapter-4 of Tender document.						
57	57	1.00	Numbers	277301.20	277301.20	AT Par	277301.20
	Description:- Supply, Installation and Commissioning of Event Notification Gateway as per Clause 12.3 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.58 of chapter-4 of Tender document.						
58	58	12.00	Numbers	72366.67	868400.04	AT Par	868400.04
	Description:- Supply of Portable Maintenance Terminal (Similar to Laptop) as Per Clause No 8.7 and 8.9 RDSO/SPN/TC /99/2012 Rev.2. or latest as per specification no.4.59 of chapter-4 of Tender document.						
59	59	1.00	Numbers	375812.40	375812.40	AT Par	375812.40
	Description:- Supply, Installation and Commissioning of Network Management Server as per Clause 5 and 8 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.60 of chapter-4 of Tender document.						
60	60	2.00	Numbers	62348.04	124696.08	AT Par	124696.08
	Description:- Supply, Installation and Commissioning of Desktop Client PC As per clause 8.7 and 8.8 of RDSO/SPN/TC/99/2012 Rev.2 or latest along with 600VA UPS as per specification no.4.61 of chapter-4 of Tender document.						
61	61	2.00	Numbers	76521.52	153043.04	AT Par	153043.04
	Description:- Supply, Installation and Commissioning of Client PC for Voice Record Server as per Clause 8 RDSO/SPN/TC/99/2012 Rev.2 along with 600VA UPS as per specification no.4.62 of chapter-4 of Tender document.						
62	62	2.00	Numbers	444214.00	888428.00	AT Par	888428.00
	Description:- Supply, Installation and Commissioning of Voice Recording Server as per Clause 5 and 7 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.63 of chapter-4 of Tender document.						
63	63	2.00	Numbers	419785.71	839571.42	AT Par	839571.42
	Description:- Supply, Installation and Commissioning of Test Room Console as Per Clause 10 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.64 of chapter-4 of Tender document.						
64	64	10.00	Man-Week	22182.35	221823.50	AT Par	221823.50
	Description:- Training of Staff as per RDSO/SPN/TC/ 99/2012 Rev.2 or Latest as per specification no.4.65 of chapter-4 of Tender document.						
67	67	32.00	Set	64496.10	2063875.20	AT Par	2063875.20
	Description:- Supply of Maintenance free VRLA Batteries set of 48V-200AH and its standard installation as per latest RDSO Specification. Each battery set shall be of 24 batteries of 2V-200 AH as per specification no.4.68 of chapter-4 of Tender document.						
68	68	32.00	Set	97719.62	3127027.84	AT Par	3127027.84
	Description:- Supply of SMPS Based Battery Charger suitable for both low maintenance & Maintenance free batteries & its standard installation as per RDSO Specification RDSO/SPN/23/99(Ver.4) or latest as per specification no.4.69 of chapter-4 of Tender document.						
	69	26000.00	Metre	17.00	442000.00	AT Par	442000.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

69	Description:- Supply of PVC rigid pipe 25mm dia with ISI mark & reputed make as per specification no.4.73 of chapter-4 of Tender document.						
70	70	90.00	Pair	18526.00	1667340.00	AT Par	1667340.00
	Description:- LAN Extender as per RDSO specification No. RDSO/SPN/TC/80/2020 Rev.2.0 or latest.as per specification no.4.79 of chapter-4 of Tender document.						
71	71	90.00	Numbers	4951.35	445621.50	AT Par	445621.50
	Description:- Supply of IP Phone as per specification no.4.76 of chapter-4 of Tender document.						
72	72	6.00	Numbers	112572.00	675432.00	AT Par	675432.00
	Description:- Supply,Installation and commissioning of Online 5 KVA UPS, 60 Minutes back up with battery/8193 VAH. Batteries shall supply with rack, Management port preferably SNMP based with management software, warranty for UPS(On site comprehensive warranty) 5 Years warranty for battery replacement as per specification no.4.80 of chapter-4 of Tender document.						
73	73	600.00	Metre	817.15	490290.00	AT Par	490290.00
	Description:- Supply of MS trough with size of 1 mtr. lengthx200mmx100mmx1mm thickness perforated cable Tray with suitable j-angular for platform L angle should be used 3mm thickness for making suitable clamps for fixing trough necessary painting for angles and trough should be carried out as per instructions of site incharge as per specification no.4.81 of chapter-4 of Tender document.						
74	74	600.00	Metre	150.37	90222.00	AT Par	90222.00
	Description:- Fixing of tray for housing of all type of telecom cable as per specification no.4.82 of chapter-4 of Tender document.						
75	75	125.00	Numbers	11362.00	1420250.00	AT Par	1420250.00
	Description:- Supply of 19" 24U rack with all accessories and its standard installation as per specification no.4.70 of chapter-4 of Tender document.						
76	76	425.00	Numbers	210.00	89250.00	AT Par	89250.00
	Description:- Supply & installation of CAT6 Surface mount info-outlet as per specification as per specification no.4.71 of chapter-4 of Tender document.						
77	77	8000.00	Metre	34.06	272480.00	AT Par	272480.00
	Description:- Supply of 38 mm PVC Casing-Capping as per specification no.4.72 of chapter-4 of Tender document.						
78	78	9.00	Numbers	51520.00	463680.00	AT Par	463680.00
	Description:- Supply of Remote Craft Terminal as per specification no.4.74 of chapter-4 of Tender document.						
79	79	6.00	Numbers	31549.00	189294.00	AT Par	189294.00
	Description:- Supply of Client System for NMS as per specification & its standard installation as per specification no.4.75 of chapter-4 of Tender document.						
80	80	12000.00	Metre	17.34	208080.00	AT Par	208080.00
	Description:- 6 Core Single mode flexible OFC Cable for outdoor purpose (un Armoured) Make-Dlink/BEE-LINK/M CORE as per specification no.4.83 of chapter-4 of Tender document.						

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule D-SCHEDULE(ADI)							162232295.58	
1	1	135.00	Numbers	102874.84	13888103.40	AT Par	13888103.40	
	Description:- Supply and installation of 16 port E1 Card (2 x 8port) along with Patch panel/Krone Module and wiring for Routers with all accessories etc. as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.1 of chapter-4 of Tender document.							
2	2	120.00	Numbers	375048.14	45005776.80	AT Par	45005776.80	
	Description:- Supply of Standard 19" Rack Mountable LER (Label Edge Router) with all necessary accessories & Software, Perpetual Licenses as per RDSO Document No.STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.2 of chapter-4 of Tender document. {supply of E1 cards is not included in this item and is catered in separate item}.							
3	3	132.00	Numbers	12328.15	1627315.80	AT Par	1627315.80	
	Description:- Installation, Commissioning & Testing of LER & LSR IP MPLS Routers including supply & Installation of all the accessories like Power cable, Earthing Cable, Optical Patch Cords of 3 mtr- 6 Nos. for LERs & 10 Nos. for LSRs, Cat 6 Patch Cords of 1 mtr -4 Nos , one 6A MCB for each LER and LSR , wiring etc. as required for Routers as per specification no.4.4 of chapter-4 of Tender document.							
4	4	12.00	Numbers	1699313.37	20391760.44	AT Par	20391760.44	

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

5	Description:- Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) with all necessary accessories & Software, Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.3 of chapter-4 of Tender document.						
	5	2.00	Numbers	101017.60	202035.20	AT Par	202035.20
6	Description:- Supply & installation of PC Workstation as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.6 of chapter-4 of Tender document.						
	6	6.00	Man-Week	33255.59	199533.54	AT Par	199533.54
7	Description:- Training of personnel over and above the on-site/ OEM/OEM authorized training partner premises training, during the installation, maintenance and supervision period as detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by the Railway as per specification no.4.7 of chapter-4 of Tender document.						
	7	8.00	Numbers	47529.46	380235.68	AT Par	380235.68
8	Description:- Supply and installation 55-inch full HD Monitor as per specification no.4.8 of chapter-4 of Tender document.						
	8	870.00	Numbers	242.60	211062.00	AT Par	211062.00
9	Description:- Supply of factory crimped CAT 6 UTP Patch Cord-2 Mtrs. as per specification no.4.9 of chapter-4 of Tender document.						
	9	5000.00	Numbers	135.86	679300.00	AT Par	679300.00
10	Description:- Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement as per specification no.4.10 of chapter-4 of Tender document.						
	10	30000.00	Metre	12.19	365700.00	AT Par	365700.00
11	Description:- Blowing and drawing of OFC through laid HDPE duct as per approved route plan , taking due care while transporting and sealing both ends as per specification no.4.11 of chapter-4 of Tender document.						
	11	2125.00	Metre	38.44	81685.00	AT Par	81685.00
12	Description:- Supply of 10 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.12 of chapter-4 of Tender document.						
	12	6000.00	Metre	73.32	439920.00	AT Par	439920.00
13	Description:- Supply of 20 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.13 of chapter-4 of Tender document.						
	13	1000.00	Metre	180.56	180560.00	AT Par	180560.00
14	Description:- Supply of 50 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.14 of chapter-4 of Tender document.						
	14	5000.00	Metre	44.63	223150.00	AT Par	223150.00
15	Description:- Supply of 24 Fiber Armoured Optical Fiber Cable as per latest RDSO specification as per specification no.4.15 of chapter-4 of Tender document.						
	15	70500.00	Metre	25.24	1779420.00	AT Par	1779420.00
16	Description:- Supply of Armoured Optical Fiber Cable , 6 Core , Single Mode as per specification no.4.16 of chapter-4 of Tender document.						
	16	30000.00	Metre	17.85	535500.00	AT Par	535500.00
17	Description:- Supply of UTP CAT-6 Cable as per specification no.4.18 of chapter-4 of Tender document.						
	17	1400.00	Metre	346.93	485702.00	AT Par	485702.00
18	Description:- Supply and fixing of PVC Trough/Trunking of 50X50 mm with cover of 2 mm thick 2m each. (This includes all materials, clamps etc required for laying, fixing and clamping). As per technical specifications as per specification no.4.20 of chapter-4 of Tender document.						
	18	5000.00	Metre	55.62	278100.00	AT Par	278100.00
19	Description:- Supply of PLB HDPE Duct of Size 40/33 mm Outer and with all accessories as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest as per specification no.4.22 of chapter-4 of Tender document.						
	19	1000.00	Metre	645.00	645000.00	AT Par	645000.00
20	Description:- Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long. this include insertion of different dia DWC pipe/ GI pipes coupling etc. as per direction of Engineer In charge and as per technical specification of Chapter-4.23 Note:- Pipe will be supplied by railway. Contactor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable as per specification no.4.23 of chapter-4 of Tender document.						
	20	60.00	Numbers	182919.00	10975140.00	AT Par	10975140.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

		Description:- Supply of Layer 2, 24 port Aggregate Managed switch and its standard installation as per Specification as per specification no.4.25 of chapter-4 of Tender document.					
21	21	100.00	Numbers	49607.46	4960746.00	AT Par	4960746.00
		Description:- Supply Installation & Commissioning of Standard 19- inch Rack Mountable 24 Port managed Non-POE switch , 24 GE 10/100/1000 BaseX Ethernet port, fully loaded with SFP modules, including mounting kit and all the accessories as per RDSO Specification NO. RDSO/SPN/TC/83/2020 Rev 2 as per specification no.4.26 of chapter-4 of Tender document.					
22	22	150.00	Numbers	13557.52	2033628.00	AT Par	2033628.00
		Description:- Supply of 24 port Rack mounted LIU along with all accessories with installation as per specification no.4.33 of chapter-4 of Tender document.					
23	23	500.00	Numbers	5854.57	2927285.00	AT Par	2927285.00
		Description:- Supply of 12 port rack mountable LIU alongwith all accessories with installation as per specification no.4.34 of chapter-4 of Tender document.					
24	24	10.00	Numbers	33967.78	339677.80	AT Par	339677.80
		Description:- Supply & Installation of 19" 42U 1200mm Depth Telecom Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type and as per technical specification as per specification no.4.36 of chapter-4 of Tender document.					
25	25	157.00	Numbers	29782.79	4675898.03	AT Par	4675898.03
		Description:- Supply and Installation of 19 inch 42U 600mm Depth Telecom Rack with Standard Accessories (Closed type)Front Door Glass type, all doors should be removable type and as per technical specification as per specification no.4.37 of chapter-4 of Tender document.					
26	26	150.00	Numbers	10032.89	1504933.50	AT Par	1504933.50
		Description:- Supply and Installation of 19" 9U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray, Patch Panel,Cable Manager, Spike Buster/PDU and as per technical specification as per specification no.4.38 of chapter-4 of Tender document.					
27	27	135.00	Numbers	4227.41	570700.35	AT Par	570700.35
		Description:- Opening of existing Joint enclosure and Splicing 2/4 additional fiber Inside already prepared jointing pit and Providing anti termites/ant Powder. Closing of Existing Joint and Back filling is included. This does not Include provision of joint chambers, top plate as per specification no.4.39 of chapter-4 of Tender document.					
28	28	20.00	Numbers	5658.12	113162.40	AT Par	113162.40
		Description:- Supply of 10/100/1000 Base-T Copper Ethernet Transceiver SFP Module with all accessories as per specification no.4.40 of chapter-4 of Tender document.					
29	29	6000.00	CORE	35.10	210600.00	AT Par	210600.00
		Description:- Splicing /Dropping/Termination of each Fiber /Pigtail in the LIU/FDMS/IOBox/Termination Joints through fusion Splicing of the termination of OFC Cables as per specification no.4.41 of chapter-4 of Tender document.					
30	30	300.00	Metre	379.45	113835.00	AT Par	113835.00
		Description:- Supply and fixing of GI pipes - 50mm dia -3.65mm thick, along with clamps and all the accessories required for installations as per specification no.4.42 of chapter-4 of Tender document.					
31	31	600.00	Metre	166.28	99768.00	AT Par	99768.00
		Description:- Supply and Laying of DWC Pipe 77/63 mm dia with couplers as per RDSO Spec NoRDSO/SPN/204/2011 Version 1.1 and as per the direction of site Engineer & technical specification as per specification no.4.43 of chapter-4 of Tender document.					
32	32	135.00	Numbers	2779.54	375237.90	AT Par	375237.90
		Description:- Surge Protection Device for LAN Networks as per technical specifications as per specification no.4.44 of chapter-4 of Tender document.					
33	33	4000.00	MT-Km	18.22	72880.00	AT Par	72880.00
		Description:- Transportation of S&T materials by road as per the instruction of railway representatives at site. The work also include loading and unloading of the materials . Upto 100kms as per specification no.4.45 of chapter-4 of Tender document.					
35	35	4.00	Numbers	641724.23	2566896.92	AT Par	2566896.92
		Description:- Supply, Installation and Commissioning of 2x10 KVA UPS at least 1 Hour Back up in full load condition, connected in parallel redundant mode in separate chassis. Complete with all accessories as per specification no.4.47 of chapter-4 of Tender document.					
36	36	100.00	Numbers	31844.87	3184487.00	AT Par	3184487.00
		Description:- Supply of 8 Port FXS Gateway (DC or AC based as per site requirement) including mounting kit and all the accessories & its standard installation as per technical specifications as per specification no.4.48 of chapter-4 of Tender document.					

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

37	37	20.00	Numbers	71634.00	1432680.00	AT Par	1432680.00	
	Description:- Supply , Installation, Testing & Commissioning of 48 Port FXS Gateway (Analog gateway) as per specification no.4.49 of chapter-4 of Tender document.							
38	38	6.00	Numbers	455892.78	2735356.68	AT Par	2735356.68	
	Description:- Supply of VoIP redundant Server with perpetual Server License, RAID Controller, Duplicated PSU as per specification no.4.52 of chapter-4 of Tender document.							
39	39	2.00	Numbers	12255.80	24511.60	AT Par	24511.60	
	Description:- Supply and Installation of Mobile application for Event Notification Gateway and NMS Server as per scope of work as per RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.53 of chapter-4 of Tender document.							
40	40	150.00	Numbers	16929.03	2539354.50	AT Par	2539354.50	
	Description:- Supply and Installation of Control IP Telephones with Hands Free and Gooseneck Operation for Way Side Station as Per Clause 11 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.55 of chapter-4 of Tender document.							
41	41	17.00	Numbers	291316.92	4952387.64	AT Par	4952387.64	
	Description:- Supply, Installation and Commissioning of Controller Console as Per Clause 9 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.56 of chapter-4 of Tender document.							
42	42	135.00	Numbers	17416.30	2351200.50	AT Par	2351200.50	
	Description:- Supply, Installation and Commissioning for 4 Port Gateway to support 4 Port Concurrent Emergency Communication at HQ/Way station to support 4 wire ports/ 4 Port Gateway with built in 2 wires to 4 wire Hybrid convertor to support 4 wire output as Per Clause 13 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.57 of chapter-4 of Tender document.							
43	43	2.00	Numbers	277301.20	554602.40	AT Par	554602.40	
	Description:- Supply, Installation and Commissioning of Event Notification Gateway as per Clause 12.3 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.58 of chapter-4 of Tender document.							
44	44	3.00	Numbers	72366.67	217100.01	AT Par	217100.01	
	Description:- Supply of Portable Maintenance Terminal (Similar to Laptop) as Per Clause No 8.7 and 8.9 RDSO/SPN/TC /99/2012 Rev.2. or latest as per specification no.4.59 of chapter-4 of Tender document.							
45	45	2.00	Numbers	375812.40	751624.80	AT Par	751624.80	
	Description:- Supply, Installation and Commissioning of Network Management Server as per Clause 5 and 8 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.60 of chapter-4 of Tender document.							
46	46	3.00	Numbers	62348.04	187044.12	AT Par	187044.12	
	Description:- Supply, Installation and Commissioning of Desktop Client PC As per clause 8.7 and 8.8 of RDSO/SPN/TC/99/2012 Rev.2 or latest along with 600VA UPS as per specification no.4.61 of chapter-4 of Tender document.							
47	47	3.00	Numbers	76521.52	229564.56	AT Par	229564.56	
	Description:- Supply, Installation and Commissioning of Client PC for Voice Record Server as per Clause 8 RDSO/SPN/TC/99/2012 Rev.2 along with 600VA UPS as per specification no.4.62 of chapter-4 of Tender document.							
48	48	2.00	Numbers	444214.00	888428.00	AT Par	888428.00	
	Description:- Supply, Installation and Commissioning of Voice Recording Server as per Clause 5 and 7 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.63 of chapter-4 of Tender document.							
49	49	3.00	Numbers	419785.71	1259357.13	AT Par	1259357.13	
	Description:- Supply, Installation and Commissioning of Test Room Console as Per Clause 10 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.64 of chapter-4 of Tender document.							
50	50	10.00	Man-Week	22182.35	221823.50	AT Par	221823.50	
	Description:- Training of Staff as per RDSO/SPN/TC/ 99/2012 Rev.2 or Latest as per specification no.4.65 of chapter-4 of Tender document.							
51	51	2000.00	Metre	411.06	822120.00	AT Par	822120.00	
	Description:- Breaking of Pucca/Concrete Road, PF Cutting/wall cutting ,Laying of OFC/STP/Power cable etc in Trenches and through all types of protection Viz HDPE/GI/RCC/DWC/PVC Pipes as the case may be. This includes restoration of surface and stone pavement/Pavers as per specification no.4.90 of chapter-4 of Tender document.							
52	52	250.00	Numbers	4951.35	1237837.50	AT Par	1237837.50	
	Description:- Supply of SIP based medium IP telephone with 240x120pixel graphical LCD with backlight minimum of 8 no of one touch line key as per specification no.4.76 of chapter-4 of Tender document.							
	53	2.00	Numbers	646861.84	1293723.68	AT Par	1293723.68	

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

53	Description:- Supply, installations and commissioning of NMS(Network Monitoring Server) and Emergency Room Communication Console detail specification enclosed. Model Reputed make as per specification no.4.84 of chapter-4 of Tender document.						
54	54	300.00	Numbers	370.98	111294.00	AT Par	111294.00
54	Description:- Supply of CAT-6 Patch Cord-5mtrs length as per specification no.4.85 of chapter-4 of Tender document.						
55	55	1700.00	Metre	30.86	52462.00	AT Par	52462.00
55	Description:- Supply of three core PVC insulated flexible power cable in over all PVC Jacket as per specification no.4.17 of chapter-4 of Tender document.						
56	56	2000.00	Metre	113.62	227240.00	AT Par	227240.00
56	Description:- Excavation of Trench 1.2 meter deep & 0.3 to 0.6 meter wide (Depth & width of cable trench as per site condition) at the bottom along main line in all types of soil/Strata including clearing of bushes, trees, temporary construction, bailing out water from the trench etc and refilling of the trench by excavated soil and ramming after laying of the required quantity of cable as per instruction of engineer at site. If it is not possible to reach the required depth at any location then proportionate payment will be made to the contractor as per specification no.4.19 of chapter-4 of Tender document.						
57	57	135.00	Numbers	23000.00	3105000.00	AT Par	3105000.00
57	Description:- Supply, installation , Testing & Commissioning of IO Sensors custom hardware for power plant, OFC room temperature, Humidity, Door closure-Open of OFC hut as per specification no.4.24 of chapter-4 of Tender document.						
58	58	400.00	Numbers	12230.55	4892220.00	AT Par	4892220.00
58	Description:- Supply and installation of 8 port manageable poe switch as per RDSO specification no.4.27 of chapter-4 of Tender document.						
59	59	2000.00	Metre	683.91	1367820.00	AT Par	1367820.00
59	Description:- Supply & installation of GRP/FRP cable tray & required accessories as per specification no.4.28 of chapter-4 of Tender document.						
60	60	50000.00	Metre	20.56	1028000.00	AT Par	1028000.00
60	Description:- Laying of 6 core OFC through PVC Pipe/Casing capping and termination in LIUs & FDMS as per specification no.4.29 of chapter-4 of Tender document.						
61	61	10000.00	Metre	7.18	71800.00	AT Par	71800.00
61	Description:- Laying of PVC/Coaxial cable/Power cable/CAT6 cable through PVC casing capping/pipe on wall including laying material like 3 way/4 way junction box ,T-Joint, flexible PVC pipes etc as per specification no.4.30 of chapter-4 of Tender document.						
62	62	5000.00	Metre	9.20	46000.00	AT Par	46000.00
62	Description:- Laying of HDPE pipe duct in trenches/GI Pipe/RCC pipe/on wall/on PF, including jointing and levelling using couplers and sealing the section etc as per site requirement as per specification no.4.31 of chapter-4 of Tender document.						
63	63	10.00	Numbers	147461.00	1474610.00	AT Par	1474610.00
63	Description:- Supply , Installation, Testing & Commissioning of 112 Port FXS Gateway (Analog gateway) as per specification no.4.50 of chapter-4 of Tender document.						
64	64	6.00	Job	23609.60	141657.60	AT Par	141657.60
64	Description:- Installation, Testing & Commissioning of VoIP Server as per specification no.4.51 of chapter-4 of Tender document.						
65	65	2.00	Set	2339169.80	4678339.60	AT Par	4678339.60
65	Description:- Supply, Installation and Commissioning of Communication Server as per Clause 5and 6 RDSO/SPN/TC/99/2012 Rev.2 or latest. Communication Server Block shall be provided 1+2or 1:2 Redundancy. Total 3 servers, 2 numbers at main location and one at remote location as per specification no.4.54 of chapter-4 of Tender document.						
68	68	1.00	Numbers	450000.00	450000.00	AT Par	450000.00
68	Description:- Platform & application license for 104 stations software with monitoring of each station with respect to user login SMS/Email notification custom report & mobile App support as per specification no.4.32 of chapter-4 of Tender document.						
69	69	6000.00	Metre	34.06	204360.00	AT Par	204360.00
69	Description:- Supply of 38 mm PVC Casing-Capping as per specification no.4.72 of chapter-4 of Tender document.						
70	70	15000.00	Metre	17.00	255000.00	AT Par	255000.00
70	Description:- Supply of PVC rigid pipe 25mm dia with ISI mark & reputed make as per specification no.4.73 of chapter-4 of Tender document.						

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

71	71	2.00	Numbers	51520.00	103040.00	AT Par	103040.00	
Description:- Supply of Remote Craft Terminal as per specification no.4.74 of chapter-4 of Tender document.								

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule E-SCHEDULE(RJT)							91197295.09	
1	1	62.00	Numbers	102874.84	6378240.08	AT Par	6378240.08	
	Description:- Supply and installation of 16 port E1 Card (2 x 8port) along with Patch panel/Krone Module and wiring for Routers with all accessories etc. as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.1 of chapter-4 of Tender document.							
2	2	69.00	Numbers	375048.14	25878321.66	AT Par	25878321.66	
	Description:- Supply of Standard 19" Rack Mountable LER (Label Edge Router) with all necessary accessories & Software, Perpetual Licenses as per RDSO Document No.STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.2 of chapter-4 of Tender document. {supply of E1 cards is not included in this item and is catered in separate item}.							
3	3	69.00	Numbers	12328.15	850642.35	AT Par	850642.35	
	Description:- Installation, Commissioning & Testing of LER & LSR IP MPLS Routers including supply & Installation of all the accessories like Power cable, Earthing Cable, Optical Patch Cords of 3 mtr- 6 Nos. for LERs & 10 Nos. for LSRs, Cat 6 Patch Cords of 1 mtr -4 Nos , one 6A MCB for each LER and LSR , wiring etc. as required for Routers as per specification no.4.4 of chapter-4 of Tender document.							
4	4	7.00	Numbers	1699313.37	11895193.59	AT Par	11895193.59	
	Description:- Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) with all necessary accessories & Software, Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.3 of chapter-4 of Tender document.							
5	5	2.00	Numbers	101017.60	202035.20	AT Par	202035.20	
	Description:- Supply & installation of PC Workstation as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.6 of chapter-4 of Tender document.							
6	6	12.00	Man-Week	33255.59	399067.08	AT Par	399067.08	
	Description:- Training of personnel over and above the on-site/ OEM/OEM authorized training partner premises training, during the installation, maintenance and supervision period as detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by the Railway as per specification no.4.7 of chapter-4 of Tender document.							
7	7	2.00	Numbers	47529.46	95058.92	AT Par	95058.92	
	Description:- Supply and installation 55-inch full HD Monitor as per specification no.4.8 of chapter-4 of Tender document.							
8	8	333.00	Numbers	242.60	80785.80	AT Par	80785.80	
	Description:- Supply of factory crimped CAT 6 UTP Patch Cord-2 Mtrs. as per specification no.4.9 of chapter-4 of Tender document.							
9	9	2280.00	Numbers	135.86	309760.80	AT Par	309760.80	
	Description:- Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement as per specification no.4.10 of chapter-4 of Tender document.							
10	10	29595.00	Metre	12.19	360763.05	AT Par	360763.05	
	Description:- Blowing and drawing of OFC through laid HDPE duct as per approved route plan , taking due care while transporting and sealing both ends as per specification no.4.11 of chapter-4 of Tender document.							
11	11	1000.00	Metre	38.44	38440.00	AT Par	38440.00	
	Description:- Supply of 10 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.12 of chapter-4 of Tender document.							
12	12	1500.00	Metre	73.32	109980.00	AT Par	109980.00	
	Description:- Supply of 20 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.13 of chapter-4 of Tender document.							
13	13	500.00	Metre	180.56	90280.00	AT Par	90280.00	
	Description:- Supply of 50 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.14 of chapter-4 of Tender document.							
14	14	15000.00	Metre	44.63	669450.00	AT Par	669450.00	
	Description:- Supply of 24 Fiber Armoured Optical Fiber Cable as per latest RDSO specification as per specification no.4.15 of chapter-4 of Tender document.							
15	15	16000.00	Metre	25.24	403840.00	AT Par	403840.00	

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

15	Description:- Supply of Armoured Optical Fiber Cable , 6 Core , Single Mode as per specification no.4.16 of chapter-4 of Tender document.						
16	16	600.00	Metre	30.86	18516.00	AT Par	18516.00
16	Description:- Supply of three core PVC insulated flexible power cable in over all PVC Jacket as per specification no.4.17 of chapter-4 of Tender document.						
17	17	15250.00	Metre	17.85	272212.50	AT Par	272212.50
17	Description:- Supply of UTP CAT-6 Cable as per specification no.4.18 of chapter-4 of Tender document.						
18	18	29970.00	Metre	113.62	3405191.40	AT Par	3405191.40
18	Description:- Excavation of Trench 1.2 meter deep & 0.3 to 0.6 meter wide (Depth & width of cable trench as per site condition) at the bottom along main line in all types of soil/Strata including clearing of bushes, trees, temporary construction, bailing out water from the trench etc and refilling of the trench by excavated soil and ramming after laying of the required quantity of cable as per instruction of engineer at site. If it is not possible to reach the required depth at any location then proportionate payment will be made to the contractor as per specification no.4.19 of chapter-4 of Tender document.						
19	19	1500.00	Metre	346.93	520395.00	AT Par	520395.00
19	Description:- Supply and fixing of PVC Trough/Trunking of 50X50 mm with cover of 2 mm thick 2m each. (This includes all materials, clamps etc required for laying, fixing and clamping). As per technical specifications as per specification no.4.20 of chapter-4 of Tender document.						
20	20	56.00	Set	6936.68	388454.08	AT Par	388454.08
20	Description:- Supply of Desk /workstation furniture, 1 table & 2 Chairs as per specification no.4.21 of chapter-4 of Tender document.						
21	21	32286.00	Metre	55.62	1795747.32	AT Par	1795747.32
21	Description:- Supply of PLB HDPE Duct of Size 40/33 mm Outer and with all accessories as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest as per specification no.4.22 of chapter-4 of Tender document.						
22	22	692.00	Metre	645.00	446340.00	AT Par	446340.00
22	Description:- Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long. this include insertion of different dia DWC pipe/ GI pipes coupling etc. as per direction of Engineer In charge and as per technical specification of Chapter-4.23 Note:- Pipe will be supplied by railway. Contactor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable as per specification no.4.23 of chapter-4 of Tender document.						
23	23	65.00	Numbers	23000.00	1495000.00	AT Par	1495000.00
23	Description:- Supply, installation , Testing & Commissioning of IO Sensors custom hardware for power plant, OFC room temperature, Humidity, Door closure-Open of OFC hut as per specification no.4.24 of chapter-4 of Tender document.						
24	24	30.00	Numbers	182919.00	5487570.00	AT Par	5487570.00
24	Description:- Supply of Layer 2, 24 port Aggregate Managed switch and its standard installation as per Specification as per specification no.4.25 of chapter-4 of Tender document.						
25	25	72.00	Numbers	49607.46	3571737.12	AT Par	3571737.12
25	Description:- Supply Installation & Commissioning of Standard 19- inch Rack Mountable 24 Port managed Non-POE switch , 24 GE 10/100/1000 BaseX Ethernet port, fully loaded with SFP modules, including mounting kit and all the accessories as per RDSO Specification NO. RDSO/SPN/TC/83/2020 Rev 2 as per specification no.4.26 of chapter-4 of Tender document.						
26	26	140.00	Numbers	12230.55	1712277.00	AT Par	1712277.00
26	Description:- Supply and installation of 8 port manageable poe switch as per RDSO specification no.4.27 of chapter-4 of Tender document.						
27	27	600.00	Metre	683.91	410346.00	AT Par	410346.00
27	Description:- Supply & installation of GRP/FRP cable tray & required accessories as per specification no.4.28 of chapter-4 of Tender document.						
28	28	12840.00	Metre	20.56	263990.40	AT Par	263990.40
28	Description:- Laying of 6 core OFC through PVC Pipe/Casing capping and termination in LIUs & FDMS as per specification no.4.29 of chapter-4 of Tender document.						
29	29	25780.00	Metre	7.18	185100.40	AT Par	185100.40
29	Description:- Laying of PVC/Coaxial cable/Power cable/CAT6 cable through PVC casing capping/pipe on wall including laying material like 3 way/4 way junction box , T-Joint, flexible PVC pipes etc as per specification no.4.30 of chapter-4 of Tender document.						
	30	27500.00	Metre	9.20	253000.00	AT Par	253000.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

30	Description:- Laying of HDPE pipe duct in trenches/GI Pipe/RCC pipe/on wall/on PF, including jointing and levelling using couplers and sealing the section etc as per site requirement as per specification no.4.31 of chapter-4 of Tender document.						
31	31	1.00	Numbers	450000.00	450000.00	AT Par	450000.00
	Description:- Platform & application license for 104 stations software with monitoring of each station with respect to user login SMS/Email notification custom report & mobile App support as per specification no.4.32 of chapter-4 of Tender document.						
32	32	100.00	Numbers	13557.52	1355752.00	AT Par	1355752.00
	Description:- Supply of 24 port Rack mounted LIU along with all accessories with installation as per specification no.4.33 of chapter-4 of Tender document.						
33	33	158.00	Numbers	5854.57	925022.06	AT Par	925022.06
	Description:- Supply of 12 port rack mountable LIU alongwith all accessories with installation as per specification no.4.34 of chapter-4 of Tender document.						
34	34	4.00	Numbers	33967.78	135871.12	AT Par	135871.12
	Description:- Supply & Installation of 19" 42U 1200mm Depth Telecom Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type and as per technical specification as per specification no.4.36 of chapter-4 of Tender document.						
35	35	8.00	Numbers	29782.79	238262.32	AT Par	238262.32
	Description:- Supply and Installation of 19 inch 42U 600mm Depth Telecom Rack with Standard Accessories (Closed type)Front Door Glass type, all doors should be removable type and as per technical specification as per specification no.4.37 of chapter-4 of Tender document.						
36	36	130.00	Numbers	10032.89	1304275.70	AT Par	1304275.70
	Description:- Supply and Installation of 19" 9U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray, Patch Panel,Cable Manager, Spike Buster/PDU and as per technical specification as per specification no.4.38 of chapter-4 of Tender document.						
37	37	63.00	Numbers	4227.41	266326.83	AT Par	266326.83
	Description:- Opening of existing Joint enclosure and Splicing 2/4 additional fiber Inside already prepared jointing pit and Providing anti termites/ant Powder. Closing of Existing Joint and Back filling is included. This does not Include provision of joint chambers, top plate as per specification no.4.39 of chapter-4 of Tender document.						
38	38	40.00	Numbers	5658.12	226324.80	AT Par	226324.80
	Description:- Supply of 10/100/1000 Base-T Copper Ethernet Transceiver SFP Module with all accessories as per specification no.4.40 of chapter-4 of Tender document.						
39	39	4800.00	CORE	35.10	168480.00	AT Par	168480.00
	Description:- Splicing /Dropping/Termination of each Fiber /Pigtail in the LIU/FDMS/IOBox/Termination Joints through fusion Splicing of the termination of OFC Cables as per specification no.4.41 of chapter-4 of Tender document.						
40	40	96.00	Metre	379.45	36427.20	AT Par	36427.20
	Description:- Supply and fixing of GI pipes - 50mm dia -3.65mm thick, along with clamps and all the accessories required for installations as per specification no.4.42 of chapter-4 of Tender document.						
41	41	692.00	Metre	166.28	115065.76	AT Par	115065.76
	Description:- Supply and Laying of DWC Pipe 77/63 mm dia with couplers as per RDSO Spec NoRDSO/SPN/204/2011 Version 1.1 and as per the direction of site Engineer & technical specification as per specification no.4.43 of chapter-4 of Tender document.						
42	42	121.00	Numbers	2779.54	336324.34	AT Par	336324.34
	Description:- Surge Protection Device for LAN Networks as per technical specifications as per specification no.4.44 of chapter-4 of Tender document.						
43	43	1500.00	MT-Km	18.22	27330.00	AT Par	27330.00
	Description:- Transportation of S&T materials by road as per the instruction of railway representatives at site. The work also include loading and unloading of the materials . Upto 100kms as per specification no.4.45 of chapter-4 of Tender document.						
45	45	2.00	Numbers	641724.23	1283448.46	AT Par	1283448.46
	Description:- Supply, Installation and Commissioning of 2x10 KVA UPS at least 1 Hour Back up in full load condition, connected in parallel redundant mode in separate chassis. Complete with all accessories as per specification no.4.47 of chapter-4 of Tender document.						
46	46	12.00	Numbers	31844.87	382138.44	AT Par	382138.44

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

			Description:- Supply of 8 Port FXS Gateway (DC or AC based as per site requirement) including mounting kit and all the accessories & its standard installation as per technical specifications as per specification no.4.48 of chapter-4 of Tender document.					
47	47	2.00	Numbers	71634.00	143268.00	AT Par	143268.00	
			Description:- Supply , Installation, Testing & Commissioning of 48 Port FXS Gateway (Analog gateway) as per specification no.4.49 of chapter-4 of Tender document.					
48	48	4.00	Job	23609.60	94438.40	AT Par	94438.40	
			Description:- Installation, Testing & Commissioning of VoIP Server as per specification no.4.51 of chapter-4 of Tender document.					
49	49	4.00	Numbers	455892.78	1823571.12	AT Par	1823571.12	
			Description:- Supply of VoIP redundant Server with perpetual Server License, RAID Controller, Duplicated PSU as per specification no.4.52 of chapter-4 of Tender document.					
50	50	2.00	Numbers	12255.80	24511.60	AT Par	24511.60	
			Description:- Supply and Installation of Mobile application for Event Notification Gateway and NMS Server as per scope of work as per RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.53 of chapter-4 of Tender document.					
51	51	2.00	Set	2339169.80	4678339.60	AT Par	4678339.60	
			Description:- Supply, Installation and Commissioning of Communication Server as per Clause 5and 6 RDSO/SPN/TC/99/2012 Rev.2 or latest. Communication Server Block shall be provided 1+2or 1:2 Redundancy. Total 3 servers, 2 numbers at main location and one at remote location as per specification no.4.54 of chapter-4 of Tender document.					
52	52	131.00	Numbers	16929.03	2217702.93	AT Par	2217702.93	
			Description:- Supply and Installation of Control IP Telephones with Hands Free and Gooseneck Operation for Way Side Station as Per Clause 11 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.55 of chapter-4 of Tender document.					
53	53	4.00	Numbers	291316.92	1165267.68	AT Par	1165267.68	
			Description:- Supply, Installation and Commissioning of Controller Console as Per Clause 9 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.56 of chapter-4 of Tender document.					
54	54	45.00	Numbers	17416.30	783733.50	AT Par	783733.50	
			Description:- Supply, Installation and Commissioning for 4 Port Gateway to support 4 PortConcurrent Emergency Communication at HQ/Way station to support 4 wire ports/ 4 Port Gateway with built in 2 wires to 4 wire Hybrid convertor to support 4 wire output as Per Clause 13 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.57 of chapter-4 of Tender document.					
55	55	2.00	Numbers	277301.20	554602.40	AT Par	554602.40	
			Description:- Supply, Installation and Commissioning of Event Notification Gateway as per Clause12.3 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.58 of chapter-4 of Tender document.					
56	56	2.00	Numbers	72366.67	144733.34	AT Par	144733.34	
			Description:- Supply of Portable Maintenance Terminal (Similar to Laptop) as Per Clause No 8.7 and 8.9 RDSO/SPN/TC /99/2012 Rev.2. or latest as per specification no.4.59 of chapter-4 of Tender document.					
57	57	1.00	Numbers	375812.40	375812.40	AT Par	375812.40	
			Description:- Supply, Installation and Commissioning of Network Management Server as per Clause 5 and 8 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.60 of chapter-4 of Tender document.					
58	58	2.00	Numbers	62348.04	124696.08	AT Par	124696.08	
			Description:- Supply, Installation and Commissioning of Desktop Client PC As per clause 8.7 and 8.8 of RDSO/SPN/TC/99/2012 Rev.2 or latest along with 600VA UPS as per specification no.4.61 of chapter-4 of Tender document.					
59	59	2.00	Numbers	76521.52	153043.04	AT Par	153043.04	
			Description:- Supply, Installation and Commissioning of Client PC for Voice Record Server as per Clause 8 RDSO/SPN/TC/99/2012 Rev.2 along with 600VA UPS as per specification no.4.62 of chapter-4 of Tender document.					
60	60	2.00	Numbers	444214.00	888428.00	AT Par	888428.00	
			Description:- Supply, Installation and Commissioning of Voice Recording Server as per Clause 5 and 7 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.63 of chapter-4 of Tender document.					
61	61	2.00	Numbers	419785.71	839571.42	AT Par	839571.42	
			Description:- Supply, Installation and Commissioning of Test Room Console as Per Clause 10 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.64 of chapter-4 of Tender document.					
62	62	12.00	Man-Week	22182.35	266188.20	AT Par	266188.20	

62

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

		Description:- Training of Staff as per RDSO/SPN/TC/ 99/2012 Rev.2 or Latest as per specification no.4.65 of chapter-4 of Tender document.					
65	65	12.00	Numbers	11362.00	136344.00	AT Par	136344.00
		Description:- Supply of 19" 24U rack with all accessories and its standard installation as per specification no.4.70 of chapter-4 of Tender document.					
66	66	220.00	Numbers	210.00	46200.00	AT Par	46200.00
		Description:- Supply & installation of CAT6 Surface mount info-outlet as per specification as per specification no.4.71 of chapter-4 of Tender document.					
67	67	2000.00	Metre	34.06	68120.00	AT Par	68120.00
		Description:- Supply of 38 mm PVC Casing-Capping as per specification no.4.72 of chapter-4 of Tender document.					
68	68	2.00	Numbers	51520.00	103040.00	AT Par	103040.00
		Description:- Supply of Remote Craft Terminal as per specification no.4.74 of chapter-4 of Tender document.					
69	69	1.00	Numbers	31549.00	31549.00	AT Par	31549.00
		Description:- Supply of Client System for NMS as per specification & its standard installation as per specification no.4.75 of chapter-4 of Tender document.					
70	70	8000.00	Metre	17.00	136000.00	AT Par	136000.00
		Description:- Supply of PVC rigid pipe 25mm dia with ISI mark & reputed make as per specification no.4.73 of chapter-4 of Tender document.					
71	71	240.00	Numbers	590.00	141600.00	AT Par	141600.00
		Description:- Supply of Single Mode Patch Cord length 10 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement as per specification no.4.89 of chapter-4 of Tender document.					
72	72	2160.00	Metre	411.06	887889.60	AT Par	887889.60
		Description:- Breaking of Pucca/Concrete Road, PF Cutting/wall cutting ,Laying of OFC/STP/Power cable etc in Trenches and through all types of protection Viz HDPE/GI/RCC/DWC/PVC Pipes as the case may be. This includes restoration of surface and stone pavement/Pavers as per specification no.4.90 of chapter-4 of Tender document.					
73	73	1000.00	Numbers	2.20	2200.00	AT Par	2200.00
		Description:- Supply of RJ 45 connector suitable for STP/UTP Cable (D-Link)as per specification no.4.91 of chapter-4 of Tender document.					
74	74	10.00	Numbers	12766.00	127660.00	AT Par	127660.00
		Description:- Supply, installation of 19"12 U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray ,Patch Panel, Cable Manager, Spike Buster/PDU. [Detailed Specification in Technical Document]Inspection: RITES as per specification no.4.92 of chapter-4 of Tender document.					

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule F-SCHEDULE(BVP)							142796197.53	
1	1	100.00	Numbers	102874.84	10287484.00	AT Par	10287484.00	
	Description:- Supply and installation of 16 port E1 Card (2 x 8port) along with Patch panel/Krone Module and wiring for Routers with all accessories etc. as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.1 of chapter-4 of Tender document.							
2	2	107.00	Numbers	375048.14	40130150.98	AT Par	40130150.98	
	Description:- Supply of Standard 19" Rack Mountable LER (Label Edge Router) with all necessary accessories & Software, Perpetual Licenses as per RDSO Document No.STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.2 of chapter-4 of Tender document. {supply of E1 cards is not included in this item and is catered in separate item}.							
3	3	125.00	Numbers	12328.15	1541018.75	AT Par	1541018.75	
	Description:- Installation, Commissioning & Testing of LER & LSR IP MPLS Routers including supply & Installation of all the accessories like Power cable, Earthing Cable, Optical Patch Cords of 3 mtr- 6 Nos. for LERs & 10 Nos. for LSRs, Cat 6 Patch Cords of 1 mtr -4 Nos , one 6A MCB for each LER and LSR , wiring etc. as required for Routers as per specification no.4.4 of chapter-4 of Tender document.							
4	4	18.00	Numbers	1699313.37	30587640.66	AT Par	30587640.66	
	Description:- Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) with all necessary accessories & Software, Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.3 of chapter-4 of Tender document.							
	5	2.00	Numbers	101017.60	202035.20	AT Par	202035.20	

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

5	Description:- Supply & installation of PC Workstation as per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0 as per specification no.4.6 of chapter-4 of Tender document.						
6	6	6.00	Man-Week	33255.59	199533.54	AT Par	199533.54
6	Description:- Training of personnel over and above the on-site/ OEM/OEM authorized training partner premises training, during the installation, maintenance and supervision period as detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by the Railway as per specification no.4.7 of chapter-4 of Tender document.						
7	7	6.00	Numbers	47529.46	285176.76	AT Par	285176.76
7	Description:- Supply and installation 55-inch full HD Monitor as per specification no.4.8 of chapter-4 of Tender document.						
8	8	360.00	Numbers	242.60	87336.00	AT Par	87336.00
8	Description:- Supply of factory crimped CAT 6 UTP Patch Cord-2 Mtrs. as per specification no.4.9 of chapter-4 of Tender document.						
9	9	900.00	Numbers	135.86	122274.00	AT Par	122274.00
9	Description:- Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement as per specification no.4.10 of chapter-4 of Tender document.						
10	10	6000.00	Metre	12.19	73140.00	AT Par	73140.00
10	Description:- Blowing and drawing of OFC through laid HDPE duct as per approved route plan , taking due care while transporting and sealing both ends as per specification no.4.11 of chapter-4 of Tender document.						
11	11	2500.00	Metre	38.44	96100.00	AT Par	96100.00
11	Description:- Supply of 10 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.12 of chapter-4 of Tender document.						
12	12	2500.00	Metre	73.32	183300.00	AT Par	183300.00
12	Description:- Supply of 20 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.13 of chapter-4 of Tender document.						
13	13	2500.00	Metre	180.56	451400.00	AT Par	451400.00
13	Description:- Supply of 50 pair 0.5 mm annealed copper conductor PVC insulated switch board Telephone cable as per specification no.4.14 of chapter-4 of Tender document.						
14	14	3000.00	Metre	44.63	133890.00	AT Par	133890.00
14	Description:- Supply of 24 Fiber Armoured Optical Fiber Cable as per latest RDSO specification as per specification no.4.15 of chapter-4 of Tender document.						
15	15	46000.00	Metre	25.24	1161040.00	AT Par	1161040.00
15	Description:- Supply of Armoured Optical Fiber Cable , 6 Core , Single Mode as per specification no.4.16 of chapter-4 of Tender document.						
16	16	600.00	Metre	30.86	18516.00	AT Par	18516.00
16	Description:- Supply of three core PVC insulated flexible power cable in over all PVC Jacket as per specification no.4.17 of chapter-4 of Tender document.						
17	17	26000.00	Metre	17.85	464100.00	AT Par	464100.00
17	Description:- Supply of UTP CAT-6 Cable as per specification no.4.18 of chapter-4 of Tender document.						
18	18	8000.00	Metre	113.62	908960.00	AT Par	908960.00
18	Description:- Excavation of Trench 1.2 meter deep & 0.3 to 0.6 meter wide (Depth & width of cable trench as per site condition) at the bottom along main line in all types of soil/Strata including clearing of bushes, trees, temporary construction, bailing out water from the trench etc and refilling of the trench by excavated soil and ramming after laying of the required quantity of cable as per instruction of engineer at site. If it is not possible to reach the required depth at any location then proportionate payment will be made to the contractor as per specification no.4.19 of chapter-4 of Tender document.						
19	19	2000.00	Metre	346.93	693860.00	AT Par	693860.00
19	Description:- Supply and fixing of PVC Trough/Trunking of 50X50 mm with cover of 2 mm thick 2m each. (This includes all materials, clamps etc required for laying, fixing and clamping). As per technical specifications as per specification no.4.20 of chapter-4 of Tender document.						
20	20	80.00	Set	6936.68	554934.40	AT Par	554934.40
20	Description:- Supply of Desk /workstation furniture, 1 table & 2 Chairs as per specification no.4.21 of chapter-4 of Tender document.						
21	21	6000.00	Metre	55.62	333720.00	AT Par	333720.00
21	Description:- Supply of PLB HDPE Duct of Size 40/33 mm Outer and with all accessories as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest as per specification no.4.22 of chapter-4 of Tender document.						
	22	800.00	Metre	645.00	516000.00	AT Par	516000.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

22	Description:- Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long. this include insertion of different dia DWC pipe/ GI pipes coupling etc. as per direction of Engineer In charge and as per technical specification of Chapter-4.23 Note:- Pipe will be supplied by railway. Contactor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable as per specification no.4.23 of chapter-4 of Tender document.						
23	23	104.00	Numbers	23000.00	2392000.00	AT Par	2392000.00
	Description:- Supply, installation , Testing & Commissioning of IO Sensors custom hardware for power plant, OFC room temperature, Humidity, Door closure-Open of OFC hut as per specification no.4.24 of chapter-4 of Tender document.						
24	24	21.00	Numbers	182919.00	3841299.00	AT Par	3841299.00
	Description:- Supply of Layer 2, 24 port Aggregate Managed switch and its standard installation as per Specification as per specification no.4.25 of chapter-4 of Tender document.						
25	25	23.00	Numbers	49607.46	1140971.58	AT Par	1140971.58
	Description:- Supply Installation & Commissioning of Standard 19- inch Rack Mountable 24 Port managed Non-POE switch , 24 GE 10/100/1000 BaseX Ethernet port, fully loaded with SFP modules, including mounting kit and all the accessories as per RDSO Specification NO. RDSO/SPN/TC/83/2020 Rev 2 as per specification no.4.26 of chapter-4 of Tender document.						
26	26	257.00	Numbers	12230.55	3143251.35	AT Par	3143251.35
	Description:- Supply and installation of 8 port manageable poe switch as per RDSO specification no.4.27 of chapter-4 of Tender document.						
27	27	1000.00	Metre	683.91	683910.00	AT Par	683910.00
	Description:- Supply & installation of GRP/FRP cable tray & required accessories as per specification no.4.28 of chapter-4 of Tender document.						
28	28	40000.00	Metre	20.56	822400.00	AT Par	822400.00
	Description:- Laying of 6 core OFC through PVC Pipe/Casing capping and termination in LIUs & FDMS as per specification no.4.29 of chapter-4 of Tender document.						
29	29	34100.00	Metre	7.18	244838.00	AT Par	244838.00
	Description:- Laying of PVC/Coaxial cable/Power cable/CAT6 cable through PVC casing capping/pipe on wall including laying material like 3 way/4 way junction box ,T-Joint, flexible PVC pipes etc as per specification no.4.30 of chapter-4 of Tender document.						
30	30	6000.00	Metre	9.20	55200.00	AT Par	55200.00
	Description:- Laying of HDPE pipe duct in trenches/GI Pipe/RCC pipe/on wall/on PF, including jointing and levelling using couplers and sealing the section etc as per site requirement as per specification no.4.31 of chapter-4 of Tender document.						
31	31	1.00	Numbers	450000.00	450000.00	AT Par	450000.00
	Description:- Platform & application license for 104 stations software with monitoring of each station with respect to user login SMS/Email notification custom report & mobile App support as per specification no.4.32 of chapter-4 of Tender document.						
32	32	40.00	Numbers	13557.52	542300.80	AT Par	542300.80
	Description:- Supply of 24 port Rack mounted LIU along with all accessories with installation as per specification no.4.33 of chapter-4 of Tender document.						
33	33	210.00	Numbers	5854.57	1229459.70	AT Par	1229459.70
	Description:- Supply of 12 port rack mountable LIU alongwith all accessories with installation as per specification no.4.34 of chapter-4 of Tender document.						
34	34	6.00	Numbers	190310.00	1141860.00	AT Par	1141860.00
	Description:- Supply of 42 U 800 mm x 1000 mm rack with cooling system & its standard installation as per specification no.4.35 of chapter-4 of Tender document.						
35	35	19.00	Numbers	33967.78	645387.82	AT Par	645387.82
	Description:- Supply & Installation of 19" 42U 1200mm Depth Telecom Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type and as per technical specification as per specification no.4.36 of chapter-4 of Tender document.						
36	36	85.00	Numbers	29782.79	2531537.15	AT Par	2531537.15
	Description:- Supply and Installation of 19 inch 42U 600mm Depth Telecom Rack with Standard Accessories (Closed type)Front Door Glass type, all doors should be removable type and as per technical specification as per specification no.4.37 of chapter-4 of Tender document.						
	37	200.00	Numbers	10032.89	2006578.00	AT Par	2006578.00

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

37	Description:- Supply and Installation of 19" 9U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray, Patch Panel,Cable Manager, Spike Buster/PDU and as per technical specification as per specification no.4.38 of chapter-4 of Tender document.						
38	38	80.00	Numbers	4227.41	338192.80	AT Par	338192.80
	Description:- Opening of existing Joint enclosure and Splicing 2/4 additional fiber Inside already prepared jointing pit and Providing anti termites/ant Powder. Closing of Existing Joint and Back filling is included. This does not Include provision of joint chambers, top plate as per specification no.4.39 of chapter-4 of Tender document.						
39	39	20.00	Numbers	5658.12	113162.40	AT Par	113162.40
	Description:- Supply of 10/100/1000 Base-T Copper Ethernet Transceiver SFP Module with all accessories as per specification no.4.40 of chapter-4 of Tender document.						
40	40	6000.00	CORE	35.10	210600.00	AT Par	210600.00
	Description:- Splicing /Dropping/Termination of each Fiber /Pigtail in the LIU/FDMS/IOBox/Termination Joints through fusion Splicing of the termination of OFC Cables as per specification no.4.41 of chapter-4 of Tender document.						
41	41	600.00	Metre	166.28	99768.00	AT Par	99768.00
	Description:- Supply and Laying of DWC Pipe 77/63 mm dia with couplers as per RDSO Spec NoRDSO/SPN/204/2011 Version 1.1 and as per the direction of site Engineer & technical specification as per specification no.4.43 of chapter-4 of Tender document.						
42	42	100.00	Numbers	2779.54	277954.00	AT Par	277954.00
	Description:- Surge Protection Device for LAN Networks as per technical specifications as per specification no.4.44 of chapter-4 of Tender document.						
43	43	1500.00	MT-Km	18.22	27330.00	AT Par	27330.00
	Description:- Transportation of S&T materials by road as per the instruction of railway representatives at site. The work also include loading and unloading of the materials . Upto 100kms as per specification no.4.45 of chapter-4 of Tender document.						
45	45	2.00	Numbers	641724.23	1283448.46	AT Par	1283448.46
	Description:- Supply, Installation and Commissioning of 2x10 KVA UPS at least 1 Hour Back up in full load condition, connected in parallel redundant mode in separate chassis. Complete with all accessories as per specification no.4.47 of chapter-4 of Tender document.						
46	46	90.00	Numbers	31844.87	2866038.30	AT Par	2866038.30
	Description:- Supply of 8 Port FXS Gateway (DC or AC based as per site requirement) including mounting kit and all the accessories & its standard installation as per technical specifications as per specification no.4.48 of chapter-4 of Tender document.						
47	47	15.00	Numbers	71634.00	1074510.00	AT Par	1074510.00
	Description:- Supply , Installation, Testing & Commissioning of 48 Port FXS Gateway (Analog gateway) as per specification no.4.49 of chapter-4 of Tender document.						
48	48	22.00	Numbers	147461.00	3244142.00	AT Par	3244142.00
	Description:- Supply , Installation, Testing & Commissioning of 112 Port FXS Gateway (Analog gateway) as per specification no.4.50 of chapter-4 of Tender document.						
49	49	9.00	Job	23609.60	212486.40	AT Par	212486.40
	Description:- Installation, Testing & Commissioning of VoIP Server as per specification no.4.51 of chapter-4 of Tender document.						
50	50	9.00	Numbers	455892.78	4103035.02	AT Par	4103035.02
	Description:- Supply of VoIP redundant Server with perpetual Server License, RAID Controller, Duplicated PSU as per specification no.4.52 of chapter-4 of Tender document.						
51	51	2.00	Numbers	12255.80	24511.60	AT Par	24511.60
	Description:- Supply and Installation of Mobile application for Event Notification Gateway and NMS Server as per scope of work as per RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.53 of chapter-4 of Tender document.						
52	52	1.00	Set	2339169.80	2339169.80	AT Par	2339169.80
	Description:- Supply, Installation and Commissioning of Communication Server as per Clause 5and 6 RDSO/SPN/TC/99/2012 Rev.2 or latest. Communication Server Block shall be provided 1+2or 1:2 Redundancy. Total 3 servers, 2 numbers at main location and one at remote location as per specification no.4.54 of chapter-4 of Tender document.						
53	53	300.00	Numbers	16929.03	5078709.00	AT Par	5078709.00
	Description:- Supply and Installation of Control IP Telephones with Hands Free and Gooseneck Operation for Way Side Station as Per Clause 11 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.55 of chapter-4 of Tender document.						

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

54	54	10.00	Numbers	291316.92	2913169.20	AT Par	2913169.20	
	Description:- Supply, Installation and Commissioning of Controller Console as Per Clause 9 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.56 of chapter-4 of Tender document.							
55	55	100.00	Numbers	17416.30	1741630.00	AT Par	1741630.00	
	Description:- Supply, Installation and Commissioning for 4 Port Gateway to support 4 Port Concurrent Emergency Communication at HQ/Way station to support 4 wire ports/ 4 Port Gateway with built in 2 wires to 4 wire Hybrid convertor to support 4 wire output as Per Clause 13 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.57 of chapter-4 of Tender document.							
56	56	2.00	Numbers	277301.20	554602.40	AT Par	554602.40	
	Description:- Supply, Installation and Commissioning of Event Notification Gateway as per Clause 12.3 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.58 of chapter-4 of Tender document.							
57	57	3.00	Numbers	72366.67	217100.01	AT Par	217100.01	
	Description:- Supply of Portable Maintenance Terminal (Similar to Laptop) as Per Clause No 8.7 and 8.9 RDSO/SPN/TC /99/2012 Rev.2. or latest as per specification no.4.59 of chapter-4 of Tender document.							
58	58	1.00	Numbers	375812.40	375812.40	AT Par	375812.40	
	Description:- Supply, Installation and Commissioning of Network Management Server as per Clause 5 and 8 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.60 of chapter-4 of Tender document.							
59	59	3.00	Numbers	62348.04	187044.12	AT Par	187044.12	
	Description:- Supply, Installation and Commissioning of Desktop Client PC As per clause 8.7 and 8.8 of RDSO/SPN/TC/99/2012 Rev.2 or latest along with 600VA UPS as per specification no.4.61 of chapter-4 of Tender document.							
60	60	1.00	Numbers	76521.52	76521.52	AT Par	76521.52	
	Description:- Supply, Installation and Commissioning of Client PC for Voice Record Server as per Clause 8 RDSO/SPN/TC/99/2012 Rev.2 along with 600VA UPS as per specification no.4.62 of chapter-4 of Tender document.							
61	61	1.00	Numbers	444214.00	444214.00	AT Par	444214.00	
	Description:- Supply, Installation and Commissioning of Voice Recording Server as per Clause 5 and 7 RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.63 of chapter-4 of Tender document.							
62	62	1.00	Numbers	419785.71	419785.71	AT Par	419785.71	
	Description:- Supply, Installation and Commissioning of Test Room Console as Per Clause 10 of RDSO/SPN/TC/99/2012 Rev.2 or latest as per specification no.4.64 of chapter-4 of Tender document.							
63	63	10.00	Man-Week	22182.35	221823.50	AT Par	221823.50	
	Description:- Training of Staff as per RDSO/SPN/TC/ 99/2012 Rev.2 or Latest as per specification no.4.65 of chapter-4 of Tender document.							
66	66	10.00	Set	97719.62	977196.20	AT Par	977196.20	
	Description:- Supply of SMPS Based Battery Charger suitable for both low maintenance & Maintenance free batteries & its standard installation as per RDSO Specification RDSO/SPN/23/99(Ver.4) or latest as per specification no.4.69 of chapter-4 of Tender document.							
67	67	47000.00	Metre	17.00	799000.00	AT Par	799000.00	
	Description:- Supply of PVC rigid pipe 25mm dia with ISI mark & reputed make as per specification no.4.73 of chapter-4 of Tender document.							
68	68	70.00	Numbers	15500.00	1085000.00	AT Par	1085000.00	
	Description:- LAN Extender as per RDSO specification No. RDSO/SPN/TC/82/2020 Rev.2.0 or latest as per specification no.4.86 of chapter-4 of Tender document.							
69	69	2000.00	Metre	90.57	181140.00	AT Par	181140.00	
	Description:- Cutting of platform with tile/rock cutting machine or manually to 30 cm depth and 12 cm wide approx. by removing slabs/tiles neatly and filling the trench with river sand replacing the top surface smooth finish as per specification no. 4.87 of chapter-4 of Tender document.							
70	70	20.00	Numbers	15146.00	302920.00	AT Par	302920.00	
	Description:- Supply and installation of Maintenance Free Safe Earthing for Telecom Installations as per specification No. RDSO /SPN /TC/197/2008 with latest amendments consisting of single earth pit. The number of electrodes to be provided at each station will be decided by engineer in charge of the work as per specification no.4.88 of chapter-4 of Tender document.							
71	71	70.00	Numbers	11362.00	795340.00	AT Par	795340.00	
	Description:- Supply of 19" 24U rack with all accessories and its standard installation as per specification no.4.70 of chapter-4 of Tender document.							
72	72	200.00	Numbers	210.00	42000.00	AT Par	42000.00	

72

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

	Description:- Supply & installation of CAT6 Surface mount info-outlet as per specification as per specification no.4.71 of chapter-4 of Tender document.						
73	73	500.00	Metre	34.06	17030.00	AT Par	17030.00
	Description:- Supply of 38 mm PVC Casing-Capping as per specification no.4.72 of chapter-4 of Tender document.						
74	74	3.00	Numbers	51520.00	154560.00	AT Par	154560.00
	Description:- Supply of Remote Craft Terminal as per specification no.4.74 of chapter-4 of Tender document.						
75	75	3.00	Numbers	31549.00	94647.00	AT Par	94647.00
	Description:- Supply of Client System for NMS as per specification & its standard installation as per specification no.4.75 of chapter-4 of Tender document.						

3. ITEM BREAKUP

No item break up added

4. ELIGIBILITY CONDITIONS

Important : All documents uploaded and remarks / confirmation entered by the bidders against any eligibility condition shall be opened as part of technical bid only

Special Technical Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	The tenderer must have successfully completed or substantially completed any of the following categories of work(s) during last 07(seven) years, ending last day of month previous to the one in which tender is invited: Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or One similar work costing not less than the amount equal to 60% of advertised value of the tender. Work of Similar nature would mean:- " Design, Supply, Configuration, Installation, Testing and Commissioning of Any work involving provision / O&M of Internet Protocol based Networking Systems and Services including NMS."	No	No	Allowed (Mandatory)

Special Financial Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	The tenderer must have minimum average annual contractual turnover of V/N or 'V' whichever is less; where V= Advertised value of the tender in crores of Rupees, N= Number of years prescribed for completion of work for which bids have been invited. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover. The tenderers shall submit requisite information as per Format-6 (Tender document), along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.	No	No	Allowed (Mandatory)

Special Financial Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
-------	-------------	-----------------------	-----------------	---------------------

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

1	Bid Capacity : The tender/technical bid will be evaluated based on bid capacity formula detailed as below. Tender's Credentials (Bid Capacity) For tenders having advertised value more than Rs 20 crore wherein eligibility criteria includes bid capacity also, the tenderers who meet the minimum eligibility criteria will be qualified only if their available bid capacity is equal to or more than the total bid value of the present tender. The available bid capacity shall be calculated as under: Available Bid Capacity = $[A \times N \times 2] - 0.33 \times N \times B$ Where A = Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender), taking into account the completed as well as works in progress. N= Number of years prescribed for completion of work for which bids has been invited. B = Existing commitments and balance amount of ongoing works with tenderer as per the prescribed proforma of Railway for statement of all works in progress and also the works which are awarded to tenderer but yet not started upto the date of inviting of tender. (Reference: clause nos. 10.3 of Tender Form Second sheet)	No	No	Allowed (Mandatory)
---	---	----	----	------------------------

Submission of Document Verification Certificate

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Please submit a certificate in the prescribed format (please download the format from the link given below) for verification / confirmation of the documents submitted for compliance of eligibility / qualifying criteria. Non submission of the certificate, or submission of certificate either not properly filled in, or in a format other than the prescribed format shall lead to summary rejection of your offer. (Click here to download the Format of Self Certificatio)	No	No	Allowed (Mandatory)

5. COMPLIANCE

Important : All documents uploaded and remarks / confirmation entered by the bidders against any compliance condition shall be opened as part of technical bid only.

Check Lst

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	As per Tender document.	No	No	Not Allowed

Commercial-Compliance

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Please enter the percentage of local content in the material being offered. Please enter 0 for fully imported items, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in the tender conditions.	No	Yes	Allowed (Optional)

General Instructions

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	As per Tender document.	No	No	Not Allowed

Special Conditions

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	As per Tender document.	No	No	Not Allowed

Technical-Compliances

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	As per Tender document.	No	No	Not Allowed

Undertakings

**MUMBAI CENTRAL DIVISION-S AND T/WESTERN RLY
TENDER DOCUMENT**

Tender No: WR-SnT-STTD-23-2022R2

Closing Date/Time: 20/07/2023 15:00

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	As per Tender document.	No	No	Not Allowed

Custom

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Please submit certificate in the prescribed format. Non submission of properly filled certificate in the prescribed format shall lead to summary rejection of your offer. (Format for certificate attached as ANNEXURE-II/IIA of Tender document)	No	No	Allowed (Mandatory)
2	Tenderer must submit all the mandatory documents as mentioned under clause 2.16 of chapter 2 of Tender document, failing which tender shall be summarily rejected.	No	No	Allowed (Mandatory)

6. Documents attached with tender

S.No.	Document Name	Document Description
1	TenderDocumentMPLSMMCT.pdf	Tender Document

This tender complies with Public Procurement Policy (Make in India) Order 2017, dated 15/06/2017, issued by Department of Industrial Promotion and Policy, Ministry of Commerce, circulated vide Railway Board letter no. 2015/RS(G)/779/5 dated 03/08/2017 and 27/12/2017 and amendments/ revisions thereof.

As a Tender Inviting Authority, the undersigned has ensured that the issue of this tender does not violate provisions of GFR regarding procurement through GeM.

Signed By: GHANSHYAM VERMA

Designation : Sr.DSTE/Co./BCT

GOVERNMENT OF INDIA
WESTERN RAILWAY

TENDER DOCUMENT
Tender No. :WR-SnT-STTD-23-2022R2 (Two Packet System)
Name of Work: Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railways.
Tender Document Cost: Rs. 0.00

INDEX

Chapter No. / Clause No.	Description	Page No.
1	NITHeader& Tender Form	3-22
2	Special conditions	23-29
3	Schedule of Material& Works	30-31
4	Technical Requirements & Specifications	32-62
5	General Instructions to Tenderers	63-72
6	Standard Conditions of Contract	73-100
7	Formats& Annexures	101-125

CHAPTER - 1

NIT HEADER AND TENDER FORMS

NIT Header

Bidding Type:	Two Stage Reverse Auction		
Contract Type:	Works	Contract Category:	Expenditure
Tender No.	WR-SnT-STTD-23-2022R2	Tender Type:	Open
Pre Bid Conference	No		
Tendering Section:	TELE/SOUTH	Bidding System:	Two Packet
Bidding Style:	Single Rate for Tender	Bidding Unit:	Above/Below/Par
Advertised Value(INR):	87,83,81,675.77	Tender Closing Date Time:	20/07/2023 15:00 Hrs
Tender Document Cost(INR):	0.00	Period of Completion:	18 Months
Bid security(INR):	45,41,900/-	Validity of Offer:	90 Days
Are Joint Venture(JV) firms allowed:	Yes		
Name of Work:	Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IPbased control communication and replacement of UTN over Western Railways.		

WESTERN RAILWAY	
TENDER FORM (FIRST SHEET)	
Tender No.	WR-SnT-STTD-23-2022R2
Name of the Work	Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railways.
To, The President of India, Acting through Sr. Divisional Signal and Telecom Engineer, Western Railway, Mumbai Central, Mumbai-400 008	
	Sir
1	I/We _____ have read the various conditions to Tender attached hereto and hereby agree to abide by the said conditions. I/We also agree to keep this offer open for acceptance for a period of 90 days from the date fixed for closing of the tender and in default thereof, I/We will be liable for forfeiture of my/our "Bid Security" I/We offer to do the work for Western Railway, at the rates quoted to the attached bill(s) of quantities and hereby bind myself/ourselves to complete the work in all respects within 18 Months from the date of issue of Letter of Acceptance of the tender.
2	I/We also hereby agree to abide by the Indian Railways Standard General Conditions of Contract, with all correction slips up-to-date and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by Railway in the annexed Special Conditions/Specifications, Standard Schedule of Rates (SSOR) with all correction slips upto-date for the present contract.
3	A Bid Security of Rs _____ has already been deposited online / submitted as Bank Guarantee bond. Full value of the Bid Security shall stand forfeited without prejudice to any other right or remedies in case my/our Tender is accepted and if:
a	I/We do not submit the Performance Guarantee within the time specified in the Tender document;
b	I/We do not execute the contract documents within seven days after receipt of notice issued by the Railway that such documents are ready; and
c	I/We do not commence the work within fifteen days after receipt of orders to that effect.
4	(a) I/We am/are a Startup firm registered by _____ Department of Industrial Policy and Promotion (DIPP) and my registration number is _____ valid upto _____ (Copy enclosed) and hence exempted from submission of Bid Security.
5	We are a Labour Cooperative Society and our Registration No. is.....With.....and hence required to deposit only 50% of Bid Security.
6	Until a formal agreement is prepared and executed, 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 Witnesses: (1) _____ (2) _____ Signature of Tenderer(s) Date : _____ Address of the Tenderer(s)	

	TENDER FORM (SECOND SHEET)
1.	Instructions to Tenderers and Conditions of tender: The following documents form part of Tender/Contract: a) Tender Forms – First sheet and second sheet. b) Special conditions/Specifications (enclosed). c) Bill(s) of quantities (enclosed) d) Standard General Conditions of Contract and Standard Specifications for Materials and Works of Indian Railway as amended/corrected up to latest Correction Slips, copies of which can be seen in the office of the Senior Divisional Signal & Telecom Engineer, Mumbai Central, Mumbai, Western Railway or obtained from the office of the Senior Divisional Signal & Telecom Engineer, Mumbai Central, Mumbai, Western Railway on payment of prescribed charges. e) Standard Schedule of Rates (SSOR) as amended / corrected up to latest Correction Slips, copies of which can be seen in the office of Principal Chief Signal & Telecom Engineer or obtained from the office of the Principal Chief Signal & Telecom Engineer, Western Railway on payment of prescribed charges. f) All general and detailed drawings pertaining to this work, which will be issued by the engineer or his representatives (from time to time) with all changes and modifications.
2.	Drawings for the work: The drawings for the work can be seen in the office of the Respective Senior Divisional Signal & Telecom Engineer, of concerned Division at any time during the office hours. The drawings are only for the guidance of Tenderer (s). Detailed working drawings (if required) based generally on the drawings mentioned above, will be given by the Engineer or his representative from time to time.
3.	The Tenderer(s) shall quote his/their rates as a percentage above or below the Standard Schedule of Rates (SSOR) of the Western Railway as applicable to Mumbai Division except where he/they is/are required to quote item rates and must tender for all the items shown in the Bill(s) of Quantities attached. The quantities shown in the attached Bill(s) of Quantities are given as a guide and are approximate only and are subject to variations according to the needs of the Railway. The Railway does not guarantee work under each item of the Bill(s) of Quantities. The tenderer(s) shall quote rates / rebates only at specified place in Tender Form supplied by Railway. Any revision of rates / rebates submitted (quoted) through a separate letter whether enclosed with the bid (Tender Form) or submitted separately or mentioned elsewhere in the document other than specified place shall be summarily ignored and will not be considered.
4	Tenders containing erasures and / or alterations of the tender documents are liable to be rejected. Any corrections made by the Tenderer (s) in his / their entries must be attested by him/them.
5.	The work (Installation, Testing and commissioning of entire system) is required to be completed within a period of 18 Months from the date of issue of acceptance letter and 3 years warranty/defect liability period for each division will start from the date of issue of Provisional Acceptance Certificate by concerned division.

6.	<u>Bid Security:</u> (a) The Tender must be accompanied with a sum of Rs.45,41,900/-(Rs. Forty Five lakhs Forty One thousand Nine Hundred only) as bid security shall be deposited either in cash through e-payment gateway facility provided on IREPS website or submitted as Bank Guarantee bond as per Annexure-IV shall be valid for a period of 90 days beyond the bid validity period, failing which the tender shall be summarily rejected. i) Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of Bid Security on submission of Registration Certificate issued by appropriate authority. ii) Labour Cooperative Societies shall deposit only 50% of earnest money deposit. (b) The Tenderer(s) shall keep the offer valid for a minimum period of 90 days from the date of closing of Tender. It is understood that the tender document has been issued to the tenderer(s) and the tenderer(s) is / are permitted to tender in consideration of the stipulation on his/their part that after submitting his/their tender subject to the period being extended further, if required by mutual agreement from time to time, he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to Western Railway. Should the tenderer fail to observe or comply with the foregoing stipulation, the amount deposited or Bank guarantee bond submitted as Bid Security for the due performance of the above stipulation shall be forfeited by the Railway. (c) If his tender is accepted, (i) the Bid Security mentioned in sub para(a) above deposited in cash through e-payment gateway will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract; (ii) the Bid Security mentioned in sub para(a) above submitted as Bank guarantee bond, will be encashed as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract. The Bid Security of other Tenderers shall, save as herein before provided, be returned to them, but the Railway shall not be responsible for any loss or depreciation to the Bid Security that may happen thereto while in their possession, nor be liable to pay interest thereon. (d) In case Contractor submits the Term Deposit Receipt/Bank Guarantee Bond towards either the Full Security Depositor the Part Security Deposit equal to or more than Bid Security, the Railway shall return the Bid Security so retained as per sub para(c) above, to the Contractor. Note: In case, submission of Bid Security in the form of Bank Guarantee, following shall be ensured: i. A scanned copy of the Bank Guarantee shall be uploaded on e-Procurement Portal (IREPS) while applying to the tender. ii. The original Bank Guarantee should be delivered in person to the official nominated as indicated in the tender document within 5 working days before closing date for submission of bids.
----	--

	iii. Non submission of scanned copy of Bank Guarantee with the bid on e-tendering portal (IREPS) and/or non-submission of original Bank Guarantee within the specified period shall lead to summary rejection of bid. iv. The Tender Security shall remain valid for a period of 90 days beyond the validity period for the Tender. v. The details of the BG, physically submitted should match with the details available in the scanned copy and the data entered during bid submission time, failing which the bid will be rejected vi. The Bank Guarantee shall be placed in an envelope, which shall be sealed. The envelope shall clearly bear the identification “Bid for the ***** Project” and shall clearly indicate the name and address of the Bidder. In addition, the Bid Due Date should be indicated on the right-hand top corner of the envelope. vii. The envelope shall be addressed to the officer and address as mentioned in the tender document. viii. If the envelope is not sealed and marked as instructed above, the Authority assumes no responsibility for the misplacement or premature opening of the contents of the Bid submitted and consequent losses, if any, suffered by the Bidder.
7.	Rights of the Railway to deal with Tender: The authority for the acceptance of the tender will rest with the Railway. It shall not be obligatory on the said authority to accept the lowest tender or any other tender, and tenderer(s) shall neither demand any explanation for the cause of rejection of his/ their tender nor the Railway to assign reasons for declining to consider or reject any particular tender or tenders.
8.	If the tenderer(s) deliberately gives / give wrong information in his / their tender or creates / create circumstances for the acceptance of his / their tender, the Railway reserves the right to reject such tender at any stage.
9.	If any partner(s) of a partnership firm expires after the submission of its tender or after the acceptance of its tender, the Railway shall deem such tender as cancelled/contract as terminated under clause 61 of the Standard General Conditions of Contract, unless the firm retains its character as per partnership agreement. If a sole proprietor expires after the submission of tender or after the acceptance of tender, the Railway shall deem such tender as cancelled / contract as terminated under clause 61 of the Standard General Conditions of Contract.
10.	<u>Eligibility Criteria:</u>
10.1	Technical Eligibility Criteria: The tenderer must have successfully completed or substantially completed any of the following categories of work(s) during last 07(seven) years, ending last day of month previous to the one in which tender is invited: Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or One similar work costing not less than the amount equal to 60% of advertised

	value of the tender. Note for Item 10.1: Work experience certificate from private individual shall not be considered. However, in addition to work experience certificates issued by any Govt.Organisation, work experience certificate issued by Public listed company having average annual turnover of Rs 500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of closing of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates. In case tenderer submits work experience certificate issued by public listed company, the tenderer shall also submit along with work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate.
10.2	Financial Eligibility Criteria : The tenderer must have minimum average annual contractual turnover of V/N or 'V' whichever is less; where V= Advertised value of the tender in crores of Rupees N= Number of years prescribed for completion of work for which bids have been invited. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover. The tenderers shall submit requisite information as per Format-6, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet. (As per Railway Board letter No.2022/CE-I/CT/GCC-2022/Policy dated:14.07.2022)
10.3	Bid Capacity :(Applicable for Works costing more than Rs. 20 Cr.) The tender/technical bid will be evaluated based on bid capacity formula detailed as below. Tender's Credentials (Bid Capacity) For tenders having advertised value more than Rs 20 crore wherein eligibility criteria include bid capacity also, the tenderers who meet the minimum eligibility criteria will be qualified only if their available bid capacity is equal to or more than the total bid value of the present tender. The available bid capacity shall be calculated as under: Available Bid Capacity = $[A \times N \times 2] - 0.33 \times N \times B$ Where A = Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender), taking into account the completed as well as works in progress. N= Number of years prescribed for completion of work for which bids has been invited. B = Existing commitments and balance amount of ongoing works with tenderer as per the prescribed proforma of Railway (Format-8) for statement of all works in progress and also the works which are awarded to tenderer but yet not started upto

	the date of inviting of tender. Note: (a) The Tenderer(s) shall furnish the details of - (i) Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender) for calculating A, and (ii) Existing commitments and balance amount of ongoing works with tenderer as per the prescribed proforma of Railway(Format-8) for statement of all works in progress and also the works which are awarded to tenderer but yet not started upto the date of inviting of tender for calculating B. In case of no works in hand, a 'NIL' statement should be furnished. The submitted details for (i) and (ii) above should be duly verified by Chartered Accountant. (b) In case if a bidder is JV, the tenderer(s) must furnish the details of (i) Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender) by each member of JV for calculating A, and (ii) Existing commitments and balance amount of ongoing works with each member of JV either in individual capacity or as a member of other JV as per the prescribed proforma of Railway for statement of all works in progress and also the works which are awarded to each member of JV either in individual capacity or as a member of other JV but yet not started upto the date of inviting of tender for calculating B. In case of no works in hand, a 'NIL' statement should be furnished. The submitted details for (i) and (ii) above should be duly verified by Chartered Accountant. (c) Value of a completed work/work in progress/work awarded but yet not started for a Member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying his/her compliance to the above mentioned bid capacity in the tender under consideration. (d) The arithmetic sum of individual "bid capacity" of all the members shall be taken as JV's "bid capacity". (e) In case, the tenderer/s failed to submit the above statement along with offer, their/his offer shall be considered as incomplete and will be rejected summarily. (f) The available bid capacity of tenderer shall be assessed based on the details submitted by the tenderer. In case, the available bid capacity is lesser than estimated cost of work put to tender, his offer shall not be considered even if he has been found eligible in other eligibility criteria/tender requirement. (As per Railway Board letter No.2022/CE-I/CT/GCC-2022/Policy dated:14.07.2022)
10.4	No Technical and Financial credentials are required for tenders having advertised value up to Rs 50 lakh.
10.5	Credentials if submitted in foreign currency shall be converted into Indian currency i.e., Indian Rupee as under: The conversion rate of US Dollars into Rupees shall be the daily representative exchange rates published by the Reserve Bank of India or entity authorized by RBI to do so for the relevant date or immediately previous date for which rates have been published. Where, relevant date shall be as on the last day of month previous to the one in which tender is invited. In case of any other currency, the same shall first be converted to US Dollars as on the last day of month previous to the one in which tender is invited, and the amount so derived in US Dollars shall be converted

	into Rupees at the aforesaid rate. The conversion rate of such currencies shall be the daily representative exchange rates published by the International Monetary Fund for the relevant date or immediately previous date for which rates have been published.
Note:	[Explanation for clause 10 including clause 10.1 to 10.5 - Eligibility Criteria: 1. Substantially Completed Work means an ongoing work in which payment equal to or more than 90% of the present contract value (excluding the payment made for adjustment of Price variation (PVC), if any) has been made to the contractor in that ongoing contract and no proceedings of termination of contract on Contractor's default has been initiated. The credential certificate in this regard should have been issued not prior to 60 days of date of invitation of present tender. 2. In case a work is started prior to 07 (seven) years, ending last day of month previous to the one in which tender is invited, but completed in last 07 (seven) years, ending last day of month previous to the one in which tender is invited, the completed work shall be considered for fulfillment of credentials. 3. <i>If a work is physically completed and completion certificate to this extent is issued by the concerned organization but final bill is pending, such work shall be considered for fulfillment of credentials.</i> 4. <i>In case of completed work, the value of final bill (gross amount) including the PVC amount (if paid) shall be considered as the completion cost of work. In case final bill is pending, only the total gross amount already paid including the PVC amount (if paid) shall be considered as the completion cost of work.</i> <i>In case of substantially completed work, the total gross amount already paid including the PVC amount (if paid), as mentioned in the certificate, shall be considered as the cost of substantially completed work.</i> 5. If a bidder has successfully completed a work as subcontractor and the work experience certificate has been issued for such work to the subcontractor by a Govt. Organization or public listed company as defined in Note for Item 10.1 Para 10 of the Tender Form (Second Sheet), the same shall be considered for the purpose of fulfilment of credentials. 6. In case a work is considered similar in nature for fulfilment of technical credentials, the overall cost including the PVC amount (if paid) of that completed work or substantially completed work, shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility. 7. In case of newly formed partnership firm, the credentials of individual partners from previous propriety firm(s) or dissolved previous partnership firm(s) or split previous partnership firm(s), shall be considered only to the extent of their share in previous entity on the date of dissolution / split and their share in newly formed partnership firm. For example, a partner A had 30% share in previous entity and his share in present partnership firm is 20%. In the present tender under consideration, the credentials of partner A will be considered to the extent of $0.3 \times 0.2 \times$ value of the work done in the previous entity. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc. 8. In case of existing partnership firm, if any one or more partners quit the

	partnership firm, the credentials of remaining partnership firm shall be re-worked out i.e., the quitting partner(s) shall take away his credentials to the extent of his share on the date of quitting the partnership firm(e.g. in a partnership firm of partners A, B & C having share 30%, 30% & 40% respectively and credentials of Rs 10 crore; in case partner C quits the firm, the credentials of this partnership firm shall remain as Rs 6 crore). For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc. 9. In case of existing partnership firm if any new partner(s) joins the firm without any modification in the name and PAN/TAN no. of the firm, the credentials of partnership firm shall get enhanced to the extent of credentials of newly added partner(s) on the same principles as mentioned in item 6 above. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deeds, dissolution/splitting deeds and proof of surrender of PAN No.(s) in case of dissolution of partnership firm etc. 10. Any partner in a partnership firm cannot use or claim his credentials in any other firm without leaving the partnership firm i.e., In a partnership firm of A&B partners, A or B partner cannot use credentials of partnership firm of A&B partners in any other partnership firm or propriety firm without leaving partnership firm of A&B partners. 11. In case a partner in a partnership firm is replaced due to succession as per succession law, the proportion of credentials of the previous partner will be passed on to the successor. 12. If the percentage share among partners of a partnership firm is changed, but the partners remain the same, the credentials of the firm before such modification in the share will continue to be considered for the firm as it is without any change in their value. Further, in case a partner of partnership firm retires without taking away any credentials from the firm, the credentials of partnership firm shall remain the same as it is without any change in their value. 13. In a partnership firm "AB" of A&B partners, in case A also works as propriety firm "P" or partner in some other partnership firm "AX", credentials of A in propriety firm "P" or in other partnership firm "AX" earned after the date of becoming a partner of the firm AB shall not be added in partnership firm AB. 14. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm. 15. In case company A is merged with company B, then company B would get the credentials of company A also.
11.	Tenderer's Credentials: Documents testifying tenderer previous experience and financial status should be produced along with the tender. Tenderer(s) who is / are not borne on the approved list of the Contractors of Western Railway shall submit along with his / their tender: (i) Certificates and testimonials regarding contracting experience for the type of job for which tender is invited with list of works carried out in the past. (ii) Audited Balance Sheet duly certified by the Chartered Accountant regarding contractual payments received in the past. (iii) The list of personnel / organization on hand and proposed to be engaged for the

	tendered work. Similarly list of Plant & Machinery available on hand and proposed to be inducted and hired for the tendered work. (iv) A copy of certificate 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 certificate to be submitted by the bidder is enclosed as Annexure-II. In addition to Annexure-II, in case of other than company/proprietary firm, Annexure II(A) shall also be submitted by each member of a partnership firm/ joint venture (JV)/ Hindu Undivided Family (HUF)/Limited Liability Partnership (LLP) etc. as the case may be. Non submission of a copy of certificates by the bidder shall result in summarily rejection of his/their bid. It shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self-attested / digitally signed by which they/he are/is qualifying the Qualifying Criteria mentioned in the Tender Document. (v) The Railway 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 Railway, 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 Railway shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of the Railway thereunder. (vi) (a) In case of any information submitted by tenderer is found to be false, forged or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender Bid Security besides banning of business for a period of upto two years.(As per Advance Correction Slip No.3 dt-26-4-2023 of GCC-April-2022) (b) In case of any information submitted by tenderer is found to be false, forged or incorrect after the award of contract, the contract shall be terminated. Bid Security, Performance Guarantee and Security Deposit available with the railway shall be forfeited. In addition, other dues of the contractor, if any, under this contract shall be forfeited and agency shall be banned for doing business for a period of upto two years.
12.	Non-compliance with any of the conditions set forth therein above is liable to result in the tender being rejected.
13.	Execution of Contract Documents: The successful Tenderer(s) shall be required to execute an agreement with the President of India acting through the Senior Divisional Signal & Telecom Engineer Mumbai Central, Western Railway for carrying out the work according to Standard General Conditions of Contract, Special Conditions/Specifications annexed to the tender and Standard Specifications for (Works and Materials) of Railway as amended/ corrected upto latest correction slips, mentioned in tender form (First Sheet).
14.	DOCUMENTS TO BE SUBMITTED ALONG WITH TENDER: (i) The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm) or on behalf of a Partnership Firm / company / Joint Venture (JV) /Registered Society / Registered Trust / Hindu Undivided Family(HUF) / Limited Liability Partnership (LLP) etc. The tenderer(s) shall enclose the attested copies of the constitution of their concern, and copy of PAN Card along with their tender. Tender Documents in such cases are to be signed by such persons as may be legally competent to sign them on behalf of the firm, company, association, trust or society, as the case may be. (ii) Following documents shall be submitted by the tenderer:

	(a) Sole Proprietorship Firm: (i) All documents in terms of Para 10 of the Tender Form (Second Sheet) above. (b) HUF: (i) A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF. (ii) All other documents in terms of Para 10 of the Tender Form (Second Sheet) above. (c) Partnership Firm: (i) All documents as mentioned in para18 of the Tender Form (Second Sheet). (d) Joint Venture (JV): All documents as mentioned in para 17 of the Tender Form (Second Sheet). (e) Company registered under Companies Act2013: (i) The copies of MOA (Memorandum of Association) / AOA (Articles of Association) of the company (ii) A copy of Certificate of Incorporation (iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favor of the individual to sign the tender on behalf of the company and create liability against the company. (iv) All other documents in terms Para 10 of the Tender Form (Second Sheet) above. (f) LLP (Limited Liability Partnership): (i) A copy of LLP Agreement (ii) A copy of Certificate of Incorporation (iii) A copy of Power of Attorney/Authorization issued by the LLP in favor of the individual to sign the tender on behalf of the LLP and create liability against the LLP. (iv) An undertaking by all partners of the LLP that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP or JV in which they were / are partners/members. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the Standard General Conditions of Contract. (v) All other documents in terms of Para 10 of the Tender Form (Second Sheet). (g) Registered Society & Registered Trust: (i) A copy of Certificate of Registration (ii) A copy of Memorandum of Association of Society/Trust Deed (iii) A copy of Power of Attorney in favor of the individual to sign the tender documents and create liability against the Society/Trust. (iv) A copy of Rules & Regulations of the Society (v) All other documents in terms of Para 10 of the Tender Form (Second Sheet) above. (iii) If it is NOT mentioned in the submitted tender that tender is being submitted
--	---

	on behalf of a Sole Proprietorship firm / Partnership firm / Joint Venture / Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender. (iv) After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF/LLP etc. shall be neither asked nor considered, if submitted. Further, no suomoto cognizance of any document available in public domain (i.e., on internet etc.) or in Railway's record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted. (v) A tender from JV shall be considered only where permissible as per the tender conditions. (vi) The Railway will not be bound by any change of power of attorney or in the composition of the firm made subsequent to the submission of tender. Railway may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.
15.	The tenderer whether sole proprietor / a company or a partnership firm / registered society / registered trust / HUF / LLP etc if they want to act through agent or individual partner(s), should submit along with the tender, a copy of power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person, specifically authorizing him/them to sign the tender, submit the tender and further to deal with the Tender/ Contract up to the stage of signing the agreement except in case where such specific person is authorized for above purposes through a provision made in the partnership deed / Memorandum of Understanding / Article of Association /Board resolution, failing which tender shall be summarily rejected. A separate power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person, shall be submitted after award of work, specifically authorizing him/them to deal with all other contractual activities subsequent to signing of agreement, if required. Note: A Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalized by the Indian Embassy if it carries a conforming Apostille certificate.
16.	Employment/Partnership etc. of Retired Railway Employees : (a) Should a tenderer i) be a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement, whether in the executive or administrative capacity or whether holding a pensionable post or not, in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, OR ii) being partnership firm / joint venture (JV) / registered society / registered trust

	etc have as one of its partners / members a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement, OR iii) being an incorporated company have any such retired Engineer of the gazetted rank or any other gazetted officer working before his retirement as one of its directors AND in case where such Engineer or officer had not retired from government service at least 1 year prior to the date of submission of the tender THEN the tenderer will give full information as to the date of retirement of such Engineer or gazetted officer from the said service and as to whether permission for taking such contract, or if the Contractor be a partnership firm or an incorporated company, to become a partner or director as the case may be, has been obtained by the tenderer or the Engineer or officer, as the case may be from the President of India or any officer, duly authorized by him in this behalf, shall be clearly stated in writing at the time of submitting the tender. b) In case, upon successful award of contract, should a tenderer depute for execution of the works under or to deal matters related with this contract, any retired Engineer of gazette rank or retired gazette officer working before his retirement in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, and now in his employment, then the tenderer will ensure that retired Engineer or retired gazetted officer had retired from government service at least 1 year prior to the date of his employment with tenderer and in case he had retired from service within a year then he possesses the requisite permission from the President of India or any officer, duly authorized by him in this behalf, to get associated with the tenderer. c) Should a tenderer or Contractor being an individual, have member(s) of his family or in the case of partnership firm/ company / joint venture (JV) / registered society / registered trust etc. one or more of his partner(s)/shareholder(s) or member(s) of the family of partner(s)/shareholder(s) having share of more than 1% in the tendering entity employed in gazetted capacity in the Engineering or any other department of the railway, then the tenderer at the time of submission of tender, will inform the authority inviting tenders the details of such persons. Note: If information as required as per 16.a), b), c) above has not been furnished, contract is liable to be dealt in accordance with provision of clause 62 of Standard General Condition of contract.
17.	JOINT VENTURE (JV) IN WORKS TENDERS 17. Participation of Joint Venture (JV) in Works Tender: This para shall be applicable for works tenders wherein tender documents provide for the same. 17.1 Separate identity/name shall be given to the Joint Venture. 17.2 Number of members in a JV shall not be more than three, if the work involves only one department (say Civil or S&T or Electrical or Mechanical) and shall not be more than five, if the work involves more than one Department. One of the members of the JV shall be its Lead Member who shall have a majority (at least 51%) share of interest in the JV. The other members shall have a share of not less than 20% each in case of JV with upto three members and not less than 10% each in case of JV with more than three members. In case of JV with foreign member(s), the Lead Member has to be an Indian firm/company with a minimum share of 51%. 17.3 A member of JV shall not be permitted to participate either in individual

capacity or as a member of another JV in the same tender. 17.4 The tender form shall be purchased and submitted only in the name of the JV and not in the name of any constituent member. The tender form can however be submitted by JV or any of its constituent member or any person authorized by JV through Power of Attorney to submit tender. 17.5 <i>Bid Security shall be submitted by JV or authorized person of JV either as :</i> (i) Cash through e-payment gateway or as mentioned in tender document, or (ii) Bank Guarantee bond either in the name of JV, or in the name of all members of JV as per MOU irrespective of their share in the JV if the JV has not been constituted legally till the date of submission of tender. 17.6 A copy of Memorandum of Understanding (MoU) duly executed by the JV members on a stamp paper, shall be submitted by the JV along with the tender. The complete details of the members of the JV, their share and responsibility in the JV etc. particularly with reference to financial, technical and other obligations shall be furnished in the MoU. 17.7 Once the tender is submitted, the MoU shall not normally be modified / altered / terminated during the validity of the tender. In case the tenderer fails to observe/comply with this stipulation, the full Bid Security shall be liable to be forfeited. 17.8 Approval for change of constitution of JV shall be at the sole discretion of the Railway. The constitution of the JV shall not normally be allowed to be modified after submission of the bid by the JV, except when modification becomes inevitable due to succession laws etc., provided further that there is no change in qualification of minimum eligibility criteria by JV after change of composition. However, the Lead Member shall continue to be the Lead Member of the JV. Failure to observe this requirement would render the offer invalid. 17.9 Similarly, after the contract is awarded, the constitution of JV shall not be normally allowed to be altered during the currency of contract except when modification become inevitable due to succession laws etc. and minimum eligibility criteria should not get vitiated. Failure to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract conditions. 17.10 On award of contract to a JV, a single Performance Guarantee shall be submitted by the JV as per tender conditions. All the Guarantees like Performance Guarantee, Bank Guarantee for Mobilization Advance, Machinery Advance etc. shall be accepted only in the name of the JV and no splitting of guarantees amongst the members of the JV shall be permitted. 17.11 On issue of LOA (Letter of Acceptance), the JV entity to whom the work has been awarded, with the same shareholding pattern as was declared in the MOU/JV Agreement submitted along with the tender, shall be got registered before the Registrar of the Companies under 'The Companies Act -2013' (<u>in case JV entity is to be registered as Company</u>) or before the Registrar/Sub-Registrar under the 'The Indian Partnership Act, 1932' (<u>in case JV entity is to be registered as Partnership Firm</u>) or under 'The LLP Act 2008' (<u>in case JV entity is to be registered as LLP</u>). A separate PAN shall be obtained for this entity. The documents pertaining to this entity including its PAN shall be furnished to the Railways before signing the contract
--

agreement for the work. In case the tenderer fails to observe/comply with this stipulation within 60 days of issue of LOA, contract is liable to be terminated. In case contract is terminated railway shall be entitled to forfeit the full amount of the Bid Security and other dues payable to the Contractor under this contract. The entity so registered, in the registered documents, shall have, inter-alia, following Clauses: 17.11.1 Joint and Several Liability - Members of the entity to which the contract is awarded, shall be jointly and severally liable to the Railway for execution of the project in accordance with General and Special Conditions of Contract. The members of the entity shall also be liable jointly and severally for the loss, damages caused to the Railways during the course of execution of the contract or due to non-execution of the contract or part thereof. 17.11.2 Duration of the Registered Entity - It shall be valid during the entire currency of the contract including the period of extension, if any and the maintenance period after the work is completed. 17.11.3 Governing Laws - The Registered Entity shall in all respect be governed by and interpreted in accordance with Indian Laws. 17.12 Authorized Member - Joint Venture members in the JV MoU shall authorize Lead member on behalf of the Joint Venture to deal with the Contract, sign the agreement or enter into contract in respect of the said tender, to receive payment, to witness joint measurement of work done, to sign measurement books and similar such action in respect of the said tender/contract. All notices/correspondences with respect to the contract would be sent only to this authorized member of the JV. 17.13 No member of the Joint Venture shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other members and that of the Railway in respect of the said tender/contract. 17.14 Documents to be enclosed by the JV along with the tender: 17.14.1 In case one or more of the members of the JV is/are partnership firm(s), following documents shall be submitted: (i) A notarized copy of the Partnership Deed or a copy of the Partnership deed registered with the Registrar. (ii) A copy of consent of all the partners or individual authorized by partnership firm, to enter into the Joint Venture Agreement on a stamp paper, (iii) A notarized or registered copy of Power of Attorney in favor of the individual to sign the MOU/JV Agreement on behalf of the partnership firm and create liability against the firm. (iv) An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP in which they were / are partners/members. Any Concealment / wrong information in regard to above shall make the bid ineligible or the contract shall be determined under Clause 62 of the Standard General Conditions of Contract. 17.14.2 In case one or more members is/are Proprietary Firm or HUF, the following documents shall be enclosed: (i) A copy of notarized affidavit on Stamp Paper declaring that his Concern is a proprietary Concern and he is sole proprietor of the Concern OR he who is

signing the affidavit on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF.

17.14.3 In case one or more members of the JV is/are companies, the following documents shall be submitted:

- (i) A copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement,
- (ii) The copies of MOA (Memorandum of Association) / AOA (Articles of Association) of the company
- (iii) A copy of Certificate of Incorporation
- (iv) A copy of Authorization/copy of Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favor of the individual, to sign the tender, sign MOU/JV Agreement on behalf of the company and create liability against the company

17.14.4 In case one or more members of the JV is/are LLP firm/s, the following documents shall be submitted:

- (i) A copy of LLP Agreement
- (ii) A copy of Certificate of Incorporation of LLP
- (iii) A copy of resolution passed by partners of LLP firm, permitting the Firm to enter into a JV agreement
- (iv) A copy of Authorization /copy of Power of Attorney issued by the LLP firm (backed by resolution passed by the Partners) in favor of the individual, to sign the tender and/or sign the MOU/ JV agreement on behalf of the LLP and create liability against the LLP.
- (v) An undertaking by all partners of the LLP that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP or JV in which they were / are partners/members. Any Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the Standard General Conditions of Contract.

17.14.5 In case one or more members of the JV is/are Society/s or Trust/s, the following documents shall be submitted:

- (i) A copy of Certificate of Registration
- (ii) A copy of Memorandum of Association of Society/Trust Deed
- (iii) A copy of Rules & Regulations of the Society
- (iv) A copy of Power of Attorney, in favor of the individual to sign the tender documents and create liability against the Society/Trust.

17.14.6 All other documents in terms of Para 10 of the Tender Form (Second Sheet) above.

17.14.7 A Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalized by the Indian Embassy if it carries a conforming Apostille Certificate. (As per Advance Correction Slip No.3 dt-26-4-2023 of GCC-April-2022)

17.15 Credentials & Qualifying Criteria: Technical, financial eligibility and Bid capacity of the JV shall be adjudged based on satisfactory fulfilment of the following

criteria:

17.15.1 Technical Eligibility Criteria ('a' or 'b' mentioned hereunder):

(a) For Works without composite components

The technical eligibility for the work as per para 10.1 above, shall be satisfied by either the 'JV in its own name & style' or 'Lead member of the JV'.

Each other (non-lead) member(s) of JV, who is/ are not satisfying the technical eligibility for the work as per para 10.1 above, shall have technical capacity of minimum 10% of the cost of work i.e., each non-lead member of JV member must have satisfactorily completed or substantially completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one similar single work for a minimum of 10% of advertised value of the tender.

(b) For works with composite components

The technical eligibility for major component of work as per para 10.1 above, shall be satisfied by either the 'JV in its own name & style' or 'Lead member of the JV' and technical eligibility for other component(s) of work as per para 10.1 above, shall be satisfied by either the 'JV in its own name & style' or 'any member of the JV'.

Each other (non-lead)member(s) of JV, who is/ are not satisfying the technical eligibility for any component of the work as per para 10.1 above, shall have technical capacity of minimum 10% of the cost of any component of work mentioned in technical eligibility criteria. i.e., each other (non-lead) member of must have satisfactorily completed or substantially completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one similar single work for a minimum of 10% of cost of any component of work mentioned in technical eligibility criteria.

Note for Para 17.15.1:

a) The Major component of the work for this purpose shall be the component of work having highest value. In cases where value of two or more component of work is same, any one work can be classified as Major component of work.

b) Value of a completed work done by a Member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying his/her compliance to the above mentioned technical eligibility criteria in the tender under consideration.

17.15.2 Financial Eligibility Criteria

The JV shall satisfy the requirement of "Financial Eligibility" mentioned at para 10.2 above. The "financial capacity" of the lead member of JV shall not be less than 51% of the financial eligibility criteria mentioned at para 10.2 above.

The arithmetic sum of individual "financial capacity" of all the members shall be taken as JV's "financial capacity" to satisfy this requirement.

Note: Contractual payment received by a Member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying compliance of the above mentioned financial eligibility criteria in the tender under consideration.

17.15.3 Bid Capacity

The JV shall satisfy the requirement of "Bid Capacity" requirement mentioned at para 10.3 above. The arithmetic sum of individual "Bid capacity" of all the members shall be taken as JV's "Bid capacity" to satisfy this requirement.

	((As per Railway Board letter No.2022/CE-I/CT/GCC-2022/Policy dated:14.07.2022))
18.	Participation of Partnership Firms in works tenders: 18.1 The Partnership Firms participating in the tender should be legally valid under the provisions of the Indian Partnership Act. 18.2 The partnership firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have either been registered with the Registrar or the partnership deed should have been notarized as per the Indian Partnership Act, prior to submission of tender. 18.3 Separate identity / name should be given to the partnership firm. The partnership firm should have PAN / TAN number in its own name and PAN / TAN number in the name of any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners. 18.4 Once the tender has been submitted, the constitution of the firm shall not normally be allowed to be modified / altered / terminated during the validity of the tender as well as the currency of the contract except when modification becomes inevitable due to succession laws etc., in which case prior permission should be taken from Railway and in any case the minimum eligibility criteria should not get vitiated. The re-constitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case, shall be at the sole discretion of the Railways and the tenderer shall have no claims what-so-ever. Any change in the constitution of Partnership firm after submission of tender shall be with the consent of all partners and with the signatures of all partners as that in the Partnership Deed. Failure to observe this requirement shall render the offer invalid and full Bid Security shall be forfeited. If any Partner/s withdraws from the firm after submission of the tender and before the award of the contract, the offer shall be rejected and Bid Security of the tenderer will be forfeited. If any new partner joins the firm after submission of tender but prior to award of contract, his / her credentials shall not qualify for consideration towards eligibility criteria either individually or in proportion to his share in the previous firm. In case the tenderer fails to inform Railway beforehand about any such changes / modification in the constitution which is inevitable due to succession laws etc. and the contract is awarded to such firm, then it will be considered a breach of the contract conditions liable for determination of the contract under Clause 62 of the Standard General Conditions of Contract. 18.5 A partner of the firm shall not be permitted to participate either in his individual capacity or as a partner of any other firm in the same tender. 18.6 The tender form shall be submitted only in the name of partnership firm. The Bid Security shall be submitted by partnership firm. The Bid Security submitted in the name of any individual partner or in the name of authorized partner (s) shall not be considered. 18.7 On issue of Letter of Acceptance (LOA) to the partnership firm, all the guarantees like Performance Guarantee, guarantee for various Advances to the Contractor shall be submitted only in the name of the partnership firm and no splitting of guarantees among the partners shall be acceptable. 18.8 On issue of Letter of Acceptance (LOA), contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner. 18.9 In case the Letter of Acceptance (LOA) is issued to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement. (a) Joint and several liabilities: The partners of the firm to which the Letter of Acceptance (LOA) is issued, shall

	be jointly and severally liable to the Railway for execution of the contract in accordance with General and Special Conditions of the Contract. The partners shall also be liable jointly and severally for the loss, damages caused to the Railway during the course of execution of the contract or due to non-execution of the contract or part thereof. (b) Duration of the partnership deed and partnership firm agreement: The partnership deed/partnership firm agreement shall normally not be modified/alterd/ terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract. Any change carried out by partners in the constitution of the firm without permission of Railway, shall constitute a breach of the contract, liable for determination of the contract under Clause 62 of the Standard General Conditions of Contract. (c) Governing laws: The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian laws. (d) No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other partner/s and that of the Railway. 18.10 The tenderer shall clearly specify that the tender is submitted on behalf of a partnership firm. The following documents shall be submitted by the partnership firm, with the tender: (i) A notarized copy of the Partnership Deed or a copy of the Partnership deed registered with the Registrar. (ii) A notarized or registered copy of Power of Attorney in favour of the individual to tender for the work, sign the agreement etc. and create liability against the firm. (iii) An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP in which they were / are partners/members. Any Concealment / wrong information in regard to above shall make the bid ineligible or the contract shall be determined under Clause 62 of the Standard General Conditions of Contract. (iv) All other documents in terms of Para 10 of the Tender Form (Second Sheet) above. 18.11 Evaluation of eligibility of a partnership firm: Technical and financial eligibility of the firm shall be adjudged based on satisfactory fulfilment of the eligibility criteria laid down in Para 10 of the Tender Form (Second Sheet) above.
19.0	Advances to Contractor – If specifically provided in Tender Documents of tender having advertised value more than Rs 50 Crores, Railway shall make payment, as an Interest-bearing advances, as per Contractor's request. These advances shall carry a simple interest ____ as indicated in the Tender documents. The payment and recovery of such advances shall be made as per manners prescribed in Clause 46.4 of the Standard General Conditions of Contract. (Signature) (Designation) Western Railway Signature of Tenderer(s) Date _____

CHAPTER - 2

SPECIAL CONDITIONS

2.1	Eligibility Criteria : As per Clause no. 10 of Tender Form (Second Sheet) (Applicable for Tenders having value more than Rs. 50 lakh)
	APPLICABLE
2.2	Similar Nature of Work : (Applicable for Tenders having value more than Rs. 50 lakh)
	APPLICABLE
	Work of Similar nature for this Tender would mean – “Design, Supply, Configuration, Installation, Testing and Commissioning of Any work involving provision/O&M of Internet Protocol based Networking Systems and Services including NMS”
2.3	Bid Capacity: (Applicable for works costing more than Rs. 20 Cr.) As per Clause no. 10.3 of Tender Form (Second Sheet)
	APPLICABLE
2.4	Participation of Joint Venture (JV) : As per Clause no. 17 of Tender Form (Second Sheet)(Applicable for works costing more than Rs. 10 Cr., as per Railway Board's letter no. 2002/CE-I/CT/37 JV Pt-VIII dated 14-12-2012)
	APPLICABLE
2.5	Payment Terms :
	Subject to any deduction which the Railway will be authorized to make under the terms of contract that may be applicable while accepting the tender, the Contractor shall be entitled for payment as follows: The payment can be released after the compliance of clause pertaining to indemnity bond.
2.5.1	For Supply Items / Supply and Installation items:
(I)	80% of the value of Supply / Supply and Installation items shall be paid on production of the following documents.
a	The materials as per Schedule of Materials supplied by contractor and accepted by the consignee.
b	Original Inspection certificate issued by Inspecting Agency.
c	Challan /Invoice in duplicate.
d	Proof of Purchase
e	A certificate should be submitted by the contractor that the materials supplied are as per the contract& specification and the amount claimed in the invoice is correct as per terms of the contract.
(II)	Additional 10% value of the items mentioned in 2.5.1 will be paid on Installation of Items & certified by Site in charge. NOTE (Only for supply items): 100% of the accepted cost will be paid for spares and for the items, which are not to be installed / erected by the contractor, on receipt of the equipment & No Loss Certificate by the Consignee.
2.5.2	For Installation Items:
(I)	90% of the value of Installation items will be paid on Installation of Items, on the basis of measurements recorded& certified by Site in charge.
2.5.3	Balance 10% payment of all the items covered in Para 2.5.1 & 2.5.2 will be paid on successful completion of the entire work to the satisfaction of the Engineer in charge

	and issue of Provisional Acceptance Certificate (PAC) for each division.
2.6	Consignee:
	Following will be the consignees for the work pertaining to different Divisions. 1. SSE/Tele/Store/MMCT 2. SSE/Tele/Store/BRC 3. SSE/Tele/Store/ ADI 4. SSE/Tele/Store/ RTM 5. SSE/Tele/Store/ RJT 6. SSE/Tele/Store/ BVP
2.7	Price Variation Clause (PVC) :
	APPLICABLE
2.8	Location of site:
	All Stations and other important locations of all Divisions (i.e., Ahmedabad, Vadodara, Bhavnagar, Mumbai, Rajkot and Ratlam) of Western Railway.
2.9	Scope of work :
2.9.1	The work envisages Supply, Installation, Testing and Commissioning of items as per Schedule of Material & Work and as per Specification of chapter-4 in all Divisions of Western Railway.
2.9.2	Any other materials required to obtain the end objective should be supplied by the Tenderer.
2.9.3	Scope of work is detailed in “Schedule of Materials and Works” and in “Technical requirement & specification”. Work is to be carried out in compliance to the tender conditions and specifications.
2.9.4	Work will be carried out in accordance with the technical requirements of the Tender. Wherever Specifications are not indicated, work will be carried out as per standard practice on this Railway and instructions of Engineer in charge. During testing and commissioning of the installation, the contractor's engineers will be available at site for testing and commissioning and also for doing alterations in wiring if any.
2.9.5	Any other minor work such as pty wiring work related to installation of scheduled items, not indicated in “Works to be done by Railways” heading as per statement given above shall be carried out by the contractor himself for which no extra payment will be made, so as to achieve the final objective of commissioning of the system as per technical specifications and as per tender requirement.
2.10	Warranty / Defect liability period :
2.10.1	The contractor shall maintain the work in all respect including material & works free of charge for any defect & fault for a warranty/Defect liability period of Three years from the date of Completion of work i.e., issue of PAC. The warranty for each Division will start from the date of issue of its PAC.
2.10.2	During warranty/Defect liability period the contractor will deploy at least one Qualified Technical Support Engineer round the clock at Central NMS NOC, Mumbai Central, for service provisioning, Node installation, troubleshooting and updating, providing field support, Patch and backup Management, performance reporting and improvement recommendations for the systems & to assist during failures. Contractor will make sure that Technical Support Engineer can be easily contacted through telephones/Cell Phones at any time.

2.11	Penalty :																		
2.11.1	The failures/incidences during warranty/defect liability period are divided in to 5(Five) categories as defined in the following table. <table><tr><th>Category</th><th>Severity Type</th><th>Impact</th></tr><tr><td>S1</td><td>Super Critical items / failures</td><td>Complete Failure of LERs, LSRs, Main NMS (Item 4.5 Ch.4), All types of Servers, (Complete shutdown of a particular service/system)</td></tr><tr><td>S2</td><td>Critical items / failures</td><td>Failure or performance degradation of FXS gateways, TCCS Gateway, Controller & Testroom Consoles, TCCS NMS, Workstations, Control IP Phones, Client PCs, 10 KVA UPS, 5KVA UPS</td></tr><tr><td>S3</td><td>Less Critical items / failures</td><td>Failure or performance degradation of E1 cards, IO Sensors, Rack with cooling system, LER Control card, 10/100/1000 SFPs, VRLA Batteries, SMPS based Charger, Event notification Gateway, SPDs</td></tr><tr><td>S4</td><td>Non Critical items / failures</td><td>Failure or performance degradation of L2 Switches, LED/LCD monitors, PMTs, Mobile application, Software for SMS/email, various types of cables & patch cords, LIUs, Furniture etc. Redundant servers.</td></tr><tr><td>S5</td><td>Qualified Technical Support Engineer at MMCT</td><td>Unavailability.</td></tr></table>	Category	Severity Type	Impact	S1	Super Critical items / failures	Complete Failure of LERs, LSRs, Main NMS (Item 4.5 Ch.4), All types of Servers, (Complete shutdown of a particular service/system)	S2	Critical items / failures	Failure or performance degradation of FXS gateways, TCCS Gateway, Controller & Testroom Consoles, TCCS NMS, Workstations, Control IP Phones, Client PCs, 10 KVA UPS, 5KVA UPS	S3	Less Critical items / failures	Failure or performance degradation of E1 cards, IO Sensors, Rack with cooling system, LER Control card, 10/100/1000 SFPs, VRLA Batteries, SMPS based Charger, Event notification Gateway, SPDs	S4	Non Critical items / failures	Failure or performance degradation of L2 Switches, LED/LCD monitors, PMTs, Mobile application, Software for SMS/email, various types of cables & patch cords, LIUs, Furniture etc. Redundant servers.	S5	Qualified Technical Support Engineer at MMCT	Unavailability.
Category	Severity Type	Impact																	
S1	Super Critical items / failures	Complete Failure of LERs, LSRs, Main NMS (Item 4.5 Ch.4), All types of Servers, (Complete shutdown of a particular service/system)																	
S2	Critical items / failures	Failure or performance degradation of FXS gateways, TCCS Gateway, Controller & Testroom Consoles, TCCS NMS, Workstations, Control IP Phones, Client PCs, 10 KVA UPS, 5KVA UPS																	
S3	Less Critical items / failures	Failure or performance degradation of E1 cards, IO Sensors, Rack with cooling system, LER Control card, 10/100/1000 SFPs, VRLA Batteries, SMPS based Charger, Event notification Gateway, SPDs																	
S4	Non Critical items / failures	Failure or performance degradation of L2 Switches, LED/LCD monitors, PMTs, Mobile application, Software for SMS/email, various types of cables & patch cords, LIUs, Furniture etc. Redundant servers.																	
S5	Qualified Technical Support Engineer at MMCT	Unavailability.																	
2.11.2	Penalty calculation: Penalty for failure or performance degradation of equipments categorized as per above table shall be as follows Category S-1 : The firm shall ensure 24X7 uptime availability of these Super critical items. The firm shall attend and rectify the failure of these critical items within 5 Hrs. from the lodging of complaint on all days including SUNDAY and HOLYDAYS. In case the firm fails to attend and rectify the failure within the permitted time, then penalty of Rs. 500/- per hour shall be imposed from the time of lodging of complaint. Category S-2: The firm shall ensure 24X7 uptime availability of these critical items. The firm shall attend and rectify the failure of these critical items within 10 Hrs. from the lodging of complaint on all days including SUNDAY and HOLYDAYS. In case the firm fails to attend and rectify the failure within the permitted time, then penalty of Rs. 300/- per DAY will be imposed from the time of lodging of complaint. This will progressively increase to Rs. 600/- per day after 3 days and then Rs. 900/- per day after 7 days from the time of lodging of complaint. Category S-3: The firm shall ensure 24X7 uptime availability of these Less critical items. The firm shall attend and rectify the failure of these items within 12 Hrs. from the lodging of complaint on all days including SUNDAY and HOLYDAYS. In case the firm fails to attend and rectify the failure within the permitted time, then penalty of Rs. 200/- per DAY will be imposed from the time of lodging of complaint. This will progressively increase to Rs. 400/- per day after 3 days and then Rs. 600/- per day after 7 days from the time of lodging of complaint.																		

	Category S-4: The firm shall ensure 24X7 uptime availability of these noncritical items. The firm shall attend and rectify the failure of these items within 15 Hrs. from the lodging of complaint on all days including SUNDAY and HOLYDAYS. In case the firm fails to attend and rectify the failure within the permitted time, then penalty of Rs. 100/- per DAY will be imposed from the time of lodging of complaint. This will progressively increase to Rs. 200/- per day after 3 days and then Rs. 300/- per day after 7 days from the time of lodging of complaint. Category S-5: In this category, one qualified Technical Support Engineer should be kept available round the clock at CNOC, Mumbai Central. In case of unavailability of this Maintenance Engineer, Railway may at its discretion impose a penalty of Rs. 250/- per Hour. Maximum overall penalty deductible shall not be more than 10% of the final Contract value. Penalty on account of above, if any, shall be deducted after completion of warranty/defect liability period from Security deposit. Note :- i. No penalty shall be imposed if fault is on railway account. (It is to be certified by Site In charge & counter signed by Engineer in charge). ii. No penalty shall be imposed in case the equipments become defective due to flood / agitation or any other natural calamity. iii. If Railway is forced to rectify the fault, due to no action taken by the contractor then cost incurred will be recovered & suitable penalty shall be imposed.
2.11.3	Failure to replenish the spare stock of the Railways, utilized by the contractor for the purpose of rectification of any failure within 15 days, will invite a penalty of 5% of the cost of the Railway's spare / installed Item per week or part thereof up to 3 months. Beyond three months, Railway will be free to procure the spare items at risk and cost of the contractor. Permission to use Railway's spare stock supplied against the contract does not absolve contractor of his responsibilities of keeping his additional spare stock also for immediate attending to defects
2.12	Observation Period: One Month from the date of commissioning (Separate for each Division).
2.13	Railway shall provide :
2.13.1	Electric Power Supply as per extant rule.
2.13.2	Location for installation, Space for the installation of equipments & wiring work.
2.13.3	Fiber between stations.
2.14	Training :
2.14.1	The contractor shall provide comprehensive training for IP-MPLS and IP based TCCS as per the details mentioned in chapter 4. Training for all 6 Divisions to be provided separately in each Division as per item in respective Schedule of that Division.
2.14.2	In addition, training for IP exchanges for 5 men-week to be provided in every Division.
2.15	System of tendering (Two Packet system – Reverse Auction) :
	Two packets with Reverse Auction system of Tendering is applicable for this tender. The Bid shall be submitted online at IREPS under a Two-Packets System.

	Tenderer(s) are required to submit two bids viz. Technical Bid & Financial Bid. Technical Bid : All documents as mentioned in Para 5.6 of tender document, to be uploaded Financial Bid : Offer rates as per Para 5.9 of tender document Reverse auction : After the Opening of Financial bids, Electronic Reverse Auction will be carried out in accordance with Railway Board guidelines issued vide letter no. 2017/Trans/01/Policy/Pt-S, Dtd. 28.03.2018.
2.16	The following Documents to be submitted by the bidder mandatorily, otherwise offer shall be summarily rejected. 1. If the Bid Security is submitted in the form of Bank guarantees (BG), then scanned copy of that BG needs to be uploaded with the bid on e-tendering portal (IREPS) and original BG to be delivered in person within 5 working days before closing date for submission of bids. 2. Tenderer must submit all the necessary documents to ensure compliance of Clause No. 15 of Tender form (Second sheet) of Tender document. 3. A copy of certificates as per Annexure-II and Annexure-II(A) of Tender document. 4. Technical Eligibility Criteria : The documents shall be submitted as per format-5 as per tender clause No. 10.1 of Tender Form (Second Sheet) of Tender document. 5. Financial Eligibility Criteria : The documents shall be submitted as per format-6 as per tender clause No. 10.2 of Tender Form (Second Sheet) of Tender document. 6. Bid Capacity:(Applicable for Works costing more than Rs.20 Cr.) The documents shall be submitted as per clause nos. 10.3 of Tender Form Second sheet including Format-8. 7. Make, Model & Local content as per format-15 (Clause-5.19) 8. Certificate regarding local content from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing Chartered Accountant (in respect of suppliers other than companies). 9. For LERs and LSRs (covered under 4.2&4.3) i. The router offered by OEM/same series/family of router with an installed quantity of at least 15% of scheduled quantity (i.e. 101 no's) should have been satisfactorily working in Government/ PSUs/ Telecom Service Providers in India, as on date of opening of the bid. Declaration from OEM in this regard to be given& also end user details of such installations to be provided. ii. The Router OEM should have facilities for engineering, assembly, integration testing, Repair, Service Center Support and spare depot in India. iii. Tender specific authorization certificate (MAF) from the Router (LER/LSR) OEM is required for the bidder to participate in the bid. The MAF certificate should be as per the Format-14. iv. MTCTE certification for LER and LSR as per relevant TEC ER.

2.17	Proof of Concept:(For items at para 4.2& 4.3)
	i. In order to be successful in the evaluation of the technical bid, bidder has to successfully demonstrate the proposed solution. Advice to begin the POC shall be issued within 7 days of the opening of the tender. The Proof of Concept shall be demonstrated at OEMs / Purchasers place or as decided by Railway. The Purchaser will not be liable to pay/reimburse any type of cost incurred by the successful bidder pertaining to the PoC. ii. Offered make and model of equipment for the PoC must be the same which is proposed/quoted in the technical bid by the bidder and the same should be supplied. Para wise compliance for the asked specifications against the said equipment in chapter 4 should also be submitted. iii. POC shall be done in accordance with RDSO DocumentNo.STT/TAN/IP-MPLS/2020 Version 2.0. iv. If successful POC has been carried out for same offered router in any other Railway, then that router may be exempted from conduction of POC, based on documents submitted in support of successfully completed POC.
2.19	Advances to Contractor is applicable in this tender and shall be dealt with as per clause no. 46.4 of GCC. Rate of simple interest will be applicable.
2.20	Digging in the vicinity of existing Railway cables : Guidelines issued by Railway Board vide letter no. 2021/Tele/5(2)/3-Part(1)(3425647), Dtd. 12.06.2023, for undertaking digging work in the vicinity of Signalling, Electrical and Telecommunication cables, need to be followed during digging/trenching work in the vicinity of Railway tracks. Penalty in the event of existing cables getting damaged will be payable by the Contractor.

For Divisional Railway Manager (S&T)
Mumbai Central, Mumbai – 400008,
For and on behalf of President of India

Chapter-3

SCHEDULE OF MATERIAL AND WORKS

The Schedule of works and material is available on IREPS portal. Before quoting the rates, tenderer should go through the following notes:

1. Drawings & RDSO specifications referred should be as mentioned under technical specifications. Decision of Engineering-in-charge shall be final in case of any discrepancy.
2. The schedule of material & works should be read with Special conditions as given in Chapter-2 and Technical requirements & Specifications as given in Chapter-4 of the Tender Document. All material, installation & maintenance should be as per technical requirements & Specifications given in Chapter-4. In addition to this, the contractor should also carry out installation, Commissioning & maintenance as per Principal's (OEM's) Manual (if any).
3. Tenderer shall not quote rate for individual items.
4. Tenderer should only quote percentage above or below the Railway's total estimated cost.
5. Rate quoted by the Tenderer should include all Taxes & duties.
6. The cost of supply of minor materials and accessories other than specified in the tender document but necessary for Installation & required to make the system operational should be included while quoting the rates.
7. Various latest guidelines issued by Western Railway should be strictly adhered to and should be followed meticulously for the said work.

Except the amount printed in rates, sub-total & total amount of above schedule of work, if at any place in tender documents any mistakes due to printing will be found in description of items, specifications, drawing, etc. & terms & conditions in tender document, the Railway has full power to rectify the same which will be binding for Contractor to agree the same after rectification. In this regard, the decision of Railway will be final and no any argument will be accepted from Contractor side.

For Divisional Railway Manager (S&T)
Mumbai Central, Mumbai 400 008
For and on behalf of the President of India

CHAPTER - 4

TECHNICAL REQUIREMENTS & SPECIFICATIONS

TECHNICAL REQUIREMENTS & SPECIFICATIONS

4.0 GENERAL

- 4.0.1 The work involves implementation of IP MPLS, VOIP based TCCS and VOIP exchanges along with provision of LAN infrastructure. The work also caters for the replacement of overaged UTN routers. The specifications of various items taken in the work are discussed below.
- 4.0.2 Tentative/Indicatives schematic connectivity diagram of proposed network for a Division and NMS architecture is provided at Annexure –V& Annexure – VI.
- 4.0.3 Licenses wherever applicable should be perpetual in nature.

4.0.4 Mandatory requirements for LERs, LSRs and NMS (covered under 4.2&4.3)

- In order to ascertain past performance of Routers and capability of the OEM in accordance with Procurement manual issued by Ministry of Finance, Department of expenditure, the router offered by OEM/same series/family of router with an installed quantity of at least 15% of scheduled quantity (i.e., 101 no's) should have been satisfactorily working in Government/ PSUs/ Telecom Service Providers in India, as on date of opening of the bid. Declaration from OEM in this regard to be given& also end user details of such installations to be provided.
- The Router OEM should have facilities for engineering, assembly, integration testing, Repair, Service Center Support and spare depot in India.
- All the Routers shall be of the same OEM. Tender specific authorization certificate (MAF) from the OEM is required for the bidder to participate in the bid. The MAF certificate should be as per the **Format-14**.
- TEC certificate for router. Proof of which needs to be enclosed along with MAF.

4.1 SPECIFICATION OF 16 PORT E1 CARDS ALONG WITH PATCH PANEL/KRONE MODULE AND WIRING FOR ROUTERS WITH ALL ACCESSORIES ETC. :

Supply testing, installation and commissioning of 16 Port E1 Card (2 X 8 port or 1 X 16 Port)for the LER Routers as per RDSO DocumentNo.STT/TAN/IP-MPLS/2020 Version 2.0, along with supply fixing, termination and testing of patch panel/krone module, wiring, connectors and cable and all the accessories required for installations. The make of the modules shall be same as that of LER Routers to ensure reliable function (same or compatible with).

4.2 SPECIFICATION OF STANDARD 19" RACK MOUNTABLE LER (Label Edge Router) :

It shall be as per RDSO DocumentNo.STT/TAN/IP-MPLS/2020 Version 2.0, except for Optics (SFP) of 4X10G optical ports shall be bi-directional. However, provision of optional STM1 interface is not required.

4.3 SPECIFICATION OF STANDARD 19" RACK MOUNTABLE MODULAR CHASSIS LSR (Label Switch Router) :

It shall be as Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0, except for Optics (SFP) of 8X10G optical ports shall be bi-directional.

4.4 INSTALLATION, COMMISSIONING & TESTING OF LER & LSR MPLS ROUTERS:

Installation, Commissioning & Testing of LER & LSR IP MPLS Routers including supply & Installation of all the accessories like Power cable, Earthing Cable, Optical Patch Cords of 3 mtr- 6 Nos. for LERs & 10 Nos. for LSRs, Cat 6 Patch Cords of 1 mtr -4 Nos, one 6A MCB for each LER and LSR, wiring etc. as required for Router's installation. All routers should be configured in all respects as per site requirement and site incharge.

4.5 SPECIFICATION OF NETWORK MANAGEMENT SYSTEM(NMS):

It shall be as Per RDSO Document No. STT/TAN/IP-MPLS/2020 Version 2.0.

System (NMS/EMS) inclusive of Software, Hardware and Perpetual Licenses for Minimum 10000 Network Elements including IP MPLS Router, L3 Switches, L2 Switches, Gateways and other network elements with SNMP support

Hardware configuration for both active and standby server as given below

Processor	Each server should be configured with 2 nos (Dual) 20 Core Intel Xeon processor.
Hard Disk	The server should have up to 8 front-accessible, hot-swappable, SAS, SATA or SSD drives loaded with 3 Nos of 8TB SAS HDD with at least 10K RPM
	Express Flash (2.5"), SAS SSD, SATA SAD, SAS (15K, 10K), nearline SAS (7.2K, SATA (7.2K)
Raid Controller	Server RAID controller should support the following configurations RAID 0, 1, 5, 6, 10 support or latest available
+Internal Card for Sd slot	Must have an internal slot for SD card / Flash which supports booting hypervisors
Memory	Should have at least memory with the 4 X64 GB memory module. The server should be populated with 256 GB memory.
Ethernet Port	Should have 4 * 1 GbE LAN on Motherboard (LOM) for network connectivity
PCI Express Slot	Each server should offer 2 PCI Express (PCIe) 3.0 slots.
Management	The server should support Intelligent Platform Management Interface (IPMI) 2.0 support for out-of-band management through third-party enterprise management systems The server should support Command-line interface (CLI) for server management
Ports	Should have the following ports for server connectivity: USB ports 6 Nos VGA video port 1 No,
Operating System	Windows or Linux
Monitor	24" LED Full HD Monitor for both server.
Key Board	Optical Key board Mouse for both servers.
Power Supply	Hot swappable redundant power supplies
Cooling Fans	Hot swappable redundant fans
Warranty	3 Years Warranty.

4.6 SPECIFICATION OF PC WORKSTATION / MAINTENANCE CONSOLE:

Supply & installation of PC Workstation/ Maintenance Console and it shall comply with RDSO Document No. STT/TAN/IP-MPLS/2020 Ver 2.0.

4.7 TRAINING

The contractor shall provide hands on training and training by OEM/OEM training partner with detailed course material on the installed equipment related to IP-MPLS system and Main NMS, including software covering at least the following,

- i) Introduction to EMS & NMS, Routers, NMS Servers.
- ii) Configuration and operation of Networking Equipment, Router, NMS/EMS, Servers and other equipment etc. supplied under the project.
- iii) Troubleshooting and preventive maintenance.
- iv) Training on operation of IP MPLS & NMS system.

4.7.1 All equipment used for training shall be identical to those quoted and supplied for site installation in hardware and software versions.

The training course shall be conducted at the OEM/OEM's authorized partners' premises from where the respective equipment/subsystems are manufactured/ offered/assembled or at full-fledged training facilities or at railway premises, as decided by competent authority.

4.7.2 Training Manual:

Sets of training manuals in hard copies & soft copies containing details of technical specification, installation & commissioning, troubleshooting & maintenance schedule etc. shall be provided by the contractor. Consolidated and comprehensive documentation shall be made available to each participant.

4.8 SPECIFICATION OF 55-INCH FULL HD MONITOR (WITH 3 YEARS WARRANTY):

Supply and installation 55-inch full HD monitor (with 3 years warranty)

- 1. Display Size: 55 inch
- 2. Screen Type: LED
- 3. Smart TV: YES
- 4. No of HDMI Port: 2 or more
- 5. No of USB Port: 2 latest or more
- 6. Built in Wi-Fi: YES
- 7. Ethernet (RJ45): 1 or more
- 8. Analog Audio Input: YES
- 9. Speaker Output RMS: 20 W or higher
- 10. Remote: YES
- 11. Android App support
- 12. Operating System Present: Android
- 13. Screen Mirroring: YES
- 14. Supported Video Formats:
MPEG1/MPEG2TS/AVCHD/MP4/AVI/WMV/LPCM/MP3/WMA/JPEG or any other

4.9 SPECIFICATION OF CRIMPED CAT-6 UTP PATCH CORD-2 Mtrs :

It shall be of good quality (LSZH) 2 mtr. length and of reputed make. Sample shall be approved from Consignee/ Engineer Incharge before supply. UTP CAT 6 cable jacket Low smoke Zero Halogen (LSZH), conductor Dia. 24 AWG, conforming to ANSI/TIA/EIA- 568-C.2

4.10 SPECIFICATION OF SINGLE MODE PATCH CORD LENGTH 3 Mtrs (LC-SC/SC-SC/LC-LC/FC-LC):

It shall be of good quality and of reputed make. Sample shall be approved from Consignee/ Engineer Incharge before supply.

Parameter	Unit	Measurement
Insertion loss(IL)	dB	<=0.2
Return loss (RL)	dB	>=50
Repeatability	dB	<=0.2
Changeability	dB	<=0.2
Operating temperature	°C	-35 to +70
Storage temperature	°C	-35 to +70
Fiber type		G657(A1/A2) / G652D
Fiber diameter	um	SM-9

4.11 BLOWING AND DRAWING OF OFC :

1. Optical Fiber Cable will be blown into pre-lubricated HDPE duct with the help of a compressor and blowing equipment.
2. The blowing method involves feeding of optical fibre cable into the duct with the help of consistent high – pressure airflow, equally distributed along the entire cable throughout the duct.
3. The contractor has to ensure the safe blowing of OFC into the duct without any damages to the cable either internally or externally.
4. If at any stage of the project, any damage to the cable due to blowing pressure is identified, then the contractor will be fully responsible for that and has to ensure the rectification of the damage without any cost implication to the Railway.
5. The contractor has to plan the location of blowing pits before laying of HDPE duct. The contractor has to ensure that excess OFC is not coiled in the blowing pit and also optical fibre cable does not fall short of the location of blowing pit. The contractor has to match the cable drum length with the location of blowing pits, to ensure minimum cut length and wastage of OFC.
6. HDPE ducts will be sealed with the help of cable sealing plugs after blowing of OFC into the duct at jointing pit locations.
7. The jointing pits will be completely filled with sand up to 30 cm, from bottom level of the pit to prevent entry of rodents after blowing and jointing of OFC covering joint enclosure and HDPE conduits completely.
8. It shall be done as per Railway practice and as per Site Engineer incharge and Officer incharge.

4.12 SPECIFICATION OF SWITCH BOARD TIP CABLE OF 10 PAIR 0.5 MM:

It shall be of annealed copper conductor, PVC insulated switch board telephone cable as per Specification No GR/WIR-06/03 Mar2002 or latest. It shall be of good quality and reputed make.

Note: Prior approval must be taken before the supply.

4.13 SPECIFICATION OF SWITCH BOARD TIP CABLE OF 20 PAIR 0.5 MM:

It shall be of annealed copper conductor, PVC insulated switch board telephone cable as per Specification No GR/WIR-06/03 Mar2002 or latest. It shall be of good quality and reputed make.

Note: Prior approval must be taken before the supply.

4.14 SPECIFICATION OF SWITCH BOARD TIP CABLE OF 50 PAIR 0.5 MM:

It shall be of annealed copper conductor, PVC insulated switch board telephone cable as per Specification No GR/WIR-06/03 Mar2002 or latest. It shall be of good quality and reputed make.

Note: Prior approval must be taken before the supply.

4.15 SPECIFICATION OF 24 FIBER ARMoured OPTICAL FIBER CABLE:

It shall be of as per specification RDSO Specification No.RDSO/SPN/TC/110/2020, Rev.0 or latest.

4.16 SPECIFICATION OF SINGLE MODE OPTICAL FIBER CABLE:

Optical Fibre Cable shall be Single mode, 6 core, Armoured cable compliance to TEC standards of reputed make.

Sample shall be approved from Consignee/ Engineer In charge before supply

4.17 SPECIFICATION OF POWER CABLE:

Flexible PVC insulated 3-core x 2.5 sq. mm multi strand power cables provided shall conform to specification no. IS: 694:1990 reaffirmed 1995 or latest.

Sample shall be approved from Consignee/ Engineer In charge before supply.

4.18 SPECIFICATION OF CAT-6 CABLE.:

It shall be of reputed make.

Sample shall be approved from Consignee/ Engineer Incharge before supply.

Type	Unshielded Twisted Pair, Category 6, ANSI / TIA -568-C.2 complied
Conductors	24 AWG solid bare copper
Insulation	Polyethylene
Separator	Cross shaped separator between pairs.
Jacket	Flame Retardant PVC - Must for Safety Compliance
Approvals	UL Listed
	ETL verified to ANSI / TIA 568-C.2 Cat 6
Packing	Box of 305 meters

4.19 SPECIFICATIONS FOR DIGGING OF TRENCH:

1. Trenches for telecom cable shall normally be dug to a (depth of 1200 mm X width (300 mm-600mm). In places where underground pipes, electric power cable etc.comes in the way, trenches shall be dug as per site requirement and R.C.C.pipes/adequate protection shall be placed to protect the telecom cables.
2. In case if trench size varies from above mentioned dimension than proportionate payment shall be made accordingly.
3. Metalled, concrete, and stone paved roads shall also be cut to a depth of 800 mm and width of 300 mm.
4. Where the direction of trench has to change, it should be done in a gentle curve of not less than one meter radius.
5. It shall be done as per Railway practice, as per Site Engineer in charge and as per Officer in charge

Back filling of trenches.

1. The back filling of trenches shall be done by tamping and consolidating the excavated soil in layers of 15-20 cm at time. All the soil that is excavated shall be put back to the trench and care shall be taken in consolidation to ensure that the back filling does not suffer any sink age in monsoon. The left out earth if any within station limit has to be thrown out from Railway premises by the contractor at his own cost.
2. Planting of cable route markers at the interval of 30 to 50 mtrs.
3. It shall be done as per Railway practice, as per Site Engineer in charge and as per Officer in charge

4.20 SPECIFICATION OF PVC MINI TRUNKING OF SIZE (50 MM×50 MM):

The PVC Mini Trunking of 2-meter length of size 50 mm×50 mm shall be of good quality and reputed make preferably in White color. Proof of purchase from original manufacturer/Authorized dealer should be submitted along with supply of material with ISI mark 14927.

(This includes all materials, clamps etc required for laying, fixing and clamping).

Note: Prior approval must be taken before the supply.

4.21 SPECIFICATION OF FURNITURE:

Supply of Desk /workstation furniture, 1 table (Size-30"×48") & 2 Chairs as per site requirement and as per site in charge.

4.22 SPECIFICATION OF PLB HDPE DUCT OF SIZE 40/33 MM OUTER AND WITH ALL ACCESSORIES :

PLB HDPE Duct of Size 40mm outer dia along with all Accessories as per RDSO Spec No. RDSO/SPN/TC/45/2013 Rev 2.

4.23 SPECIFICATION OF HORIZONTAL DRILLING:

Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long. This includes insertion of different dia DWG pipe/ GI pipes coupling etc. as per direction of Engineer In charge and as per technical specification.

Note : Pipe will be supplied by railway. Contractor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable.

4.24 SPECIFICATION OF I/O SENSOR:

It should consist of the following features.

- Battery terminal voltage to compute the battery health
- Charger Status.
- OFC Room temperature and humidity.
- AC power status.
- Door Closure-Open of OFC hut

Processor

- Microchip SAM E53 micro-controller, 32-bit ARM OR BETTER

Memory

- 32 MB Flash, Serial 2KB EEPROM OR BETTER

Software

- Protocol Stack: IPv4, DHCP Client
- Preloaded Free RTOS, LwIP stack
- Modbus TCP slave (Ethernet) or Modbus RTU slave (RS485)
- Protocol converter mode-Modbus TCP slave (Ethernet) and Modbus RTU master (RS485)
- HTTP Web server for configuration and status
- Software upgrade from web based GUI

Connectivity

- Network Interfaces-x10/100 Mbps Ethernet, RJ45 Connector

4.25 SPECIFICATON OF L-2 SWITCH WITH 24 BLANK SFP SLOTS AND FOUR SLOTS FOR UPLINK WITH REDUNDENT POWER SUPPLY.

It shall be of good quality and reputed make.

Sample shall be approved from Consignee/ Engineer Incharge before supply.

Should have minimum 24 x GE SFP based ports
Should have minimum 4 nos. SFP+ based 10 GE ports.
Should have at least 128 Gbps full duplex line rate traffic.
The LAN switch shall have minimum packet forwarding rate of 95.24 million packets per second at 64-byte packet length.
The LAN switch shall support minimum 16000MAC addresses.
There shall be 1K IGMP groups.
The switch should be stackable with a minimum stacking bandwidth of atleast 80 Gbps. It should support stacking of atleast 4 units or higher or Virtual Switching System (VSS) or Equivalent technology. For stacking the switches shall be either dedicated stack ports or Ethernet uplink ports.
The switch shall be able to work on both IPv4 and IPv6 (dual stack) from day one.
All ports in the switch shall operate at wire-speed / line-rate.
9 The switch shall support 19-inch rack mounting.
Should have AC power supply arrangement as given below in chassis without any external adaptors with redundant power supply (RPS):AC power supply 100 to 240 V AC with 50 to 60 Hz.
Layer - 2 Features:
The LAN switch shall support IEEE 802.1Q VLAN encapsulation. Minimum 255 VLANs per switch and up to 4094 VLAN IDs.
It shall support for Automatic Negotiation of link speed and duplex to help minimize the configuration & errors
It shall support centralized VLAN Management. VLANs created on the Core Switches shall be propagated to all the other switches automatically, thus reducing the overhead of creating / modifying / deleting VLANs in all the switches in turn eliminating the configuration errors & troubleshooting.
It shall support edge port in STP/RSTP/MSTP mode and Ethernet Ring Protection Switching (ERPS) (ITU-T G.8032).
It shall support 802.1d, 802.1p, 802.1Q, 802.1s, 802.1w, 802.1x, 802.1ab, 802.3ad.
It shall support spanning-tree root guard or any other industry standard protocol to prevent other edge switches becoming the root bridge.

It shall support IGMP snooping v1, v2 and v3.
It shall support Link Aggregation Protocol (LACP).
It shall Support for Detection of Unidirectional links and to disable them to avoid problems such as spanning tree loops and support Unidirectional Link Detection (UDLD) or equivalent.
It shall be able to discover the neighbouring device of the same vendor giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems.
It shall support Optical Transceiver Digital Diagnostic Monitoring and Support 802.3ah link layer remote loopback and discovery, Loopback Detection (LBD) and Switch should support 802.3ah link layer remote loopback and discovery.
It shall support Multicast VLAN registration.
It shall support Local Proxy Address Resolution Protocol (ARP) works in conjunction with Private VLAN Edge to minimize broadcasts and maximize available bandwidth.
It shall support LLDP / LLDP-MED including client location information. It shall exchange link and device information in multi-vendor networks.
It shall support configuration replacement and rollback to replace current configuration with any saved configuration file.
It shall support link state tracking which provides layer 2 redundancy in the network when used in conjunction with server teaming or any other industry equivalent protocol. It shall support configurable maximum transmission unit (MTU) of up to 9000 bytes, with a maximum Ethernet frame size of 9018 bytes (Jumbo frames) for bridging on Gigabit Ethernet ports.
It shall support auto sensing speed on 10/100/1000 ports, auto negotiating half/full duplex on all ports and Auto-Medium Dependent Interface Crossover (MDIX).
QoS Features: The LAN switch shall have per-port broadcast, multicast, and unicast storm control.
It shall have standard 802.1p CoS and DSCP classification using marking and reclassification on a per-packet basis by source and destination IP address, source and destination MAC address, or Layer 4 TCP or User Datagram Protocol (UDP) port number.
It shall have supports QoS Flow Actions, Remark 802.1p priority tag, TOS/DSCP tag, Bandwidth Control and Three Color Marker.
It shall have no performance penalty for highly granular QoS functions.
There shall be four egress queues per port to enable differentiated management of up to four traffic types.
There shall be weighted Random Early Detection (WRED) to provide congestion avoidance.
There shall be strict priority queuing mechanisms.
Rate limiting will be based on rate of traffic per second.
There shall be support for Asynchronous data flows upstream and downstream from the end station or on the uplink using ingress policing and egress shaping.
It shall have supports L2/L3/L4 QoS/CoS solutions help ensure that critical network services such as VoIP, ERP, Intranet, and video conferencing are served with proper priority.
Network Security Features: The LAN switch shall support IEEE 802.1x to allow dynamic, port-based security, providing user authentication.

The LAN switch shall support for Admission Control features to improve the network's ability to automatically identify, prevent, and respond to security threats and also to enable the switches to collaborate with third-party solutions for security-policy compliance and enforcement before a host is permitted to access the network.
It shall support port-based ACLs (PACLs) for Layer 2 interfaces to allow application of security policies on individual switch ports. It shall also support VLAN based filters. It shall support unicast MAC filtering to prevent the forwarding of any type of packet with a matching MAC address. It shall support Unicast and Multicast MAC addresses and associated VLANs.
It shall support unknown unicast and multicast port blocking to allow tight control by filtering packets that the switch has not already learned how to forward. 5.5.6 It shall support IGMP filtering which shall provide multicast authentication by filtering out no subscribers and limits the number of concurrent multicast streams available per port.
It shall support for SSHv2, SNMPv3 to provide network security by encrypting administrator traffic during Telnet, SSH and SNMP sessions.
The switch shall support 2 sessions of Port Mirroring based on port basis / VLAN basis to support intrusion prevention system deployment in different VLANs. It shall support bidirectional data on mirror port which allows IDS to take action when an intruder is detected.
It shall support RADIUS authentication to enable centralized control of the switch and restrict unauthorized users from altering the configuration.
It shall support MAC address notification to allow administrators to be notified of users added to or removed from the network / It shall support SNMP Trap for new MAC notification.
It shall support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses. This can be used to prevent attacks that attempt to poison the DHCP binding database, and to rate limit the amount of DHCP traffic that enters a switch port.
It shall support DHCP Interface Tracker (Option 82) to augment a host IP address request with the switch port ID.
It shall support port security to secure the access to an access or trunk port based on MAC address. After a specific timeframe, the aging feature should remove the MAC address from the switch to allow another device to connect to the same port.
It shall support multilevel security on console access to prevent unauthorized users from altering the switch configuration.
It shall support BPDU filtering feature, to shut down Spanning Tree Protocol Port Fast enabled interfaces when BPDUs are received to avoid accidental topology loops.
It shall support Spanning-Tree Root Guard (STRG) to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes. It shall support for up to 1500 access control entries (ACEs) or any industry standard features.
Management: The LAN switch shall have CLI support to provide a common user interface and command set with all routers and switches of the same vendor. It shall have Remote Monitoring (RMON v1 and v2) software agent to support for enhanced traffic management, monitoring, and analysis. It shall have support for RMON groups through the use of a mirrored port, which permits traffic monitoring of a single port, a group of ports, or the entire switch from a single network analyzer or RMON probe. It shall have Time-Domain Reflectometer (TDR) or equivalent technology to diagnose and resolve cabling problems on copper ports.

It shall have layer 2 trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination or any other industry equivalent protocol.

It shall support Web based or Trivial File Transfer Protocol (TFTP) or File Transfer Protocol (FTP) to reduce the cost of administering software upgrades by downloading from a centralized location.

It shall support Simple Network Time Protocol/Network Timing Protocol (SNTP/NTP) to provide an accurate and consistent timestamp to all intranet switches.

It shall support RMON v1 and v2 standards.

It shall support SNMPv1, SNMPv2, and SNMPv3 and Telnet interface to deliver comprehensive in-band management, and a CLI-based management console to provide detailed out-of-band management.

It shall support IPV6 management. ACL and QoS and IPV6 Neighbour Discovery.

All Gigabit Ethernet ports support IEC 61000-4-5 surge protection (1kV or more). (External/Internal)

Loopback Detection (LBD) and Switch should support 802.3ah link layer remote loopback and discovery.

Switch should support Dying Gasp for quick trouble shooting during power failures or system shut downs.

4.26 STANDARD 19- INCH RACK MOUNTABLE 24 PORT MANAGED NON-POE SWITCH:

- This shall be fully loaded with SFPs modules, including mounting kit and all the accessories as per RDSO Specification NO. RDSO/SPN/TC/83/2020 Rev 2
- The switch should be populated and supplied with all the modules (Fully loaded 04 SFP Modules), connectors, and interfaces etc. Non-POE. The switch should be as per RDSO Specification No. RDSO/SPN/TC/83/2020 Rev.2.
- Switches shall be of reputed make.
- With Minimum 03 Years Warranty.
- Sample shall be approved from Consignee/ Engineer Incharge before supply
- All Switches to be installed in Racks and configuration and commissioning of switches as to be done as per requirement of site In charge and Engineer In charge.

4.27 SPECIFICATIONS OF 8 PORT L2 MANAGEABLE SWITCH:

1. 8 port L-2 manageable PoE switch ((Fully loaded 02 SFP Modules) as per RDSO specification No. RDSO/SPN/83/2014, Rev.1.0
2. It shall be good quality of make.
3. With Minimum 03 years Warranty.
4. Sample shall be approved from Consignee/ Engineer Incharge before supply.
5. All Switches to be installed in Racks and configuration and commissioning of switches as to be done as per requirement of site in charge and Engineer In charge.

4.28 SPECIFICATION OF GRP/FRP CABLE TRAY FOR OFC WIRING:

Supply & installation of GRP/FRP cable tray & Trough for OFC equipment room wiring.
Fixing of GRP/FRP cable tray in OFC room as per site requirement and as per site incharge.

4.29 LAYING OF 6 CORE OFC CABLE

- 4.29.1 Laying of 6 Core OFC Cable shall be through PVC casing capping /PVC rigid pipes. Fixing/Laying material shall be arranged by the contractor in the offered cost as per site requirement, as per officer in charge and site in charge
- 4.29.2 Fixing, termination and splicing of OFC cable in LIU and FDMS as per site requirement as per Site Engineer in charge and as per Officer in charge

4.30 LAYING OF PVC CABLE/ COAXIAL CABLE:

- 4.30.1 Laying of PVC cable / UTP-Cat-6 cable is to be done in PVC casing capping and PVC pipes. Fixing of casing capping/ PVC pipes is to be done by the contractor as per Railway practice and as per officer in charge and site in charge. Laying materials like 3way/4way junction box, T-joint, L-joint etc. as per site requirement shall be provided by the contractor.
- 4.30.2 Termination of cables in respective DP or equipment as per requirement as per Railway practice as per site in charge is to be done by the contractor.

4.31 LAYING OF HDPE PIPE:

PLB HDPE pipe shall be laid at bottom of the trench after making the surface smooth and providing 80 mm of sieved, stone free sand bedding. After laying the pipe additional sieved sand shall be added to increase the height of the sand layer to a total of 200 mm hence positioning the PLB HDPE pipe in the middle of the layer. In case of unavoidable rat infected areas along the finalised route, pebbles of dia 20 mm (nominal) shall be used in place of the sand. Other important steps are described as under:

- a) PLB HDPE Pipe shall be laid in a flat bottom of trench free from stones, sharp edged debris. Pipe shall not be laid in water filled trenches.
- b) The Pipe shall be placed in trenches as straight as possible. Minimum bending radius of pipe and fibre optic cable shall always to be taken into account.
- c) The ends of pipes shall always be closed with end plugs to avoid ingress of mud, water or dust i.e. all pipe opening shall be sealed to avoid entry of foreign material.
- d) The pipes shall be joined tightly & properly through plastic couplers and the joint shall be smooth and free from steps. The joints shall be made properly. All joints shall be assembled with proper tools only.
- e) Coupler shall not be placed along the bend portion of the pipe and hacksaw shall never be used to cut the pipe.
- f) Cable sealing plugs shall be provided at all manhole locations and at locations cable is coming out of the pipe and empty pipe ends i.e. all pipe openings shall be sealed to avoid entry of foreign objects.
- g) PLB HDPE pipes shall be installed in a manner that fibre optic cable can be pulled, blown, de-blown without damaging the fibre optic cable due to stresses. The Contractor shall get inspected, by a Engineer incharge and Site incharge of the Railway, all joints before carrying out the backfilling. Joints shall be visually inspected and checked for tightness.
- h) It shall be done as per Railway practice and as per Site Engineer incharge and Officer incharge.

4.32 SPECIFICATION OF LICENSE FOR I/O SENSOR:

Platform & application license for 104 stations or as per requirement of divisions. software with monitoring of each station with respect to user login SMS/Email notification custom report & mobile App support.

It shall be done as per site requirement and as per site incharge.

4.33 SPECIFICATION OF 24 PORT RACK MOUNTABLE LIU ALONG WITH ALL ACCESSORIES & ITS INSTALLATION :

LIU shall be of reputed make.

Sample shall be approved from Consignee/ Engineer Incharge before supply.

LIU shall be fitted in 19" Rack

LIU Shall have sufficient numbers of splicing Tray and other accessories as per requirement Nos. of fiber to be terminated. Minimum 24 fibers.

Splicing and termination of OFC in LIU box should be done with pig tails of 1Meter length with LC type connectors and required 24 nos.

4.34 SPECIFICATION OF 12 PORT RACK MOUNTABLE LIU ALONG WITH ALL ACCESSORIES & ITS INSTALLATION :

LIU shall be of reputed make.

Sample shall be approved from Consignee/ Engineer Incharge before supply.

LIU shall be fitted in 19" Rack

LIU Shall have sufficient numbers of splicing Tray and other accessories as per requirement Nos. of fiber to be terminated. Minimum 12 fibers.

Splicing and termination of OFC in LIU box should be done with pig tails of 1Meter length with LC type connectors and required 12 nos.

4.35 SPECIFICATIONS FOR 42U RACK WITH COOLING SYSTEM :

The Rack shall be standalone type of good quality and reputed make.

Rack of DK-PS Frame, 800W x 2000H x 1000D, Top Plane cover, Bottom cover with 4 x cutout with rubber grommet for cable entry. 2 pairs, 42 U 19" L type angle, Front & Rear, on Vertical Cable Trough (LH & RH) 2 Pair, on 6 punched sections. RAL 7035

- Front Glass Door & Rear Plain Split Door with Locks, RAL 7035
- Set of Side panels of 2000H x 1000D, Screw fixed type with cutout for SK Cooling unit(3370916) on RHS as per std. RAL 7035
- 1U Cable Manager
- Component Shelf 720mm Deep for 900/1000 Deep Server Rack RAL 7035 (4 Nos)
- Cu Earth rail 150x3x500 with 10 Points with screws and insulators
- 5A/15A Socket strip having 10 Sockets with Indicator & switch also with 2.5 Mtr. long supply cable.
- Power chord with 16A plug
- Color: RAL9005 finish (LC)
- Base Plinth 100 mm 800X1000 with Cable entry
- Captive hardware (pack of 20)
- Foam inserts for vertical shielding, installed between racks. (Supply loose)
- Protection IP 54

Compact Cooling Unit: 2000W Cooling Unit

- Should have CFC free, eco-friendly refrigerant - R134a. Separate condenser and evaporator fan.
- External and internal circuit protection with IP 34 & IP 54 respectively
- Outdoor Unit Dimensions (WxHxD) mm should be 400x950x275, Weight 50 Kg max, should have provision to get it mount on the side panel of outer side of the rack and should not occupy internal space in the rack.
- Rated operating voltage should be 230 V, 50 Hz, Useful cooling output 2000W, Rated current 4.6 Amps. and start up current 22 Amps, Permissible operating pressure should be 27 Bar, Operating Temperature range - 20°C ~50°C.

4.36 SPECIFICATION OF 42 U 800 MM X 1200 MM RACK&ITS INSTALLATION:

The Rack shall be standalone type of good quality and reputed make.

19" 42U 1200mm Depth Server Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type.

a) Floor Standing Rack shall be of Size- 42 U

b) The 19" Rack structure should be made of 1.6 mm thick Mild Steel.

- c) Rack should have 1-No Front- Glass- Door of 4 mm thick covering entire length of the rack that should be fitted / pasted to Front –Door- Frame by using silicon sealant. The material thickness of the Front & Rear -Door Frame should not be less than 0.9 mm with a capability of opening up to 180 degrees approximately with locking arrangement, detachable & interchangeable hinges. Front & Rear Door should have Poly UrithaneGasketing. Rack should have Locks on all sides, which can be unlocked and open by single key.
- d) The thickness of Top-Cover & Bottom- Base material should be at least 1.2 mm. The Top Cover should have Cable –Entry holes of size 40 mm in diameter with Rubber Rings and suitable Gland Closure Plates.
- e) The Side Panels of the Rack should be detachable having ventilated fines flush fitted with Air filters up to 1/3 rd height to avoid of dust entry.
- f) The Power Distribution Channel (AC) should have 7 Nos. Sockets in 42U with switch of 5 Pin Type and 5 Amps capacity with common Fuse and Indicator. All the Sockets must be Industrial quality and reputed Make. Suitable capacity Mains 3 Core Cable of 3 Mts. Length with 15 Amp Mains Plug must be given with this box. Total quantity for this item is 2 -Nos. per Rack. The Socket should be mounted vertically on PVC base at back side of the Rack.
- g) Rack should have Heavy Duty Castors consisting of 2 -Nos. with Brake and 2- Nos. without Brake. The castors are to be mounted on a separate Plate.
- h) Rack should have 4- Nos. Cooling Fans of reputed Make or superior of 230 V AC Mains Rating with supply Cable and Plug, fitted directly inside the Top Cover.
- i) PVC Cable Channel of size 45 (H) X 800(W) mm of full rack length, 2- Nos per Rack to be supplied vertically at the Rear Side of the Rack in 42U. One No of 19" Cable Manager with 5- Hooks for Power Cable is required with each Rack. Cable Guides, Cable Ties, ties Holders cable Markers should be supplied for easy identification and lacing of Cable.
- j) 1- No Copper Earthing- Bar/Strip(Copper) of Cross Section 1" X ¼" to be provided horizontally on rear side of the rack full length of 19" Width with suitable tapping to be supplied with each Rack with min 10 Nos. of Copper Nut & Bolt.
- k) The Rack structure should be fully Powder Coated with combination of Dark & Light Grey shade. Doors-Frames should be in light Grey shade.
- l) Front Panel Mounting Hardware (One set consisting of 1 No Cup Washer, 1- No Cage Nut, and 1- No M6 Screw) set.
- m) The Rack should have two numbers of shelves.
- n) Installation of the rack is to be done as per instructions of the Engineer & Supervisor incharge.

4.37 SPECIFICATION OF 42 U 800 MM X 600 MM RACK&ITS INSTALLATION :

The Rack shall be stand alone type of good quality and reputed make.

19" 42U 600mm Depth Network Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type.

- a) Floor Standing Rack shall be of Size- 42 U
- b) The 19" Rack structure should be made of 1.6 mm thick Mild Steel.
- c) Rack should have 1-No Front- Glass- Door of 4 mm thick covering entire length of the rack that should be fitted / pasted to Front –Door- Frame by using silicon sealant. The material thickness of the Front & Rear -Door Frame should not be less than 0.9 mm with a capability of opening up to 180 degree approximately with locking arrangement, detachable & interchangeable hinges. Front & Rear Door should have Poly UrithaneGasketing. Rack should have Locks on all sides, which can be unlocked and open by single key.

- d) The thickness of Top-Cover & Bottom- Base material should be at least 1.2 mm. The Top Cover should have Cable –Entry holes of size 40 mm in diameter with Rubber Rings and suitable Gland Closure Plates.
- e) The Side Panels of the Rack should be detachable having ventilated fines flush fitted with Air filters up to 1/3 rd height to avoid of dust entry.
- f) The Power Distribution Channel (AC) should have 7 Nos. Sockets in 42U with switch of 5 Pin Type and 5 Amps capacity with common Fuse and Indicator. All the Sockets must be Industrial quality and reputed Make. Suitable capacity Mains 3 Core Cable of 3 Mts. Length with 15 Amp Mains Plug must be given with this box. Total quantity for this item is 2 -Nos. per Rack. The Socket should be mounted vertically on PVC base at back side of the Rack.
- g) Rack should have Heavy Duty Castors consisting of 2 -Nos. with Brake and 2- Nos. without Brake. The castors are to be mounted on a separate Plate.
- h) Rack should have 4- Nos. Cooling Fans of reputed Make or superior of 230 V AC Mains Rating with supply Cable and Plug, fitted directly inside the Top Cover.
- i) PVC Cable Channel of size 45 (H) X 800(W) mm of full rack length, 2- Nos per Rack to be supplied vertically at the Rear Side of the Rack in 42U. One No of 19" Cable Manager with 5- Hooks for Power Cable is required with each Rack. Cable Guides, Cable Ties, ties Holders cable Markers should be supplied for easy identification and lacing of Cable.
- j) 1- No Copper Earthing- Bar/Strip(Copper) of Cross Section 1" X ¼" to be provided horizontally on rear side of the rack full length of 19" Width with suitable tapping to be supplied with each Rack with min 10 Nos. of Copper Nut & Bolt.
- k) The Rack structure should be fully Powder Coated with combination of Dark & Light Grey shade. Doors-Frames should be in light Grey shade.
- l) Front Panel Mounting Hardware (One set consisting of 1 No Cup Washer, 1- No Cage Nut, and 1- No M6 Screw) set.
- m) The Rack should have two numbers of shelves.
- n) DC distribution panel shall be provided at the top with minimum 4 nos. of 6A MCBs.
- o) Installation of the rack is to be done as per instructions of the Engineer & Supervisor incharge.

4.38 SPECIFICATION OF 19" 9U RACK:

It shall be of good quality and of reputed make .It shall be loaded with all standard accessories like 2 nos. cooling fans, Front glass door, 1 modules of 6 Nos. of 230VAC sockets of 5 Amps, Earthing strip with standard nut-bolts, Door locks for front and side covers and cable managers. Installation of the rack is to be done as per instructions of the Engineer & Supervisor incharge

4.39 SPECIFICATION OF RE-JOINTING AND SPLICING OF OFC:

Opening of existing Joint enclosure and Splicing 2/4 additional fiber Inside already prepared jointing pit and providing anti termites/ant Powder. Closing of Existing Joint and Back filling is included. This does not Include provision of joint chambers, top plates.

It shall be done as per Railway practice and as per Site Engineer incharge and Engineerincharge.

4.40 SPECIFICATION OF 10/100/1000 BASET COPPER ETHERNATE TRANSCEIVERS SFP MODULE :

1. Compatibility - Multi-vendor Compatible
2. Copper SFP Transceiver Module
3. Max distance – 100 mtrs
4. Data Rate – 1000Base-T

5. Connector – RJ-45

4.41 SPLICING /DROPPING/TERMINATION OF EACH FIBER /PIGTAIL IN THE LIU/FDMS/IO BOX/TERMINATION JOINTS THROUGH FUSION SPLICING OF THE TERMINATION OF OFC CABLES :

Splicing /Dropping/Termination of each fiber /Pigtail in the LIU/FDMS/IOBox/Termination Joints through fusion Splicing of the termination of OFCables.The Fiber termination shall be tested and the test Report (SoftCopy)in CDs or any USB Storage shall be submitted to the site Engineerforrecords.Each fiber shall be properly marked with necessaryferrules/tags.
It shall be done as per Railway practice and as per Site Engineer incharge and Engineer incharge.

4.42 SECIFICATION OF GI PIPES – 50MM DIA -3.65MM THICK, ALONG WITH CLAMPS AND ALL THE ACCESSORIES.

Supply,fixing of GI Pipe (50 mm dia 3.65mm thick) as per IS-1239Part I or latest Medium Grade, including couplers, for laying of Cable to the Platform shelter from ground level. Entry of cables will be advised by the site in charge of the Railway and extended by suitable diaHDPE/Flexible PVC Pipe on either side as required as per site requirement this includes making of bottom concerting for support and required clamps for fixing and accessories as per site requirement

4.43 SPECIFICATION OF DWC PIPE:

Supply and Laying of DWC Pipe 77/63 mm dia with couplers & required accessories as per RDSO Spec No. RDSO/SPN/204/2011 Version 1.1 and as per the direction of site Engineer and as per site requirement.

4.44 SPECIFICATION OF SURGE PROTECTION DEVICE FOR LAN NETWORKS:

Supply and Provision of indicative type Surge Protection Device, with Potential Free contacts as per RDSOSpec. No.RDSO/SPN/98/2011 (Rev.0) or latest. Clause 5.5 of RDSO/SPN/98/2011 (Rev.0) for Non POE switches and 5.6 for POE switches.All other miscellaneous materials required forinstallation shall be supplied by the contractor.

4.45 TRANSPORTATION OF MATERIAL:

Transportation of S&T materials by road as per the instruction of railway representatives at site. The work also include loading and unloading of the materialsupto 100kms.
It shall be done as per instruction of Site incharge and Engineer incharge.

4.46 Deleted**4.47 SPECIFICATION OF 2X10 KVA UPS AT LEAST 1 HOUR BACK UP IN FULL LOAD CONDITION, CONNECTED IN PARALLEL REDUNDANT MODE IN SEPARATE CHASSIS. COMPLETE WITH ALL ACCESSORIES.**

2X10 KVA UPS shall be of good quality and reputed make. This also includes supply of two set Maintenance Free battery of suitable AH capacity of reputed make, Rack and one set compatible MCBs complete with cover & fixing materials, one earth leakage circuit breaker arrangement.

4.48 SPECIFICATION OF FXS GATEWAY (8 PORT)

- Should be possible to mounting a standard 19" rack and 600mm x 600mm. All mounting hardware for the same shall be supplied.
- Should have at least 8 FX Sports for connecting analog phones.
- Should support SIP as per RFC 3261.
- Should support T.38 Fax Pass through over IP.
- It should support voice codecs: G.711(a-law/p-law), G.723.1, G.729a, G.726.
- Should support IPv4 and IPv6.
- Should have one Gigabit Ethernet port to connect to LAN.
- Should support IEEE 802.1q based VLAN tagging.
- Should support caller ID presentation on the analog phones when working with the SIP server provided.
- Should support comfort noise generation for comfortable telephony.
- Should support SIP registration with at least two SIP servers — primary and secondary and should have the capability to use the secondary SIP server on case primary SIP server is not available.
- Subscribers connected to FXS gateway should be able to dial each other in case connectivity to SIP servers is lost. (Fall back feature)
- Should have inbuilt dial planner for simple call routing capabilities.
- Should have a Telco connect to terminate the FX Sports on an IDF for further wiring.
- Should be possible to configure the gateway using telnet/SSH/HTTP.
- Should support Configuration Backup/Restore.
- Should support SNMP management.
- Should support remote logging through syslog server.
- The FX Sport shall support up to a distance of 5km (minimum) over P11F copper cable of 0.5mm dia.
- It should work on 230V AC Power supply.
- OEM should be ISO 9001:2015 and ISO 14001:2015 certified.
- Should have regulatory compliance of UL/FCC/CE/TEC.
- Should have EMC certification from any NABL accredited lab which is designated by TEC for safety testing of Telecom & IT products.

4.49 SPECIFICATION OF FXS GATEWAY (48 PORT)

- Should be possible to mounting on a standard 19" rack and 600mm x 600mm. All mounting hardware for the same shall be supplied.
- Should have at least 48 FX Sports for connecting analog phones.
- Should support SIP as per RFC 3261.
- Should support T.38 Fax Pass through over IP.
- It should support voice codecs: G.711(a-law/p-law), G.723.1, G.729a, G.726.
- Should support IPv4 and IPv6.
- Should have one Gigabit Ethernet port to connect to LAN.
- Should support IEEE 802.1q based VLAN tagging.
- Should support caller ID presentation on the analog phones when working with the SIP server provided.
- Should support comfort noise generation for comfortable telephony.

- Should support SIP registration with at least two SIP servers — primary and secondary and should have the capability to use the secondary SIP server on case primary SIP server is not available.
- Subscribers connected to FXS gateway should be able to dial each other in case connectivity to SIP servers is lost. (Fall back feature)
- Should have inbuilt dial planner for simple call routing capabilities.
- Should have a Telco connector to terminate the FXS ports on an IDF for further wiring.
- Should be possible to configure the gateway using telnet/SSH/HTTP.
- Should support Configuration Backup/Restore.
- Should support SNMP management.
- Should support remote logging through syslog server.
- The FXS ports shall support up to a distance of 5km (minimum) over P11F copper cable of 0.5mm dia.
- It should work on 230V AC Power supply.
- OEM should be ISO 9001:2015 and ISO 14001:2015 certified.
- Should have regulatory compliance of UL/FCC/CE/TEC.
- Should have EMC certification from any NABL accredited lab which is designated by TEC for safety testing of Telecom & IT products.

4.50 SPECIFICATION OF FXS GATEWAY (112 PORT) :

- Should be possible to mount it on a standard 19" rack and 600mm x 600mm. All mounting hardware for the same shall be supplied.
- Should have at least 112 FXS ports for connecting analog phones.
- Should support SIP as per RFC 3261.
- Should support T.38 Fax Pass through over IP.
- It should support voice codecs: G.711(a-law/p-law), G.723.1, G.729a, G.726.
- Should support IPv4 and IPv6.
- Should have one Gigabit Ethernet port to connect to LAN.
- Should support IEEE 802.1q based VLAN tagging.
- Should support caller ID presentation on the analog phones when working with the SIP server provided.
- Should support comfort noise generation for comfortable telephony.
- Should support SIP registration with at least two SIP servers — primary and secondary and should have the capability to use the secondary SIP server on case primary SIP server is not available.
- Subscribers connected to FXS gateway should be able to dial each other in case connectivity to SIP servers is lost. (Fall back feature)
- Should have inbuilt – dial planner for simple call routing capabilities.
- Should have a Telco connector to terminate the FXS ports on an IDF for further wiring.
- Should be possible to configure the gateway using telnet/SSH/HTTP.
- Should support Configuration Backup/Restore.
- Should support SNMP management.
- Should support remote logging through syslog server.

- The FXS port shall support up to a distance of 5km (minimum) over PIJF copper cable of 0.5mm dia.
- It should work on 230V AC Power supply.
- OEM should be ISO 9001:2015 and ISO 14001:2015 certified.
- Should have regulatory compliance of UL/FCC/CE/TEC.
- Should have EMC certification from any NABL accredited lab which is designated by TEC for safety testing of Telecom & IT products.

4.51 INSTALLATION, TESTING & COMMISSIONING OF VOIP SERVER :

- Fixing of racks, Fixing of Gateways, configuration, testing and commissioning of Servers hardware and software in all respect, LAN wiring for IP telephones configuration of switches.
- Integration of servers with VoIP based servers located at other locations through SIP connectivity.
- Installation, testing and commissioning of new PRI Gateways and Analog gateways as per requirement.
- Fixing of casing capping is to be done by the contractor as per Railway practice and as per site requirement. Laying materials like 3way/4way junction box, T-joint, L-joint etc. as per site requirement shall be provided by the contractor.
- Laying of UTP Cable in casing and capping as per site requirement.
- Termination of cables in respective DP or equipment as per requirement as per Railway practice as per site in charge is to be done by the contractor.

4.52 SPECIFICATION OF VOIP REDUNDANT SERVER, RAID CONTROLLER, DUPLICATED PSU :

The system shall consist of multiple servers. These servers are to be powered using Ubuntu 22.04. Server LTS and the SIP based open source VoIP software i.e .Asterisk 18.13.0 or latest version.

LTS is to be installed in these servers. Asterisk is able to work with phones and media gateways of third parties so that the system can be scaled horizontally in future by adding more SIP PBX.

The basic components of IP—PBX are VoIP SIP Software- Asterisk, Servers, FXS/FXO/PRI Gateway, IP Phones. As per the latest Telecom Circular 4/2022 dated 24/06/2022.

TEC GR Certificate for the offered PABX should be submitted along with the Bid.

The IP telephony system must support unified communication (UC) server & gateways architecture for SIP, PRI, NGN and Analog trunks connectivity.

Servers:

The SIP server (also called registrars) shall register the phones and enable the telephony services. SIP Servers are supposed to work with various open standard **FXS/FXO** media gateways using open SIP standard. Similarly, it must be possible for the system to work with open standard SIP phones of different manufacturers. The servers shall be provisioned in 1 + 1 active-active / active -passive configuration as per site requirement. The IP phones and gateways used in the exchange system shall support primary and secondary SIP server configuration. This will allow for simple redundancy of the SIP server. When the primary SIP server is down, the secondary server will be used by the phones/gateways.

Redundancy of all SIP registrar servers shall be planned so that they are configured as primary and secondary SIP servers for registration purpose.

Capacity:

The SIPserver hardware should cater upto1500 phones. Each of the SIP end-points i.e. phones etc. should be registered to a primary SIP server and a secondary SIP server. Thus a pair of SIP PBX should have accounted for a total of 1500 phones. These servers should be interconnected in full mesh architecture by using SIP trunking.

Gateways Connectivity:

The gateways will be used for connecting the SIP server of IP exchange to TDM based PSTN/Rly exchanges using G.703(EI) on PRI signaling. The VoIP system will use these gateways to make through a PSTN/Rly call of other exchanges. Normally, PSTN exchanges are connected through FXO gateways with SIP servers whereas the Rly exchanges shall be connected through PRI gateway. FXS Gateway can be used for connecting Analog Phones with VOIP systems.

Outside Connectivity:

The IP exchange will connect other Railway TDM exchanges using EI channels terminated on the PRI gateway. The SIP router shall form a SIP trunk with the PRI gateway. All analog nports shall be provided using FXS gateway that works on open SIP standard supporting primary and secondary SIP servers. It is preferable to use 48 port FXS gateways. BSNL/PSTN phones shall be configured on the same phone using FXO gateways that use open SIP standard to form a SIP trunk with a SIP server. PRI connectivity, if available, can also be used for this purpose.

General Scheme of providing various equipment and Telephone connectivity:

The telephone connectivity arrangement in different situations is provided by SIP servers with redundancy are connected to PRI gateway and NGN/SIP router through L2 and L3 switch. The S&/NGN router and L3 switch are connected with Railtel & -MPLS network through Railnet Router RI and R2.IP telephones are provided on RailnetLAN directly through the POE switch pott. The FXS gateway is connected on RailnetLAN through a switch. Analog telephones are provided through FXS gateway ports. Similarly, the FXO gateway is also connected on Railnet through which the PSTN line can be connected with IP exchange. Similar arrangements of IP phones, analog phones and PSTN lines can be made at remote locations just by extending Railnet over there.

Service Requiremen to VoIP exchange : Intercom:

Each department is provided with an intercom number on the phone.This is at worth reedigit number provisioned on the phone within a department so that the communication between users of the same department be comes easy. It is quite possible to have the same intercom number in different departments. These numbers are direct numbers and there is no intervention of a secretary in the intercoms. Normally, all the phones that belong to an intercom will be provisioned on the same server. If required, a byte numbering plan can also be configured so as to have a direct calling between senior officers of the division. This shall also be configured on the same railway phone.Preferably,thisisa3-digit numbers.

Railway Number:

Each of the phones shall be provided with a railway number. A railway number is a five digit numberthat isused across Indian railways in the Railway Telecom network.Each of the Railway exchanges is also provided with a three digit STD code. Thus a railway number

will eight digit number with the local number being five digits. These calls will be routed through the person a secretary (PS) in some of the cases while it will be routed directly in other cases.

PSTN:

A railway phone may be provided access to a PST Number using an FXO gateway or a PRI connection. APSTN number is a number that has an STD code as well as a number. In total, it has 11 digits including p ref in zero. PRI lines will be hired from PSTN service providers and will be terminated on the PRI gateways with connectivity to SIP servers. The VoIP system shall make through calls to PSTN through these gateways and shall accept PSTN calls from these gateways. Direct-in-dialing will be used to define virtual numbers to be routed through these PRI lines by the service providers. These calls will be routed through the PS in some of the cases while it will be routed directly in other cases.

Boss – Secretary Connectivity:

The Boss — Secretary connectivity that is required for the railway and PSTN number is a crucial requirement that forms one of the most important functionalities of the VoIP system. Both boss and secretary are provided with independent intercom numbers. The phones should show the status of the phone of the boss to the secretary with an LED. The Secretary is supposed to know if the boss is busy on the phone before transferring a call to the boss. When the railway/PSTN number of the boss is called, the phone of the secretary rings. The secretary takes the call, talks and then transfers to the boss. Both blind transfer and attended transfer should be allowed. In case the secretary is not available to take a call, the phone of the boss rings after about 08-10s. This time should be configurable. The phones of boss and secretary are other wise independent with both having a railway as well as PSTN number defined. Thus, if a call is made on the secretary's number, the phone of the secretary rings. While, boss is on a railway call, the secretary can make a call to another railway number and can then transfer the call to the boss once his phone is free.

Attended and Unattended audio conferences:

Every conference has a railway number used to dial in the conference and an existing railway phone that shall act as the admin phone for the conference. Conference can be of two types.

i) **Attended** :- An attended conference means that the users cannot directly become a participant in the conference. The operator uses the admin phone of the conference to call the subscriber and then transfers the called subscriber in the conference. This has to be done for each and every conference participant.

ii) **Unattended** :-

Unattended conference is a conference that has a security PIN. It has a railway number as a contact and any subscriber can dial this number, enter the security PIN when asked and become part of the conference. No operator is required. The admin users can change the security PIN for the conference using the admin phone for the conference.

System Features:

The SIP VoIP system should support the following minimum features.

1. Call Detail Records

2. Call Forward on Busy
3. Call Forward on NoAnswer
4. Call Parking
5. Call Queuing
6. Call Recording
7. Call Transfer
8. Call Waiting
9. CallerID
10. Fax Transmit and Receive
11. Flexible Extension Logic
12. Interactive Voice Response(IVR)
13. Route by CallerID
14. Voicemail facility
15. Videotelephony
16. Attended and unattended audioconferences.
17. Follow me

Specification for Server Equipment's:

The specification of various COTS (Common off the shelf) equipment specification of the items is as under: -

VOIP SERVER:

S.No.	VoIP Server suitable for more than 500 SIP clients
1	It should be possible to rack mount the server on a standard 19" rack and 600mm x 1200mm. All mounting hardware for the same shall be supplied by the contractor.
2	It should be equipped with a six core or higher Intel/AMD processor.
3	It should have 64GB of DDR4 RAM Working at 2400MHz or higher.
4	It should have 2x1Gbps Ethernet Port.
5	It should have a minimum of 2xUSB 3.0 port and shall support booting from the USB port.
6	It should be equipped with 512GB X 3 SSD SATA 3 (6Gbps) enterprise disks suitable for working on a 24x7 basis. It should support RAID configuration 5.0 or latest.
7	The server should support Ubuntu Server 22.04 LTS to run the Asterisk 18.13.0 LTS VoIP software proposed in the solution.
8	It should have Dual, Hot-plug, Fully Redundant Power Supply (1+1).
9	Server shall be provided with an 18.5" or higher LCD/LED flat color monitor along with a keyboard and optical mouse.
10	OEM should be ISO 9001:2015 and ISO 14001:2015 certified.
11	TEC GR Certificate for the offered PABX should be submitted along with the Bid. The offered Server should have 3 Years OEM Warranty.

4.53 SPECIFICATION OF MOBILE APPLICATION FOR EVENT NOTIFICATION GATEWAY AND NMS SERVER:

Supply and installation of mobile application for event notification gateway and nms server as per scope of work as per RDSOSP/TC/99/2012 rev.2 or latest.

-As per Clause No 12.3 of RDSO Specification of VoIP Based Train Control Communication System Specification No. RDSO/SPN/TC/99/2012 Rev.2 or latest. Modem provided with the Gateway should support VoLTE and GSM as per site requirement-based SIMs. Event Notification Gateway License of TCCS VoIP NMS Server of minimum 100 Device Pack.

4.54 SPECIFICATION OF COMMUNICATION SERVER:

Supply, installation and commissioning of communication server as per clause 5 and 6 RDSO/SPN/TC/99/2012 rev.2 or latest. Communication server block shall be provided 1+2 or 1:2 redundancy. Total 3 servers, 2 numbers at main location and one at remote location.

Along with server genuine licensed OS/Application software should be supplied. Reputed Make like IBM/Dell/HP or Equivalent. Along with 24-inch monitor Switch for connecting or higher three servers, Mouse and Keyboard.

4.55 SPECIFICATION OF CONTROL IP TELEPHONES WITH HANDS FREE AND GOOSENECK MIC:

supply and installation of control ip telephones with hands free and gooseneck operation for way side station as per clause 11 of RDSO/SPN/TC/99/2012 rev.2 or latest

4.56 SPECIFICATION OF CONTROLLER CONSOLE:

Supply, installation and commissioning of controller console as per clause 9 of RDSO/SPN/TC/99/2012 rev.2 or latest.

4.57 SPECIFICATION OF 4 PORT GATEWAY:

Supply, installation and commissioning for 4 port gateway to support 4 port concurrent emergency communication at hq/way station to support 4 wire ports/ 4 port gateway with built in 2 wires to 4 wire hybrid convertor to support 4 wire output as per clause 13 of RDSO/SPN/TC/99/2012 rev.2 or latest.

4.58 SPECIFICATION OF EVENT NOTIFICATION GATEWAY:

Supply, installation and commissioning of event notification gateway as per clause 12.3 of RDSO/SPN/TC/99/2012 rev. 2 or latest. Modem provided with the Gateway should support VoLTE and GSM as per site requirement-based SIMs.

4.59 SPECIFICATION OF PORTABLE MAINTENANCE TERMINAL:

Supply of portable maintenance terminal (similar to laptop) as per clause no 8.7 and 8.9 RDSO/SPN/TC /99/2012 rev.2. or latest. MS Office with latest licensed version & Reputed Brand Anti-Virus with Three Year licenses, USB to Serial cable, Monitor size 15.6 inch or better. Shall be of reputed brand with all client software loaded

4.60 SPECIFICATION OF NETWORK MANAGEMENT SERVER:

Supply, installation and commissioning of network management server as per clause 5 and 8 RDSO/SPN/TC/99/2012 rev.2 or latest.

- As per Clause No 5.1.2 and 8 of RDSO Specification of VoIP Based Train Control Communication System Specification No.RDSO/SPN/TC/99/2012 Rev.2 or latest. Block shall be provided 1+1 or 1:1 Redundancy. Total 2 servers, 1 number at main location and 1 at remote location. Alongwith server genuine licensed OS/Application software should be supplied of reputed make.

4.61 SPECIFICATION OF DESKTOP CLIENT PC:

Supply, installation and commissioning of desktop client pc as per clause 8.7 and 8.8 of RDSO/SPN/TC/99/2012 rev.2 or latest along with 600 VA ups.

- As per Clause 7.6, 8.7 & 8.8 of RDSO Specification of VoIP 11th Gen Intel Core i7 Processor or latest. Operating System: Windows 10 with latest licensed version and client software (Windows 10 PRO-64 and MS office) & Reputed Brand Anti-Virus with Three Year licenses, LCD monitor 24 inch or higher,

4.62 SPECIFICATION CLIENT PC FOR VOICE RECORD SERVER:

Supply, installation and commissioning of client pc for voice record server as per clause 8 RDSO/SPN/TC/99/2012 rev.2 along with 600 VA ups.

- As per Clause 7.6, 8.7 & 8.8 of RDSO Specification of VoIP 11th Gen Intel Core i7 Processor or latest. Operating System: Windows 10 with latest licensed version with client software (Windows 10 PRO-64) & Reputed Brand Anti Virus with Three Year licences, Wired/Wireless Keyboard, Monitor 17" with Laser printer of reputed make. It should be a common console/client for all the Application.

4.63 SPECIFICATION OF VOICE RECORDING SERVER:

Supply, installation and commissioning of voice recording server as per clause 5 and 7 RDSO/SPN/TC/99/2012 rev.2 or latest.

- As per Clause No 5.1.3 and 7 of RDSO Specification of VoIP Based Train Control Communication System Specification No. RDSO/SPN/TC/99/2012 Rev.2 or latest. Block shall be provided 1+1 or 1:1 Redundancy. Total 2 servers, 1 number at main location and 1 at remote location. Alongwith server genuine licensed OS/Application software should be supplied. Make shall be Reputed.

4.64 SPECIFICATION OF TEST ROOM CONSOLE:

Supply, installation and commissioning of test room console as per clause 10 of RDSO/SPN/TC/99/2012 rev.2 or latest.

4.65 TRAINING

The contractor shall provide hands on training and training by OEM with detailed course material on the installed equipment related to IP based TCCS and IP exchange system and their NMS', including software as per the RDSO specs. Covering at least the following,

- i) Introduction to IP TCCS, SIP exchanges NMS, Servers.
- ii) Configuration and operation of various equipments like Gateways, Consoles, NMS, Servers and other equipment etc. supplied under the project.
- iii) Troubleshooting and preventive maintenance.
- iv) Training on operation of IP-TCCS & IP exchange systems.

4.65.1 All equipment used for training shall be identical to those quoted and supplied for site installation in hardware and software versions.

The training course shall be conducted at the OEM/OEM's authorized partners' premises from where the respective equipment/subsystems are manufactured/ offered/assembled or at full-fledged training facilities.

4.65.2 Training Manual :

Sets of training manuals in hard copies & soft copies containing details of technical specification, installation & commissioning, troubleshooting & maintenance schedule etc. shall be provided by the contractor. Consolidated and comprehensive documentation shall be available to each participant.

4.66 Deleted

4.67 Deleted

4.68 SPECIFICATION OF VRLA BATTERY SET OF 48V/200AH:

VRLA batteries set of 48V /200AH as per RDSO specification no. IRS: S.93/96(a) with amd.01.

Supply of Maintenance free VRLA Batteries set of 48V-200AH and its standard installation as per latest RDSO Specification. Each battery set shall be of 24 Cell of 2V-200 AH.

4.69 SPECIFICATION OF SMPS BASED BATTERY CHARGER:

SMPS based Battery charger suitable for both low maintenance & maintenance free batteries & its standard installation as per RDSO specification no. RDSO/SPN/TL/23/99 (Ver.-4) for telecom use of 48V DC, 50 Amps IN 2+1 CONFIGURATION .i.e. using three Modules of 25 Amps with automatic switching.

4.70 SPECIFICATION OF 24U RACK:

4.70.1 The Rack shall be standalone type of good quality and reputed make.

- a) Floor Standing Rack shall be of Size- 24 U
- b) The 19" Rack structure should be made of 1.6 mm thick Mild Steel.
- c) Rack should have 1-No Front- Glass- Door of 4 mm thick covering entire length of the rack that should be fitted / pasted to Front –Door- Frame by using silicon sealant. The material thickness of the Front & Rear -Door Frame should not be less than 0.9 mm with a capability of opening up to 180 degree approximately with locking arrangement, detachable & interchangeable hinges. Front & Rear Door should have Poly UrithaneGasketing. Rack should have Locks on all sides, which can be unlocked and open by single key.
- d) The thickness of Top-Cover & Bottom- Base material should be at least 1.2 mm. The Top Cover should have Cable –Entry holes of size 40 mm in diameter with Rubber Rings and suitable Gland Closure Plates.
- e) The Side Panels of the Rack should be detachable having ventilated fines flush fitted with Air filters up to 1/3 rd height to avoid of dust entry.
- f) The Power Distribution Channel (AC) should have 7 Nos. Sockets in 24U with switch of 5 Pin Type and 5 Amps capacity with common Fuse and Indicator. All the Sockets must be Industrial quality and reputed Make. Suitable capacity Mains 3 Core Cable of 3 Mts. Length with 15 Amp Mains Plug must be given with this box. Total quantity for this item is 2 -Nos. per Rack. The Socket should be mounted vertically on PVC base at back side of the Rack.
- g) Rack should have Heavy Duty Castors consisting of 2 -Nos. with Brake and 2- Nos. without Brake. The castors are to be mounted on a separate Plate.
- h) Rack should have 4- Nos. Cooling Fans of reputed Make or superior of 230 V AC Mains Rating with supply Cable and Plug, fitted directly inside the Top Cover.
- i) PVC Cable Channel of size 45 (H) X 800(W) mm of full rack length, 2- Nos per Rack to be supplied vertically at the Rear Side of the Rack in 24U. One No of 19" Cable Manager with 5- Hooks for Power Cable is required with each Rack. Cable Guides, Cable Ties, ties Holders cable Markers should be supplied for easy identification and lacing of Cable.
- j) 1- No Copper Earthing- Bar/Strip(Copper) of Cross Section 1" X ¼" to be provided horizontally on rear side of the rack full length of 19" Width with suitable tapping to be supplied with each Rack with min 10 Nos. of Copper Nut & Bolt.

- k) The Rack structure should be fully Powder Coated with combination of Dark & Light Grey shade. Doors-Frames should be in light Grey shade.
- l) Front Panel Mounting Hardware (One set consisting of 1 No Cup Washer, 1- No Cage Nut, and 1- No M6 Screw) set.
- m) The Rack should have three numbers of shelves.
- n) Installation of the rack is to be done as per instructions of the Engineer & Supervisor incharge.

Note: Prior approval must be taken before the supply.

4.71 SPECIFICATIONS FOR CAT-6 SURFACE MOUNT INFO-OUTLET:

It shall be good quality of reputed make.

Sample shall be approved from Consignee/ Engineer Incharge before supply.

Fixing of info-outlet & termination of CAT-6 cable in it is also to be done by the contractor.

4.72 SPECIFICATION OF PVC CASING CAPPING (38 mm):

The PVC casing/capping 38 mm shall be in ivory/white colour with ISI mark 14927.

Note: Prior approval must be taken before the supply.

4.73 SPECIFICATIONS FOR PVC RIGID PIPE OF 25mm Dia:

4.73.1 25 mm PVC rigid pipe shall be of reputed make conforming to latest ISI specification No. IS 9537-3. Preferably in white/ivory colour. It should be in 3 Mtr. Length pieces with integral socket at one end only.

4.73.2 These pipes are also need to be laid/fixed by the contractor.

Note: Prior approval must be taken before the supply.

4.74 SPECIFICATION OF REMOTE CRAFT TERMINAL :

Processor	Intel core i5, 10 th generation or latest at the time of supply.
Hard Drive	512 SSD
RAM	4GB or more
LAN Card	10/100 /1000 Mbps
Screen Size	14 inch or more LED (Anti-glare Screen)
Display Resolution	LED Full HD
HDMI Port	1
USB Port	2 or more
Optical Mouse	1
Antivirus	3 Year Quick Heal Total internet Security
Operating System	preloaded License Windows 10 or latest
Make	Reputed make

It shall be of good quality and light weight.

Note: Prior approval must be taken before the supply.

4.75 SPECIFICATION OF CLIENT SYSTEM FOR NMS:

Processor	Intel core i5- (2.3Ghz) or latest
Hard Drive	512 SSD
RAM	4GB
LAN Card	Gigabyte LAN card
Screen Size	21" HD LED Monitor

HDMI Port	1
USB Port	Min. 4 ports. 2 front, 2 Rear
Antivirus	3 Year Quick Heal Total Security
Keyboard	104 ps2/USB keyboard
Mouse	Optical Scroll Mouse
Make	Reputed Make.

Note: Prior approval must be taken before the supply.

4.76 SPECIFICATION OF IP PHONE:

It should work on SIP technology as per RFC3261.

It should have Dual Gigabit ethernet port with integrated PoE so that the PC can be connected to the SIP phone for normal data service.

Option for external power supply should also be available.

However, external adapters are not required to be supplied unless asked for separately.

It should support voice codec's G.711(a-law/p-law), G.723.1, G.729a, G.726.

Phone should support DTMF in audio, RFC2833, SIP INFO.

Phones should be required with at least two line display systems so that information like incoming calls etc. is displayed on the same.

Phone should have minimum 4 physical programmable keys to be used for speed dialing as well as monitor in go for extension status of extension.

These LED shall have the following behavior:

Extension idle: OFF

Extension ringing: BLINK

Extension busy: ON

Phone should have at least 2 user accounts.

Pre-Moulded Cat6 Ethernet patch cord of at least 2 meter should be supplied along with the phone.

Phone should support class 1/2 PoE for it to be environment friendly and use less power. This is required for ensuring that the phones are powered using the existing switches.

Phones should support VLAN tagging of voice packets so that data and voice packets use different VLANs.

Phone should be IPv4 and IPv6 compliant.

The phone should support auto-provisioning through DHCP and HTTP using normal text-based files. The format for this text file shall be provided by the firm.

Should support NTP and SNTP for time synchronization.

OEM should be ISO9001:2015 and ISO14001:2015 certified.

Should have regulatory compliance of UL/FCC/CE/TEC.

Should have EMC certification from any NABL accredited lab which is designated by TEC for safety testing of Telecom & IT products

It shall be of reputed make.

Note: Prior approval must be taken before the supply.

4.77 SPECIFICATION OF WALL MOUNTING 19" 15 U RACK :

4.77.1 It shall be of good quality and of reputed make.

4.77.2 It shall be loaded with all standard accessories like 2 nos. cooling fans, Front glass door, 2 shelves, 1 module of 6 Nos. of 230VAC sockets of 5 Amps, Earthing strip with standard nut-bolts, Patch panel, Door locks for front and side covers and cable managers.

Note: Prior approval must be taken before the supply.

4.78 INSTALLATION OF WALL MOUNTING 15 U RACK :

Installation of the rack is to be done as per instructions of the Engineer & Supervisor in charge.

4.79 SPECIFICATION OF LAN EXTENDER:

- 4.79.1 The LAN Extender shall be as per RDSO specification **RDSO/ SPN/ TC/ 80 /2020,Rev. 2.0** and it shall be of reputed make.
Sample to be got approved before supply.

4.80 SPECIFICATION OF 5 KVA UPS:

Supply, Installation and commissioning of ONLINE 5 KVA UPS, 60 Minutes back up with battery. Batteries shall supply with rack, Management port Preferably SNMP based with management Software. CE Certification and marking.

Capacity	5 KVA
Phase	Single Phase
Warranty	3 Year on site comprehensive warranty
Back Up Time	60 Mins
Type	Online UPS
Application	Commercial
Protection	Over Voltage, Over Current, Short Circuit
Input Voltage	160 -260 Volt
Frequency	50Hz
Battery Type	Maintenance free sealed Battery
Power (kilo watt)	5000VA
Display Type	Digital
Efficiency	95%
Output Voltage(V)	230 Volt
Humidity	0%
Storage Temperature	-5 to 60D
Operating Temperature	30D
Battery Warranty	3 year replacement warranty

4.81 SPECIFICATION OF CABLE TRAY:

MS trough with size of 1 mtr length x200mm x 100mmx 1 mm thickness perforated Cable Trays with suitable J-angular for platforms L angle should be used 3mm thickness for making suitable clamps for fixing trough Necessary painting for angles and trough should be carried out as per instructions of site in charge.

4.82 FIXING OF TRAY FOR HOUSING OF ALL TYPE OF TELECOM CABLE.

It shall be done as per site requirement and as per site incharge

4.83 SPECIFICATION OF SINGLE MODE OPTICAL FIBER UNARMoured CABLE :

Optical Fibre Cable shall be Single mode, 6 core, Unarmoured cable compliance to TEC standards of reputed make.

Sample shall be approved from Consignee/ Engineer In charge before supply

4.84 SPECIFICATION OF SERVER BASED NETWORK MANAGEMENT SYSTEM:

Supply and Installation of Server Based Network Management System inclusive of Hardware and Software for Network Elements Switches, Servers, etc.).

The management platform shall provide web-based monitoring from any PC with an Internet browser.

For web based login user id and password shall be provided to restrict the access to the authorized persons only. It shall provide role-based access like read only access or read/write access.

The network management system shall support SNMPv2c protocol and MIB2 or latest standard Protocol / Interface as northbound interface for any Umbrella NMS (if any planned at later date).

Topology

- The NMS shall provide the complete view of Switches, SIP end phones, and Gateways 400 network elements and the interconnecting links.
The NMS shall provide a topological view of VoIP infrastructure (gateways, IP telephones, servers, Switches and console) for 400 Network elements.

The NMS shall be able to diagnose its own faults by running diagnostic software.

The different icons shall correspond to different element categories. These icons must be synchronized with the alarms application in real time, and various alarms shall also be indicated on the topology diagram showing severity of alarm with different colors of icons.

Messaging system –The NMS shall have a messaging system which will generate and send alerts preferably via the internet through email or SMS (GSM and LTE suitable modem should be supplied with necessary perpetual license) to the designated personnel depending upon the location of NE, on generation of alarms.
It shall be possible to produce pre-defined reports.

Discovery Features :

Support for SNMP v1-3, IPv4/IPv6 address range, SNMP Smarts can, hosts file
Scheduled discovery scans
Web based discovery

Monitoring Features:

SNMP v1-3, SSH and WMI support or better
Real time monitoring
MIB Walker, MIB Explorer and MIB Manager
WMI application monitoring
Wireless Infrastructure Monitoring, Popup and audio-visual Alerting and Reporting

The Minimum Hardware requirements are as given below unless otherwise specified by the purchaser:

S.N.	Parameter	Specification
i.	NMS Server	The NMS Server Hardware shall be of reputed brand.
ii.	Processor	Intel Xeon Silver 4310 Processor
iii.	No. of Cores	6 or higher
iv.	Frequency	2.3Ghz or higher
v.	Cache	8 MB or higher
vi.	No. of Processors	1
vii.	Memory	64 GB or higher, DDR3/DDR4 SDRAM
viii.	Operating System	Windows Server 2020 or latest or Linux
ix.	LAN/ Ethernet	Onboard / on slot Gigabit Ethernet ((2x1 Gbe RJ45) with Load Balancing and Fail over Support, IPv6 compliant

x.	Storage	1TB-2 nos. Enterprise SSD or higher
xi.	RAD Controller	SAS RAID Controller with RAID 1 configuration
xii.	USB/PS/2 mouse & Keyboard	Required
xiii.	Power Supply	Redundant Hot-swappable power supply. Works on 230VAC.
xiv.	Fan Configuration	Redundant Hot-swappable Fan
xv.	Chassis Type	19" Rack mountable with sliding rails and fittings to install into a Rack.
xvi.	Warranty	3 (Three) Years

4.85 SPECIFICATION OF CRIMPED CAT-6 UTP PATCH CORD-5 MTRS :

It shall be of good quality (LSZH) 5 mtr. length and of reputed make. Sample shall be approved from Consignee/ Engineer Incharge before supply. UTP CAT 6 cable jacket low Smoke zero halogen (LSZH), conductor dia 24AWG, confirming to ANSI/TIA/EIA- 568-C.2 .

4.86 SPECIFICATION OF LAN EXTENDER :

4.86.1 The LAN Extender shall be as per RDSO specification **RDSO/ SPN/ TC/ 82 /2020, Rev 2.0** and it shall be of reputed make.

Sample to be got approved before supply.

4.87 CUTTING OF PLATFORM WITH TILE/ROCK CUTTING MACHINE OR MANUALLY:

Cutting of platform with tile/rock cutting machine or manually to 30 cm depth and 12 cm wide approx. By removing slabs/tiles neatly and filling the trench with river sand replacing the top surface smooth finish.

4.87.1 In cutting of platform item, precautions for cable is laying with HDPE Pipe duct for depth of 30 cm and less than 30mm depth should be taken with RCC RCC covering for protect cable.

It shall be done as per site requirement and as per site incharge.

4.88 SPECIFICATION OF MAINTENANCE FREE SAFE EARTHING FOR TELECOM INSTALLATIONS:

Supply and installation of Maintenance Free Safe Earthing for Telecom Installations as perspecification No. RDSO /SPN /TC/197/2008 with latest amendments consisting of single earth pit. The number of electrodes to be provided at each station will be decided by engineer in charge of the work.

It shall be done as per site requirement and as per site incharge.

4.89 SPECIFICATION OF SINGLE MODE PATCH CORD LENGTH 10 METERS (LC-SC/SC-SC/LC-LC/FC-LC):

It shall be of good quality and of reputed make. Sample shall be approved from Consignee/ Engineer Incharge before supply.

Parameter	Unit	Measurement
Insertion loss(IL)	dB	<=0.2
Return loss (RL)	dB	>=50
Repeatability	dB	<=0.2
Changeability	dB	<=0.2
Operating temperature	°C	-35 to +70

Storage temperature	°C	-35 to +70
Fiber type		G657(A1/A2) / G652D
Fiber diameter	um	SM-9

4.90 BREAKING OF PUCCA/CONCRETE ROAD, PF CUTTING/WALL CUTTING,LAYING OF OFC/STP/POWER CABLE ETC. :

Breaking of Pucca/Concrete Road,PF Cutting/wall cutting,Laying of OFC/STP/Power cable etc in Trenches and through all types of protection Viz HDPE/GI/RCC/DWC/PVC Pipes as the case may be. This includes restoration of surface and stone pavement/Pavers
It shall be done as per site requirement and as per site incharge

4.91 SPECIFICATION OF RJ-45 CONNECTOR SUITABLE FOR STP / UTP CABLE:

It shall be good quality and reputed make.

Note: Prior approval must be taken before the supply.

4.92 SPECIFICATION OF 19" 12U RACK:

It shall be of good quality and of reputed make. It shall be loaded with all standard accessories like 2 nos. cooling fans, Front glass door, 2 shelves, 1 module of 6 Nos. of 230VAC sockets of 5 Amps, earthing strip with standard nut-bolts,Door locks for front and side covers and cable managers. Installation of the rack is to be done as per instructions of the Engineer & Supervisor incharge

For Divisional Railway Manager (S&T)
Mumbai Central, Mumbai 400 008
For and on behalf of the President of India

CHAPTER - 5

GENERAL INSTRUCTIONS TO TENDERERS

5.1	ISSUE OF TENDER DOCUMENT: (i) Tender document is available at website https://www.ireps.gov.in and the same can be downloaded by the Tenderer. (ii) Tenderers are advised to keep a watch on any corrigendum to the documents being released by the tender inviting office to ensure that they use the latest document for their offers. (iii) It is the responsibility of the Tenderer to check for any correction or any modifications published subsequently in web site and to take into account while submitting their tender. (iv) If the Tenderer / Contractor makes any change / addition / deletion and the same is detected at any stage even after the award of the tender, full earnest money deposit will be forfeited and the contract will be terminated at his / their risk and cost. The tenderer is also liable to be banned from doing business with Railways and / or prosecuted.
5.2	MINIMUM ELIGIBILITY CRITERIA FOR TENDERERS: <u>(For Tenders above Rs. 50 Lakhs only)</u> 5.2.1 The tenderer shall necessarily satisfy the eligibility conditions listed below: TECHNICAL ELIGIBILITY CRITERIA: As per para 10.1 of Tender form (Second sheet) of Tender document. Work of Similar Nature would mean :- As specified in para 2.2 of chapter-2 (Special Condition)
5.2.2	FINANCIAL ELIGIBILITY CRITERIA: a. As per para 10.2 of Tender form (Second sheet) of Tender document. b. Bid Capacity: The tender/technical bid will be evaluated based on bid capacity formula detailed as per para 10.3 of Tender form (Second sheet) of Tender document.
5.3	Tenderer's Credentials: As per para 11 of Tender form (Second sheet) of Tender document.
5.4	RULES & GENERAL INFORMATION TO TENDERER: (i) The tenderer/bidders must have Class-III Digital Signature Certificate & must be register on IREPS portal. Only registered tenderer/bidders can participate on e-Tendering. All relevant paper must be uploaded at the time of participating in e-Tendering. Manual submission of offers is not allowed against this tender and any such manual offer received shall be ignored. (ii) The materials and installation required, tendering procedure and terms & conditions are prescribed in the Tender Documents. The Tender Document includes "Tender Notice & Tender Form, General Instructions to Tenderers General Conditions of Contract in addition to and/or in part supersession up to latest correction slips (GCC), Standard Conditions of Contract (SCC), Special conditions, Technical Specifications & Requirements, Schedule of Material & Works and all Annexure & formats together with any addendum and corrigendum issued prior to the tender opening". (iii) Any additional information/ Clarification regarding the tender, if required by any tenderer may be obtained from the office of the Senior Divisional Signal & Telecom Engineer, Western Railway, Mumbai Central, Mumbai-400 008. (iv) All the information in the offer must be in English. Information in any other language shall be accompanied by its authenticated translation in English. Failure to comply with this may render the offer liable to be rejected. In the event of any discrepancy between the offer in a language other than English and its English translation, the English translation will prevail.

	(v) The offer is not accompanied with Bid Security in the prescribed form will be summarily rejected. (vi) Tender form is not transferable. (vii) The submission of the Tender shall be deemed to have been done after careful study and examination of the Tender Document with full understanding of the implications thereof. Any clarification required by a Tenderer shall be obtained from the Office of the Tender Inviting Authority on any working day during office hours. (viii) Declaration as per Format-10 that I / We have no relative / employee in the Gazetted / non-gazetted capacity in the Western Railways. Also give a Certificate of Information regarding Employment / Partnership etc. of Retired Railway Employees with the tenderer as per Format-11. (ix) The Tender shall be digitally signed by individual or individuals legally authorized to enter into commitments on behalf of the Tenderer. Any individual or individuals signing the Tender Documents or other documents connected therewith should specify whether he is signing. - As a Sole Proprietor of the firm or Attorney of the Sole Proprietor; - As a Partner or Partners of the firm; - As a Director, Manager or Secretary in a Limited Company. - As a duly constituent attorney of authorized member of the JV, in case of JV. (x) All corrections and overwriting must be attested. (xi) The Tenderer should read the conditions carefully and also see the schedule of works/ Bill(s) of quantities, technical specification etc. before submitting the offer and also ascertain site conditions and the magnitude of works involved. (xii) Tenderer shall state in the Tender its postal address fully and clearly. Any communication sent in time to the Tenderer by post at the said address shall be deemed to have reached the Tenderer duly and in time. It shall also give telephone, E Mail Address and fax number for communication. Important documents shall be uploaded along with offer. (xiii) Incomplete and Conditional offers will generally not be considered and are liable to be rejected. Railway however reserves the right to reject such tenders summarily without assigning any reasons whatsoever. The Railway also reserves the right to reject any special conditions stipulated by the Tenderer as considered unacceptable to the Railway. If any deviations from the General conditions / special conditions / specifications or any other condition of tender are proposed by the tenderer, they should be mentioned on Statement of Deviation (Format-4), if any in separate sheet and not elsewhere in the tender documents. (xiv) If it is found at any stage of the finalization of the tender or during actual execution the work that the information furnished in this tender including clarifications, is incorrect, the tenders are likely to be rejected. (xv) The Railway reserves the right to cancel the tender without assigning any reason. (xvi) All the relevant documents shall be attached along with tender form as per terms and conditions of tender.
5.5	LOCAL CONDITIONS: It will be imperative on each tenderer to fully acquaint him with all the local conditions and factors, which would have any effect on the performance of the contract and cost of the work. The purchaser shall not entertain any request for clarifications from the tenderer regarding such local conditions. No request for change of price or time schedule of completion will be entertained after the offer is accepted by the purchaser on account of any local condition or factor. The tenderer(s) shall inspect the proposed site of work and

	acquaint himself/themselves with the site conditions, working hours, layout of land, trees and shrubs that he/they will have to cut, type of strata likely to be met within the borrow pits, stacking space for materials, approach roads, path ways available etc. and all relevant items connected with the execution of the work. No claim shall be entertained for the contractor(s) making his/their own arrangements for approaches/approach road from outside Railway land and contractor(s) will bear entire expenses such as road taxes, payment for right of way, etc. to outsiders and for Construction of approaches/approach roads, etc.
	NON-COMPLIANCE WITH THE INSTRUCTIONS/DIRECTIVES OF THE ENGINEER'S REPRESENTATIVE The contractor shall always comply with the instructions/directives issued by the Engineer's representative from the time to time. In the event of any non-compliance with such instructions/directives, apart from and in addition to other remedies available to the Railway as specified herein above the Engineer's representative may employ at the works Railway's workmen with necessary equipment as considered appropriate and adequate by him to provide the requisite conditions for the safe and unhampered movement of Railway traffic. The decision of the Engineer's representatives in regard to the need of appropriateness and adequacy of the deployment of the Railway Workmen with necessary equipment shall be final and conclusive. When the Railway workmen with necessary equipment are deployed in the above manner, recovery at the following rate shall be made from the contractor's dues under this contract or any other money of the contractor available with the Railway under this contract. The recovery for the total Railway Workmen Hours employed as per actual irrespective of the type and grade of the Railway Employee actually employed. The aggregate period of the Workman-Hours for the above recoveries shall be reckoned from the time the Railway Workmen are actually deployed at the work site till the work is completed to the satisfaction of the Engineer's Representative whose decision in this regard shall be final and conclusive. During the above-mentioned period of suspension of work, the contractor shall not in any manner attempt to carry out any work at the work site. Any such attempt of the contractor shall be deemed to be an unauthorized work on the work site. For such acts, the contractor shall then be liable for further appropriate action under the relevant provisions of the Indian Railway Act.
	SHIFTING OF ELECTRICAL/TELEGRAPH WIRES In some stretches, high-tension grid towers /electric telegraph/telephones wires or posts etc. are to be shifted. It is expected that the electric lines/towers will be shifted in good time but in case, there is any delay on this account suitable extension in date of completion will be considered and given to the contractor for only the effected portion and no compensation whatsoever in this respect or due to the delay thus caused will be payable and contractor has to adopt such methods of execution of earthwork so as not to cause any damage to existing structure lines etc
	ACCIDENT/NATURAL CALAMITIES Vehicle and equipment of the contractor can be drafted by Railway Administration in case of accidents/natural calamities involving human lives. For payment purpose, the item may be operated as New Non-Schedule (NS Item) as per existing norms and powers delegated. Contractor may submit list of vehicles and equipment available with him.
5.6	TENDER FORM AND REQUIRED DOCUMENTS TO ACCOMPANY THE OFFER: The offer submitted shall invariably be accompanied with the following documents, over and above those mentioned already, failing which the offer can be treated as incomplete

	and liable to be rejected without any correspondence with the firm. List of Mandatory documents required to be submitted to avoid summarily rejection of offer, is available at Clause 2.16. Hence, the Tenderers are advised to ensure that these documents are submitted, duly signed. The offer shall be accompanied with following Documents: - Covering Letter & Tender papers signed & complete in all respect. - Tender Forms (First Sheet & Second Sheet), - List of Personnel, Organization available on hand and proposed to be engaged for the subject work. - Certified copy of Memorandum of Understanding (MoU) duly executed by JV members on a stamp paper in case of JV (Clause 17 of Tender Form Second Sheet of GCC) - In case of Partnership deeds, Power of Attorney etc- documents as mentioned in clause 14 of Tender form second sheet of GCC should be submitted. - List of Plant & Machinery available on hand (own) and proposed to be inducted (own and hired to be given separately) for maintenance support of the system. - Details of set up/technical know-how available with the Tenderer for execution of work and testing/ trouble shooting/ repairing of equipments under warranty period. If the Tenderer is OEM, furnish complete details of repairing center setup within the country (India) i.e. location, Machinery available, Engineers engaged for repairing center. - Any other documents the tenderer may like to submit in support of his credentials. - If any deviations from the General conditions / special conditions / specifications or any other condition of tender are proposed by the tenderer, they should be mentioned on Statement of Deviation (Format-4), in separate sheet and not elsewhere in the tender documents. - Tenderer should provide details of bank account for payment through NEFT/RTGS on Format -9. Checklist- As per Format-13 to be uploaded by tenderer. NOTE: If the tenderer does not submit any proof for meeting with the eligibility criteria as laid down in the NIT and tender conditions, the offer will be considered as incomplete and will be summarily rejected. The Tenderer shall submit attested copies of the supportive documents / certificates from organizations with which they have worked/are working, otherwise the offer will be liable to be rejected. - There shall be no back reference to confirm the credentials except for the purpose of verifying the attested copies of documents already submitted with the offer.
5.7	ATTESTATION AND ALTERATIONS: All the documents including technical brochures, manuals etc. should be signed by the Tenderer. Photocopies of all the certificates, supporting documents etc. submitted by Tenderer should be attested by tenderer as true copies, unless required to be attested by Notary public by other conditions of tender. Any correction made by the Tenderer / Tenderers in his/their entries must be attested by him/them.
5.8	SYSTEM OF TENDERING:
5.8.1	Tender must be submitted online, manual offers are not allowed against this tender, and any such manual offer received shall be ignored.
5.8.2	Non-Compliance with any of the conditions set here forth in above is liable to result in the tender being rejected.
	No offer will be accepted after the Date & Time specified on the IREPS website.

5.8.3	Any corrigendum to the NIT/ tender document will be done only during the advertising period as an exception only and the same will be posted on the IREPS website also. No corrigendum is permitted during the offer submission period, except for extending the date of Closing. Hence, accordingly the Tender NIT period is split as under: ➤ Advertisement period : Time during which all information pertaining to tender shall be available but offers cannot be submitted. ➤ Offer submission period : Fifteen days prior to opening of tender, during which tenderers can submit their offer.
5.9	SYSTEM OF QUOTING RATES: Tenderers are requested to quote their rates in terms of percentage above or below the estimated total cost of the Railways. Rates in the offer should be in Indian rupees only. Offers in foreign currency will not be accepted. The tenderer should quote rates in figures and in words. Wherever there is difference between the rates quoted in figures and in words, the rates quoted in words will be taken as correct. All rates and other information like discounts etc. having bearing on the rates shall be written both in figures and words in the prescribed offer form. The quoted rates shall includes all duties, Taxes, charges etc. Tenderers if quoting any other rates anywhere other than the Schedule of material & Works, shall not be considered. Rate quoted should be rounded off to one Rupee. Offer received for only part of schedule will not be considered and shall be rejected. <u>Tenderers while quoting may specifically note the following:-</u> (i) The rates quoted in the offer by the tenderer shall be inclusive of basic cost and all taxes / duties as applicable after introduction of GST. (ii) Octroi not applicable after introduction of GST. Road Permit letter will not be issued. (iii) Concession forms for statutory taxes shall be supplied by Railways on demand if applicable. (iv) Railways will affect recovery of Taxes on work contract at source at the rate decided by the Government, where the work is being executed. (v) Railways shall affect recovery of income tax at source at the rates in vogue. (vi) The rates quoted by tenderer and accepted by Railway Administration shall hold good till the Completion of the work and no additional individual claim will be admissible on account of fluctuation in market rates, toll etc. However, if rates of existing GST or cess on GST for Works Contract is increased or any new tax /cess on Works Contract is imposed by Statute after the date of opening of tender but within the original date of completion/date of completion extended under clause 17 & 17A and the Contractor thereupon properly pays such taxes/cess, the Contractor shall be reimbursed the amount so paid. Further, if rates of existing GST or cess on GST for Works Contract is decreased or any tax/cess on Works Contract is decreased / removed by Statute after the date of opening of tender, the reduction in tax amount shall be recovered from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India. (vii) "The tenderer for carrying out any construction work in _____ (name of the State) must get themselves registered from the Registering Officer under Section – 7 of the Building and Other Construction Workers Act, 1996 and rules made thereto by the _____ (Name of the State) Govt. and submit certificate of Registration issued from the Registering Officer of the _____ (Name of the State) Govt. (Labour Deptt.). For enactment of this

	Act, the tenderer shall be required to pay cess @ 1% of cost of construction work to be deducted from each bill. Cost of material shall be outside the purview of cess, when supplied under a separate schedule item."
5.10	VALIDITY OF OFFER: (i) The tenderer shall keep the offer open for a minimum period as mentioned in NIT 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 Bid Security. (ii) It is understood that the tender document has been sold/issued to the Tenderer(s) and the Tenderer(s) is / are permitted to tender in consideration of the stipulation on his/their part that after submitting his / their tender subject to the period being extended further if required by mutual agreement from time to time, he will not resile from his offer or modify the terms and conditions there of in a manner not acceptable to Western Railway. Should the Tenderer fail to observe or comply with the foregoing stipulation, the amount deposited, as Bid Security for the due performance of the above stipulation shall be forfeited by the Railway.
5.11	ERRORS, OMISSIONS & DISCREPANCIES: (IN THE TENDER DOCUMENT) The Contractor(s) shall not take any advantage of any mis-interpretation 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 mis -interpretation shall be entertained. If a Tenderer finds discrepancies in, or omission from the drawing or any of the Tender papers or he has any doubt to their meaning, he should at once notify the Railway who may send a written clarification to all Tenderers.
5.12	WRONG INFORMATION BY TENDERER: If the Tenderer/s deliberately give/s wrong information in his/their tender, create/s circumstances for the acceptance of his/their tender, the Railway reserves the right to reject such tender at any stage.
5.13	OPENING OF TENDERS: (a) Bid of all the tenderers will be opened at IREPS site on date mentioned in Tender notice or corrigendum if any after 15.30 hrs. in the office of the Senior Divisional Signal & Telecommunication Engineer, 2nd Floor, Divisional Railway Manager's Office, Mumbai Central, Mumbai - 400 008 in the presence of accounts officials. In the event of the specified date of Bid opening being declared a holiday for the Railway, the Bids shall be opened at the same time and location on the next working day. (b) For two packet system, after the Technical evaluation of the tenders, the Financial Bids of all the eligible and technically suitable tenderers will be opened "on a date and time notified on IREPS site" . The Financial Bids of the tenderers considered technically unresponsive/unacceptable will not be opened. (c) After the Opening of Financial bids, Electronic Reverse Auction will be carried out in accordance with Railway Board guidelines issued vide letter no. 2017/Trans/01/Policy/Pt-S, Dtd. 28.03.2018. (d) The tenderer whose rates are found lowest at the time of opening of tender shall in any case not mean that the concerned tenderer is a valid lowest tenderer. The valid lowest tenderer shall be decided by the Tender Committee in its due proceedings.
5.14	RIGHTS OF THE RAILWAY TO DEAL WITH TENDERS: The authority for the acceptance of the tender will rest with the Railway. It shall not be obligatory on the said authority to accept the lowest tender or any other tender, and tenderer(s) shall neither demand any explanation for the cause of rejection of his/ their

	tender nor the Railway to assign reasons for declining to consider or reject any particular tender or tenders. The Railway reserves the right of not to invite tenders for any of Railway work or works or to invite open or limited tenders and when tenders are called to accept a tender in whole or in part or reject any tender or all tenders without assigning reasons for any such action. In case if tender is accepted in part by Railway administration, Letter of Acceptance shall be issued as counter offer to the Tenderer, which shall be subject to acceptance by the Tenderer.
5.15	RATES DURING NEGOTIATION: The Tenderer/s shall not increase his/their quoted rates in case the Railway Administration negotiate for reduction of rates, such a negotiation shall not amount to cancellation or withdrawal of the original offer and the rates originally quoted will be binding on the Tenderer/s.
5.16	ACCEPTANCE OF TENDER: A letter of acceptance (LOA) of the offer shall be issued by the Railway Administration to the successful Tenderer that his offer has been accepted, on receipt of which he shall submit a Performance Bank Guarantee (PBG) bond of 5% of original cost of work within 21 days of receipt of LOA and shall execute a formal Contract Agreement with the President of India acting through the Senior Divisional Signal & Telecom Engineer, Western Railway, Mumbai Central, Mumbai-400008 or his authorized representative for carrying out the work according to terms and conditions of this tender including "General Conditions of Contract" of Indian Railway and Special Conditions / Specifications of this tender. Upon issuing of LOA the contract for the work shall be deemed to have been awarded to the tenderer and accordingly the completion period will be reckoned from the date of issue of LOA irrespective of the date of signing of contract agreement subsequently.
5.17	SIGNING OF AGREEMENT: The tenderer whose tender is accepted shall be required to present himself or his duly authorized representative person at the Office of Senior Divisional Signal & Telecom Engineer, Western Railway, Mumbai Central, Mumbai-400 008 to execute the contract document within stipulated time after receipt of notice that the contract documents are ready. Failure to do so shall constitute breach of the agreement effected by the acceptance of the tender in which case the bid security accompanying the tender shall be forfeited by the Railway as liquidated damages for such default, without prejudice to any other right or remedies open to the Railway.
5.18	COMMENCEMENT OF WORK: The successful tenderer upon receipt of LOA shall commence the work by way of submitting a detailed time schedule for completion of work within the allowed completion period.
5.19	COMPLIANCE OF PUBLIC PROCUREMENT(PREFERENCE TO MAKE IN INDIA): Letter issued by Department for Promotion of Industry and Internal Trade (DPIIT) under the Ministry of Commerce and Industry regarding PPP-MII policy issued vide their order No. P-45021/2/2017-PP (BE- II) dated 16-09-2020, (as amended from time to time) and Notification of DoT issued vide No. 18-10/2017-IP dated 29.08.2018 (as amended from time to time) shall be applicable for this tender. Tenderer needs to provide details of Schedule items as per Format-15, only for items mentioned in the Format-15. The tenderer also needs to declare overall local content for the entire work. As the tender value is more than Rs. 10 Cr., in accordance with DPIIT guidelines, the

	tenderer will be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing Chartered Accountant (in respect of suppliers other than companies) giving the percentage of Local Content.
5.20	PERMISSION TO BID FOR A BIDDER FROM A COUNTRY WHICH SHARES LAND BOUNDARY WITH INDIA: Any bidder from the countries sharing a land border with India will be eligible to bid in any procurement of works (including turnkey projects) only if the bidder is registered with the Competent Authority. The Competent Authority for registration will be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India. For interpretation of this para, Department of Expenditure, Ministry of Finance, Government of India letter F.No.6/18/2019-PPD dated 23/07/2020 shall be referred.
5.21	LETTER OF CREDIT AS MODE OF PAYMENT: As per Railway Board letter 2018/CE-I/CT/9 dated 04.06.2018, for the tender costing 10 lakh and above, Contractor may give option to take payment from Railway through a letter of credit (LC) arrangement. The condition for same are as follows :- - For all the tenders having advertised cost of Rs 10 lakh or above, the contractor shall have the option to take payment from Railways through a letter of credit (LC) arrangement. - This option of taking payment through LC arrangement has to be exercised in IREPS (Indian Railway Electronic Procurement System--the e-application on which tenders are called by Railways) by the tenderer at the time of bidding itself, and the tenderer shall affirm having read over and agreed to the terms and conditions of the LC option. - The option so exercised, shall be an integral part of the bidder's offer. - The above option of taking payment through LC arrangement, once exercised by tenderer at the time of bidding, shall be final and no change shall be permitted, thereafter, during execution of contract. - In case tenderer opts for payment through LC, following shall be the procedure to deal release of payment through LC. - The LC shall be a sight LC. - The contractor shall select his Advising / Negotiating bank for LC. The incidental cost towards issue of LC and its operation thereof shall be borne by the contractor. - SBI, New Delhi, Main Branch will be the nodal branch for issue of LCs based on online requests received from Railway Accounts Units for tenders opened in financial year 2018-19. SBI branches where the respective Railway Accounts Office has its Account (local SBI branch) will be the issuance/reimbursing branch for LC issued under this arrangement. The Bank shall remain same for this tender till completion of contract. The incidental cost @ 0.15 % per annum of LC value, towards issue of LC and operation thereof shall be borne by the contractor and shall be recovered from his bills. - The LC shall be opened initially for duration of 180 to 365 days in consultation with contractor. The LC shall be extended time to time as per the progress of the contract, on the request of the contractor. The value of LC to be opened initially as well as extended thereafter shall be finalized by the engineer in consultation with the contractor on the basis of expected progress of work. - The LC terms and conditions shall inter-alia indemnify and save harmless the Railway from and against all losses, claims and demands of every nature and description brought or recovered against the Railways by reason of any act or omission of the contractor, his agents or employees, in relation to the Letter of Credit

	(LC). All sums payable / borne by Railways on this account shall be considered as reasonable compensation and paid by contractor. f) The LC terms and conditions shall inter-alia provide that Railways will issue a Document of Authorization (format enclosed as Annexure-III in this Tender document) after passing the bill for completed work, to enable contractor to claim the authorized amount from their bank. g) The acceptable, agreed upon document for payments to be released under the LC shall be the Document of Authorization. h) The Document of Authorization shall be issued by Railway Accounts Office against each bill passed by Railway. i) On issuance of Document of Authorization, a copy of Document of Authorization shall be posted on IREPS for download by the contractor. A digitally signed copy of Document of Authorization shall also be sent by Railway Accounts Office to Railway's bank (Local SBI Branch). j) The contractor shall take print out of the Document of Authorization available on IREPS and present his claim to his bank (advising Bank) for necessary payments as per LC terms and conditions. The claim shall comprise of copy of Document of Authorization, Bill of exchange and Bill. k) The payment against LC shall be subject to verification from Railway's Bank (Local SBI Branch) l) The Contractor's bank (advising bank) shall submit the documents to the Railway's Bank (Local SBI Branch) m) The Railway's bank (issuing bank) shall, after verifying the claim so received w.r.t. the digital signed document of Authorization received from Railway Account Office, release the payment to contractor's bank (advising bank) for crediting the same to contractor's account. n) Any number of bills can be dealt within one LC, provided the sum total of payments to contractor is within the amount for which LC has been opened. o) The LC shall be closed after the release of final payment including PVC amount, if any, to the contractor. p) The release of performance guarantee or security deposit shall be dealt directly by railway with the contractor i.e. not through LC.

For Divisional Railway Manager (S&T)
Mumbai Central, Mumbai – 400008,
For and on behalf of President of India

CHAPTER - 6

STANDARD CONDITIONS OF CONTRACT

6.0	GENERAL CONDITIONS OF CONTRACT: “General Conditions of Contract” (GCC) of Indian Railway in addition to and/or in part super-session up to latest correction slips” will be applicable. Booklet of General Conditions of Contract (GCC) Works Hand Book Parts I & II April-2022 edition/latest edition (with latest amendments), may be purchased by Tenderer(s) from Engineering Dept. of Western Railway at their own cost.
6.1 (i) (ii) (iii) (iv) (v)	GENERAL: Special Conditions, Standard Condition of Contract (SCC), "Schedule of Material & Works" and Technical Requirement & Specification and provision of tender document shall govern the works to be executed under this contract in addition to and/or in part super session of the General Conditions of Contract (GCC) with latest amendment / Correction Slips and Standard Specifications as laid down in the Western Railway Works Hand Book, Part III as amended up to latest correction slips. Where there is any conflict between these Special Conditions of Contract on one hand and Standard Specifications and General Conditions of Contract of Western Railway on the other hand, the former (SC) shall prevail. Any deviations from these Special Conditions, Technical Requirement & Specifications, Schedule of Material & Supplies and/or any condition of tender document, if any, stated by the tenderer in his tender or subsequently introduced by the Railway shall be a part of the Contract only to such extent as have been explicitly accepted by the Railway and incorporated in the contract. These specifications/documents describe the material to be supplied, work to be performed and the method of construction for the complete installation in strict accordance with the drawings and specifications mentioned herein and such instructions as may from time to time be given by the Railway. The contractor shall quote for work giving all information after close scrutiny of the plans and site survey. Unless specifically provided otherwise in the tender, any and all exception, which the tenderer may have to any of the clauses of the special conditions of contract or, technical requirement & specification as included in the tender shall be clearly stated. Such exceptions shall be listed in “Statement of Deviation” (Format – 4). If the tenderer has no exceptions, the annexure shall be submitted with a “Nil” statement. If the tenderer does not include the annexure with the tender it shall be conclusive evidence that the special conditions of contract and technical requirement & specification and all conditions of contract are entirely acceptable to the Tenderer. Any deviations from these special conditions of contract, technical requirement & specifications if any, stated by the tenderer in his tender or subsequently introduced by the Railway shall be a part of the Contract only to such extent as have been explicitly accepted by the Railway and incorporated in the contract.
6.2	SECURITY DEPOSIT : (1) Security Deposit: The Security Deposit shall be 5% of the contract value. The Bid Security submitted by the Contractor with his tender will be retained/encashed by the Railways as part of security for the due and faithful fulfilment of the contract by the Contractor. Provided further that, if Contractor submits the Cash or Term Deposit Receipt issued from a Scheduled commercial bank of India or irrevocable Bank Guarantee Bond from a Scheduled commercial bank of India, either towards the Full Security Depositor the Part Security Deposit equal to or more than Bid Security, the Railway shall return the Bid Security, to the Contractor. Balance of Security Deposit may be deposited by the Contractor in cash or Term Deposit Receipt issued from Scheduled commercial bank of India or irrevocable

	Bank Guarantee bond issued from Scheduled commercial bank of India, or may be recovered at the rate of 6% of the bill amount till the full Security Deposit is recovered. Provided also that in case of defaulting Contractor, the Railway may retain any amount due for payment to the Contractor on the pending "on account bills" so that the amounts so retained (including amount guaranteed through Performance Guarantee) may not exceed 10% of the total value of the contract. The Irrevocable Bank Guarantee submitted towards Security deposit shall be initially valid up to the stipulated date of Maintenance period plus 60 days and shall be extended from time to time, depending upon extension of contract granted in terms of Clause 17A and 17B of the Standard General Conditions of Contract. Note: Security Deposit deposited in cash by the Contractor or recovered from the running bills of a Contractor or submitted by contractor as Term Deposit Receipt(s) can be refunded/returned to the contractor, in lieu of irrevocable Bank Guarantee bond issued from scheduled commercial bank of India, to be submitted by him, for an amount equal to or more than the already available Security Deposit, provided however that, in a contract of value less than Rs. 50 Crore, such refund/ return of the already available Security Deposit is permitted up to two times and in a contract of value equal to or more than Rs. 50 Crore, such refund / return of the already available Security Deposit is permitted up to three times. (2) (i) Refund of Security Deposit: Security Deposit mentioned in sub clause (1) above shall be returned to the Contractor along with or after, the following: (a) Final Payment of the Contract as per clause 51.(1) of GCC and (b) Execution of Final Supplementary Agreement or Certification by Engineer that Railway has No Claim on Contractor and (c) Maintenance Certificate issued, on expiry of the maintenance period as per clause 50.(1) of GCC, in case applicable. (2) (ii) Forfeiture of Security Deposit: Whenever the contract is rescinded as a whole under clause 62 (1) of GCC of these conditions (GCC), the Security Deposit already with railways under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 62 (1) of these conditions (GCC), the Security Deposit shall not be forfeited. (3) No interest shall be payable upon the Bid Security and Security Deposit or amounts payable to the Contractor under the Contract.
6.3	PERFORMANCE GUARANTEE: The procedure for obtaining Performance Guarantee is outlined below: (a) The successful bidder shall have to submit a Performance Guarantee (PG) within 21 (Twenty one) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 21 (Twenty one) days and upto 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 12% per annum shall be charged for the delay beyond 21(Twenty one) days, i.e. from 22nd day after the date of issue of LOA. Further, if the 60th day happens to be a declared holiday in the concerned office of the Railway, submission of PG can be accepted on the next working day. In all other cases, if the Contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract is liable to be terminated. In case contract is terminated railway shall be entitled to forfeit Bid Security and

	other dues payable to the contractor against that particular contract, subject to maximum of PG amount. In case a tenderer has not submitted Bid Security on the strength of their registration as a Startup recognized by Department of Industrial Policy and Promotion (DIPP) under Ministry of Commerce and Industry, DIPP shall be informed to this effect. The failed Contractor shall be debarred from participating in re-tender for that work. (b) The successful bidder shall submit the Performance Guarantee (PG) in any of the following forms, amounting to 5% of the original contract value:- (i) A deposit of Cash; (ii) Irrevocable Bank Guarantee; (iii) Government Securities including State Loan Bonds at 5% below the market value; (iv) Pay Orders and Demand Drafts tendered by any Scheduled Commercial Bank of India; (v) Guarantee Bonds executed or Deposits Receipts tendered by any Scheduled Commercial Bank of India; (vi) Deposit in the Post Office Saving Bank; (vii) Deposit in the National Savings Certificates; (viii) Twelve years National Defence Certificates; (ix) Ten years Defence Deposits; (x) National Defence Bonds and (xi) Unit Trust Certificates at 5% below market value or at the face value whichever is less. Also, FDR in favour of Sr.DFM-Mumbai Central (free from any encumbrance) may be accepted. (c) The Performance Guarantee shall be submitted by the successful bidder after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid upto the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the Contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days. (d) The value of PG to be submitted by the Contractor is based on original contract value and shall not change due to subsequent variation(s) in the original contract value. (e) The Performance Guarantee (PG) shall be released after physical completion of the work based on 'Completion Certificate' issued by the competent authority stating that the Contractor has completed the work in all respects satisfactorily. The completion certificate will be issued only after the issue of PAC of all the divisions. (f) Whenever the contract is rescinded, the Performance Guarantee already submitted for the contract shall be encashed. (g) The Engineer shall not make a claim under the Performance Guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of: (i) Failure by the Contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee. (ii) Failure by the Contractor to pay President of India any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the Agreement, within 30 days of the service of notice to this effect by Engineer. (iii) The Contract being determined or rescinded under clause 62 of these conditions
--	--

	(GCC). As per amendment in the Bombay Stamp Ac, 1958 the revised stamp duty for Bank Guarantee Bond is as under:- <table><tr><td>Sr</td><td>Amount of Guarantee Bond</td><td>Stamp Duty Payable</td></tr><tr><td>1</td><td>Where the amount not exceeds Rs Rs.2,500/-</td><td>Rs.100/-</td></tr><tr><td>2</td><td>Where the amount exceeds Rs.2,500/-</td><td>Rs.5(Five) for every Rs.1000 or part thereof for the amount secured by such deed, subject to the min of Rs.100. And max of Rs.10.0 lakh.</td></tr></table> Rate of stamp duty for Bank Guarantee Bond shall be payable as per Bombay Stamp Act as applicable at the time of execution of Bank Guarantee Bond.			Sr	Amount of Guarantee Bond	Stamp Duty Payable	1	Where the amount not exceeds Rs Rs.2,500/-	Rs.100/-	2	Where the amount exceeds Rs.2,500/-	Rs.5(Five) for every Rs.1000 or part thereof for the amount secured by such deed, subject to the min of Rs.100. And max of Rs.10.0 lakh.
Sr	Amount of Guarantee Bond	Stamp Duty Payable										
1	Where the amount not exceeds Rs Rs.2,500/-	Rs.100/-										
2	Where the amount exceeds Rs.2,500/-	Rs.5(Five) for every Rs.1000 or part thereof for the amount secured by such deed, subject to the min of Rs.100. And max of Rs.10.0 lakh.										
6.4	PLEA OF CUSTOM: The plea of custom prevailing will not on any account be permitted as an excuse for an infringement of any of the conditions of the contract and/ or special conditions of contract.											
6.5	PARTNERSHIP DEEDS, POWER OF ATTORNEY: Railway 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. It may, however, recognize such powers of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor. These charges have been fixed at Rs. 100/- payable by the tenderer at the time of submitting the power of attorney for scrutiny and legal advice. If the power of attorney is not accepted, otherwise than for legal defect, the charges will be refunded. If the Power of attorney is returned on account of legal defect for correction, separate charges of Rs.50/-(Rupees Fifty only) for scrutiny of corrected power of attorney will be payable by the tenderer while resubmitting power of attorney. The same charges will be recoverable for scrutiny of all such documents. No power of attorney in favour of any individual person will be acceptable if it is irrevocable except when it is in favour of bank. In case where the power of attorney/partnership deed has not been executed in Hindi or 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.											
6.6	CHANGE IN ADDRESS: Any change in the address of the contractor shall be forthwith intimated in writing to the Railway. The Railway will not be responsible for any loss/ inconvenience suffered by the Contractor on account of his failure to comply with this.											
6.7	STORES - RECEIPT & ACCOUNTAL: Exchange of proper requisition and receipt shall be done on a suitable Performa between the Contractor and the Railway's authorized representative. The Contractor shall issue a receipt along with the demand slip for material he requires for the work and obtain receipt when any material is returned to stores. These transactions shall be done with the consignee.											

	All stores drawn by the contractor shall be accounted for either as installed as per site measurements recorded or as per surplus stores returned to the Consignee (Stores).
6.8	LOADING / UNLOADING OF MATERIAL: The material shall be delivered by the Contractor at the Depot of Consignee. Material supplied by Railways for execution of the work and the material delivered by the Contractor will be transported from the Stores of the nominated Consignee to site by the Contractor with his own labour and transport. This includes loading and unloading of materials at consignee depot and at site at by contractor at his own cost. Alternatively, if the site of work is ready and work is in progress, physically, the materials can be brought to the site directly and supplied with prior approval of Engineer in-charge. Materials required to carry out this work if supplied by the Railways will be issued at the nominated Depots. The contractor will have to load, Transport these materials to the site of work and unload at his own cost. Empty cable drums and balance materials after completion of work, if any should be returned back at the nominated Depot of the nominated Senior Section Engineer. The Contractor will have to furnish an Indemnity Bond for the Security of the Railway material issued to him. Indemnity Bond will be released after commissioning of work and when all balance material is returned by contractor. The security of the material brought to the site of work will remain with the Contractor, till commissioning of the complete structure and same in handed over to Railway's nominated representative of Engineer-in-charge.
6.9	SECURITY OF MATERIAL: Once the material is handed over to the contractor, the contractor shall be responsible for the security of material irrespective of the fact that the material is kept in Railway premises. The contractor shall make adequate arrangements at site as deemed necessary for guarding the same from the thefts by outsiders or his labour or damage of any sort. The cost of stores lost shall be realized by the Railway out of any payments due to the contractor in this contract or from any other contract executed by Govt. of India. The material issued to the contractor if found defective / unserviceable after transporting at site, the same shall be transported & handed over to the Consignee Depot by the contractor without any extra cost.
6.10	RETURN OF SURPLUS STORES: The Contractor with his own staff shall return the stores found to be surplus to Consignee. The contractor shall account for all material that is issued to him. A register shall be maintained at site, which shall be signed by the Contractor as a token of receipt of material. All the issued material shall either be used in the installation or returned to Consignee.
6.11	RETURN OF RELEASED STORES: Released material shall be handed over to Consignee in systematic manner. Proper care should be taken while releasing & transporting the stores. This clause is specifically applicable only for outdoor works and for indoor only those items are

	covered which are released before commissioning of indoor work.
6.12	INSPECTION OF MATERIAL: The Inspection of material shall be done by RDSO/RITES/Railways (Engineer in charge of the work or Railway representative nominated by Western Railway) in the factory premises / assembling unit of the contractor. No material shall be dispatched from manufacturer's premises / assembling unit prior to inspection /approval by the Railway. (i) The Railway may also inspect the material again at the Consignee depot. The Railway shall also have the right for stage inspection of material to satisfy himself that the materials are in accordance with the specification and approved drawings/design. (ii) The Contractor shall give sufficient notice of time to RDSO / RITES / Railway's representative when the material is ready for testing / inspection. All facilities as may be necessary shall be provided for carrying out the tests at the place of manufacture. (iii) Whenever materials are inspected by Authorized Representatives of the Railways / Consignee, the Contractor will be required to furnish manufacturers/supplier's Guarantee Certificate (along with test report) and performance guarantee for such items. The contractor has to also furnish proof of purchase / dispatch from manufacturer. (iv) The Railway shall have full power to reject any material that it may consider to be defective or inferior in quality, workmanship, or otherwise not in accordance with the Specification and the Railway's decision shall be final, even though they might have been inspected by RDSO/RITES. The Tenderer shall remove forthwith any such material rejected and replace them promptly at his own cost. (v) The inspection charges of RDSO/RITES for the inspection service rendered to the S&T contractors executing works for shall be borne by the Railways. (vii) Standard RDSO Drawing referred to in this schedule & technical specification may be collected on payment from RDSO, Lucknow by contractor if required.
6.13	MATERIALS AND WORKMANSHIP: (i) The materials, to be used by the Tenderer as per RDSO's Specification / Drawing will have to be procured from RDSO approved firms only. (ii) Materials/ Equipments for which RDSO approved sources exist should be taken from RDSO approved sources. (iii) Material should not be procured from any sources banned for business dealing with Railways under any circumstances. (iv) All the items shall be procured from RDSO approved firms to IRS/RDSO specifications and shall be inspected by RDSO. In case the total value of a particular item is less than Rs. Five lakh, the same shall be inspected by RITES / Consignee, subject to supplies being from sources approved by RDSO. (v) Further items which do not have RDSO specification for which RDSO has not approved any suppliers, inspection shall be carried out by RITES/authorized Railway representatives (In this case material shall be accepted against firm's guarantee certificate). (vi) Material shall be in accordance with specifications and drawings specified or approved by the Railway with latest amendments. (vii) Material for which no detailed specification/ drawing is given in tender document should be procured from reputed manufacturer / authorized agents and proof of

	purchase/dispatch shall be furnished to consignee. (viii) Material should be in properly packed condition and the consignee reserves the right to reject the material even though it was passed by RDSO. (ix) All the materials and workmanship used in this work shall be of extremely good quality and high class in every respect and is expected to give trouble free service. (x) The personnel deputed for maintenance should have adequate skills and competency certificate issued by ITIs / reputed institutions.
6.14	CONSIGNEE's RIGHT OF REJECTION: (i) Notwithstanding any approval which the Inspecting Officer may have given in respect of the stores or any materials or the work or workmanship involved in the performance of the contract (whether with or without any test carried out by the Contractor or the Inspecting Officer) and notwithstanding delivery of the stores where so provided to the interim consignee, it shall be lawful for the consignee, on behalf of the purchaser, to reject the stores or any part, portion of consignment thereof within a reasonable time after actual delivery thereof to him at the place or destination specified in the contract if such stores or part, portion of consignment thereof is not in all respects in conformity with the terms and conditions of the contract whether on account of any loss, deterioration or damage before dispatch or delivery or during transit or otherwise howsoever. (ii) The Railway shall have full right to reject any material that the Railway may consider to be defective or inferior in quality of material, workmanship, and design or otherwise, not in accordance with the specifications and drawings specified by the Railway.
6.15	CONSEQUENCES OF REJECTION (Rejected stores). When any stores delivery at the consignee's depots is rejected, the contractor shall remove this within 15 days from the date of rejection. Consignee will issue rejection advice to contractor for rejected store. Such rejected stores shall lie at the contractor's risk from the date of rejection. If the Contractor does not remove the stores within this period, the purchaser or his nominee shall have the right to dispose of such stores, as thought fit, at the contractor's risk and account. The purchaser shall also be entitled to recover from the contractor, handling and ground rent / demurrage and any other charges for the period during the rejected stores are not removed after the period aforementioned.
6.16	WORKS SPECIFICATIONS, DRAWINGS: The contractor shall be solely responsible for ensuring that the requirement of safety are incorporated in all designs /drawings / works and the drawings furnished by him, although these may have been approved by the Railway. Specifications, drawings, requisites and requirements referred to in the body of this specification form an essential part thereof. The sources of the drawings & specifications referred to in this Tender, can be obtained from Engineer-in-charge. Installation shall comply with the requirements to the following manuals/ books and Western Railway practices in vogue- • Indian Railways Signal Engineering Manual (latest edition). • Indian Railways Telecom Manual (latest edition). • Indian Railways Engineering code • Indian Railways P-Way manual. • Indian Railways Works Manual

	- Indian Railways AC traction Manual - General & Subsidiary Rules with latest correction slip. - Schedule of dimensions. These books are available in the office of Senior Divisional Signal & Telecom Engineer, Western Railway, Mumbai Central, Mumbai-400 008.
6.17	SUPERVISION & LABOUR:
(i)	Tenderer shall keep on the works sufficient and competent staff as per G.C.C. Clause no. 26. The work shall be carried out as per Railway's extant practice.
(ii)	During the execution of the works, the contractor or his representative shall not leave the site where the works are being carried out. At the site of work, the contractor shall always make available one representative who shall be approved by the Railway Administration and who shall be invested with adequate powers by the contractor so that orders or instruction given to the said representative by the Railway Administration in writing could be considered as duly given or conveyed to the contractor himself. Representative of the Railway will check up the work from time to time. Supervision and Erection of work will be done by the contractors with their own labour, till completion and testing of the work.
(iii)	The field Supervisor shall receive instructions from the Engineer-in-charge of the work or his representative at site and comply with the instructions. The Contractor shall be responsible for the compliance of such instructions.
(iv)	If the supervisor acting on behalf of the Contractor disregards the instructions of the Railway's supervisor / representative and does not execute the work to the satisfaction of this Railway supervisor, the Railway's Engineer, in consultation with superior will have the authority to order stoppage of work and / or ask for the replacement of the supervisor, which shall be binding on the Contractor.
(v)	The Contractor shall make his own arrangement for accommodation, for his staff during installation, testing & commissioning. Water for drinking purpose if available at the station location will be given. However, Railways take no guarantee for this facility.
(vi)	Compliance of Labour Laws: a) The Contractor shall not employ any labour below the age of 18 years. b) Contractor shall abide by the Rules and Regulations of the Contract Labour (Regulation & Abolition) Act 1970 with Contract Labour (Regulation & Abolition) Central Rules 1971 as modified from time-to-time up-to-date. Contractor should obtain a proper a valid license for the concern work from the concerned Assistant Labour Commissioner or Licensing Officer of the area and the photo copy of the labour license may be submitted to Railway for records. Failure to do so will attract legal action against the tenderer. c) All the provisions of relevant labour laws shall be strictly observed by the contractor. Non-observance of any such provisions or denial of rights and benefits to which they are normally entitled shall be viewed seriously and action shall be taken against defaulting contractor. Contractor shall not undertake or execute any work through contract labour except undertake and in accordance with the license issued under the said Act in that behalf by authorized licensing officer.\
(vii)	SPECIAL CONDITIONS OF CONTRACT FOR MANDATORY UPDATION OF LABOUR DATA ON RAILWAY'S SHRAMIKKALYAN PORTAL BY CONTRACTOR.

	(As per Railway Board Letter No. 2018/CE-I/CT/4 dated 17.10.2018) 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 Railway General Condition of Contract. In order to ensure the same, an 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 in this portal. These details shall be available in public domain. The Registration/ updation of Portal shall be done as under: (a) 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. (b) 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. (c) 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. (d) After approved of LoA by Engineer, contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wagespayment to them on shramikkalyan portal on monthly basis. (e) It shall be mandatory upon the contractor to ensure correct and prompt uploading of all salient details of engaged contractual labour& payment made thereof after each wage period. While processing payment of any 'On Account bill 'or ' Final bill" ' or release of ' Advance ' or ' Performance Guarantee / Security Deposit ' , contractor shall a certificate to the Engineer or Engineer representatives that "I have uploaded the correct details of contract labours engaged in connection with this contract and payment made to them during the wage period in Railway's shramikkalyan portal at ' www.shramikkalyan. Indianrailways.gov.in ' till ----- Month, -----Year.
6.18	INSPECTION OF WORKS: (i) The responsibility of providing facilities for inspection lies with the contractor. He shall be responsible for providing required facilities i.e. tools, equipments for inspection at the place of work, for which no additional payments shall be made. (ii) The completed installation at all stages shall be subjected to checks and test as decided by Railways and the contractor shall be liable to remedy such defects as discovered during these checks and test and make good all deficiencies brought out. However, complete installation will be taken over finally on completion of the full system. It will be the responsibility of the contractor to rectify any discrepancy noticed within a reasonable period from the date the complete system is taken over. For the purpose of taking over, joint inspection will be carried out by DSTE / ADSTE and Sr. Section Engineer/Jr. Engineer. The contractor should make himself or his representative available at the time of joint inspection. The decision of the Engineer shall be final in the matter. (iii) The contractor will be called upon to pay all the expenses incurred by the Railway in respect of any work found to be defective or of inferior quality, adulterated or otherwise unacceptable. (iv) During the execution of the contract, samples may be taken for the purpose of test and/or analysis under the conditions laid down in specification, such

	samples to be prepared for testing and forwarded free of all cost to the Railway. (v) The contractor will keep a logbook at the work site. The inspecting officer of the Railway may in addition to oral instruction to the representative of the contractor at the work site, enter such instruction as he deems fit in this logbook. The contractor will be responsible to note necessary action and remedy the defects and ensure that the instructions either oral or written are complied with. His non-noting the logbook entries shall not be considered sufficient grounds for non-compliance of the instructions. (vi) SITE ORDER BOOK/FAILURE & MAINTENANCE REGISTER An Inspection Register/ Site Order book shall be maintained for this work, wherein the Engineer in-charge of the work or his executive subordinate shall record failure & instructions regarding this work. It is expected that the Contractor or his representative at the site shall note such instructions/ failure and take action accordingly. His non-noting the logbook entries shall not be considered sufficient grounds for non-compliance of the instructions. Date & time of failure occurrence & its restoration shall be recorded in this register by Railway representative and contractor or his representative respectively, with signature. Date & time of restoration entered by the contractor needs to be verified and counter signed by Railway representative. This register shall have entry on day-to-day basis regarding the progress of work. Record should also be kept with joint signature of Railways & firm's representative for all release material. This should be produced during the inspection & check of Railway engineer in-charge. vii) QUALITY AUDIT OF INSTALLATION (Not Applicable) The Contractor shall arrange for a quality audit of installation by authorized representative of RDSO approved equipment manufacturer, who will certify that the installation has been done as per OEM's specification, standard practices.
6.19	APPROVAL & MEASUREMENT OF WORK: (a) The contractor shall obtain written approval of the supervisor after completion of the various sub-items of each work mentioned in the Schedule (wherever applicable). (b) The contractor should ensure that measurement has been made for such work, which is not possible to measure subsequently and shall remain hidden. For example: After trenching is done After RCC trunking is placed in trench and properly aligned. After the above is laid properly After the earth is filled After brick/slab/capping is laid (c) The contractor shall sign the measurement as a token of acceptance of the measurement entered by the supervisor in-charge of the work (wherever applicable). (d) MEANING AND INTERPRETATION BY RAILWAY TO BE FINAL All measurements, method of measurement, meaning and 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 and shall be considered "excepted matter" in terms of conditions laid down in the General Conditions of Contract

	(e) RIGHT OF RAILWAYS TO KEEP BACK FORM THE CONTRACT ANY PORTION OF WORK The successful tenderer will however, have no claim or right in the execution of work which in the opinion of the Engineer should be carried out departmentally or otherwise and the Railway Reserves the right to keep back from the contract and carry out the work or any portion of work through any other agency, it may think without assigning any reason, any time after the acceptance of the tender. No claim for compensation/loss or whatsoever on this account will be entertained by the Railway.
6.20	SAFETY OF WORK & TRAINS: (i) The contractor should abide by all the Railway regulations and also ensure that the same are followed by his representatives, agents, servants or workmen. He is therefore bound under these clauses to give notice to them about the provision of this clause and the consequent liability of the contractor under the agreement. The contractor shall conform to all the Railway Rules relating to safety of personnel and operation of signals and points. In the A.C. electrified areas the special precautions as laid down in R.E. Manual shall be followed. (ii) No petroleum spirit within the meaning of the Indian Petroleum Act shall be stored at site or adjacent land until the approval of the Railway and necessary license under the Act has been obtained by the contractor. The tenderer shall also ensure that approval of the Engineer has been obtained for storing any other inflammable material well in advance. (iii) The contractor's employees and workers shall not for any reason operate any appliances or installations of the Railway concerning the safety of train movements, but they should whenever necessary notify the qualified Railway staff who will then take necessary steps. The contractor shall also be responsible for any damage that may cause due to the carelessness of his workmen and will bear the consequences in this regard. (iv) The work must be carried out most carefully in such a way that they do not hinder the Railway operation except as agreed to by the Railway. The Contractor shall do no work that may interfere with traffic until protection has been provided by the Railway and under supervision of Railway's representative. When the work is required to be carried out on the track itself or as close to the track as may pose a hazard to rail traffic, the work shall be carried out under the supervision of an authorized Railway representative Junior Engineer/Section Engineer/ Senior Section Engineer (JE/SE/SSE) Signal/Telecom. Whenever track side work are undertaken by the contractors, areas for unloading of bulk materials should be clearly demarcated and barricades provided if necessary with the consent of the (JE/SE/SSE) Signal/Telecom, in-charge of the work. Suitable steps shall also be taken to prevent transport vehicles and such other machinery gaining access so near the track as to threaten the safety of running trains. That, whenever it becomes inescapable to allow transport vehicles or mobile machinery to operate in close proximity to the running lines the maximum moving dimensions for the said lines shall be adequately protected by fencing or such other suitable measures. No vehicle will normally be permitted to ply adjacent to the running lines. The contractor will be responsible for the safety of hired trucks and men etc. working at the site. He will also be responsible for any damage caused to the Railway property, staff and passengers travelling on the line on account of his truck/vehicles having been

	allowed to ply on the bank. (v) The contractor shall take all precautionary measures in order to ensure protection of his own personnel moving about or working on the Railway premises and shall have to conform to the Rules and Regulations of the Railway. (vi) Suitable ladders for climbing the post and slings for supporting men on the post shall be used. Ropes as required shall be used for erection of the poles. The size of the rope shall be adequate. The contractor shall take necessary precaution for working near the power lines. If at any time the Railway finds the safety arrangements are inadequate or insufficient, the contractor shall take immediate corrective action as directed by the Railway's representative at site. However, it is not obligatory on the part of the Railway's to give such directions. The issue or non-issue of any direction in the matter by the Railway shall in no way absolve the contractor of his sole responsibility to adopt safe working methods. The stone-breakers, if employed shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals. Necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available by the contractor for the use of the persons employed on the site and maintained in condition suitable for immediate use and the contractor should take adequate steps, to ensure proper use of equipment by these concerned. When not in use, electrical apparatus shall be switched off. No paint containing lead or lead products shall be used except in the form of paste or ready mixed paints. Suitable face masks should be supplied by the contractor for use by the workers when paint is applied in the form of spray. (vii) Within the station premises and especially on passenger platforms, the contractor shall ensure sufficient free space for movement of passenger traffic. He must cover and protect the excavations carried out in such areas with a view to avoid any accidents. (viii) In case of an accident of any nature, the contractor will indemnify the Railway for any losses caused by him as a result of the accident. (ix) The contractor will not be entitled to any compensation for any damage or loss sustained by him during execution of the work, for any idle labour or transport or any loss or deterioration of the material or tools. (x) The contractor shall also be responsible for any damage that he may cause due to the carelessness of his workmen and will bear the consequences in this regard. (xi) The contractor will not be entitled to any compensation for any damage or loss sustained by him during execution of the work for any idle labour or transport or any loss or deterioration of the material or tools. (xii) <u>Safety of Public:</u> The Contractor shall be responsible to take all precautions to ensure the safety of the public whether on public or railway property and shall post such look out men as may, in the opinion of the Engineer, be required to comply with regulations appertaining to the work. Contractor shall ensure placement of barricading / partitions at the place of work to ensure safety of habitants of adjacent area, failing which Engineer may advise stoppage of work as per his discretion. (xiii) <u>Display Board:</u> The Contractor shall be responsible for displaying the details of works i.e. name of work, approximate cost, expected date of completion, name and address of the Contractor and address of Engineer on a proper steel Board of size not less than 1m x 1m.
--	--

6.21	PLYING OF ROAD VEHICLES IN RAILWAY LAND ADJOINING TO RUNNING LINES: The Contractor shall not allow any road vehicle belonging to him or his suppliers etc. to ply in railway land next to the running line. If for execution of certain works viz. earthwork for parallel railway line and supply of ballast for new or existing rail line, gauge conversion etc., road vehicles are necessary to be used in railway land next to the railway line, the contractor shall apply to the site-in-charge for permission giving the type and no. of individual vehicles, names and license particulars of the drivers, location, duration and timings for such work/movement. The site-in-charge or his authorized representative will personally counsel examine and certify, the road vehicle drivers, Contractor's flagmen and supervisor to be deployed on the work, location, period and timing of the work. This permission will be subject to the following obligatory conditions: i) The road vehicles will play only between sunrise and sunset. ii) Nominated vehicles and drivers will be utilized for work in the presence of at least one flagmen and one supervisor certified for such work. iii) The vehicles shall ply 6m clear of track. Any movement/work at less than 6m and up to minimum 3.5m clear of track centre shall be done only in the presence of Railway employee authorized by the Engineer-in-charge. No part of the road vehicle will be allowed at less than 3.5m from track centre. Cost of such Railway employee shall be borne by the Railway. iv) The Contractor shall remain fully responsible for ensuring safety and in case of any accident, shall bear, cost of all damages to his equipment and men and also damages to railway and its passengers. v) The vehicles and equipments of contractors can be drafted by Railway administration in case of accidents / natural calamities involving human lives. Engineer-in-charge may impose any other condition necessary for a particular work or site
6.22	EMERGENCY WORKS: In the event of any accident or failure occurring in or about the work or arising out of or in connection with the construction, completion or maintenance of the works which in the opinion of the Engineer requires immediate attention, the Railway may bring its own workmen or other agency to execute or partly execute the necessary work or carry out repairs if the Engineer considers that the contractor/s is/are not in a position to do so in time and charge the cost thereof , as to be determined by the Senior Divisional Signal & Telecom Engineer, Western Railway, Mumbai Central, to the contractor.
6.23	NIGHT WORKS: Notwithstanding the provision in the General Conditions of Contract, if the Engineer is satisfied that the work is not likely to be completed in time, except by resorting to night work, he may order the contractor/s to carry out the works even at night without conferring any right on the contractor for claiming any extra payment for the same. The contractor at his own cost shall make all adequate lighting arrangements and shall take precautions to avoid any mishap during night.
6.24	MAINS POWER SUPPLY: Testing of installation / equipments shall be done under supervision of Railway officials or by Railway officials themselves, from the electric supply to be provided by the Railways. However, for any installation activity, like drilling, soldering etc.,

	contractor, if so desires, to use tools / machines, electric power supply (230V) can be arranged by the Railways on usual payment, as per extant procedure. Non-availability of Mains Power will not be a reason for the slow progress of work. If Electric Supply is not available, the contractor shall make his own arrangement for Gen set / electrical power.
6.25	OBLIGATION TO CARRY OUT ENGINEER's INSTRUCTIONS: The contractor shall also satisfy the Engineer that adequate provision has been made:- To carry out his instructions fully and with promptitude. To ensure that parts required to be inspected before use are not used before inspections; and To prevent rejected parts being used in error. Where, parts rejected by the inspector have been rectified or altered, such parts shall be segregated for separate inspection and approval before being used in the work.
6.26	EXCEPTED MATTERS: All measurements, method of measurement, meaning and intent of specifications and interpretation of special conditions of contract, given and also made by the Railway or by the Engineer on behalf of the Railway shall be final and binding and shall be considered "Excepted Matters" in terms of condition No.63 of the General Conditions of Contract and will Strictly stay outside purview of any arbitrations limit and will not be arbitrable.
6.27	SETTLEMENT OF DISPUTES: This shall be considered in accordance with Arbitration & conciliation ordinance 1996 / Arbitration Act, 1996 with latest circular or corrigendum will be valid for this tender and the clause no.43,63 &64.of General condition of contract, with the latest available amendment to clause ,if any.
6.27.1	JURISDICTION OF COURTS The court of the place from where the Letter of Acceptance has been issued shall have the jurisdiction in respect of this contract
6.28 6.28.1	EXTENSION OF COMPLETION PERIOD: Extension of Time in Contracts: (17-A as per GCC) Subject to any requirement in the contract as to completion of any portion or portions of the works before completion of the whole, the Contractor shall fully and finally complete the whole of the works comprised in the contract (with such modifications as may be directed under conditions of this contract) by the date entered in the contract or extended date in terms of the following clauses: (i) Extension due to Modification: If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause thereof shall arise. (ii) Extension for Delay not due to Railway or Contractor: If in the opinion of the Engineer, the progress of work has any time been delayed by any act or neglect of Railway's employees or by other Contractor employed by the Railway under Sub-Clause (4) of Clause 20 of GCC or in executing the work not forming part of the contract but on which Contractor's performance necessarily depends or by reason of proceeding taken or threatened by or dispute with adjoining or to

6.28.2	neighboring owners or public authority arising otherwise through the Contractor's own default etc. or by the delay authorized by the Engineer pending arbitration or in consequences of the Contractor not having received in due time necessary instructions from the Railway for which he shall have specially applied in writing to the Engineer or his authorized representative then upon happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer within 15 days of such happening, but shall nevertheless make constantly his best endeavours to bring down or make good the delay and shall do all that may be reasonably required of him to the satisfaction of the Engineer to proceed with the works. The Contractor may also indicate the period for which the work is likely to be delayed and shall be bound to ask for necessary extension of time. (iii) Extension for Delay due to Railways: In the event of any failure or delay by the Railway to hand over the Contractor possession of the lands necessary for the execution of the works or to give the necessary notice to commence the works or to provide the necessary drawings or instructions or any other delay caused by the Railway due to any other cause whatsoever, then such failure or delay shall in no way affect or vitiate the contract or alter the character thereof or entitle the Contractor to damages or compensation therefor, but in any such case, the Railway may grant such extension or extensions of the completion date as may be considered reasonable. The Contractor shall indicate the period for which the work is likely to be delayed and shall seek extension of time as may be considered necessary under clause 17A(i) or/and 17A(ii) or/ and 17A(iii) above, as soon as the cause thereof shall arise and, in any case, not less than 15 days before the expiry of the date fixed for completion of the works. The Engineer shall consider the same and shall grant and communicate such extension of time as in his opinion is reasonable having regard to the nature and period of delay and the type and quantum of work affected thereby. No other compensation shall be payable for works so carried forward to the extended period of time; the same rates, terms and conditions of contract being applicable, as if such extended period of time was originally provided in the original contract itself. The non-submission of request for extension or submission of request within less than 15 days before the expiry of the date fixed for completion of the works, shall make him ineligible for extension under these sub clauses, subject to final decision of Engineer. Extension of Time with Liquidated (LD) for delay due to Contractor: (17-B clause of GCC) The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract and the works must be completed not later than the date(s) as specified in the contract. If the Contractor fails to complete the works within the time as specified in the contract for the reasons other than the reasons specified in Clause 6.47 and 6.28, the Railway may, if satisfied that the works can be completed by the Contractor within reasonable short time thereafter, allow the Contractor for further extension of time (Proforma at Annexure-VII as per GCC) as the Engineer may decide. On such extension the Railway will be entitled without prejudice to any other right and remedy available on that behalf, to recover from the Contractor as agreed damages and not by way of penalty for each week or part of the week, a sum calculated at the rate of Liquidated Damages as decided by Engineer, between 0.05% to 0.30% of the contract value of the work for each week or part of the week. For the purpose of this Clause, the contract value of the works shall be taken as
--------	--

	value of work as per contract agreement including any supplementary work order/contract agreement issued. Provided also, that the total amount of liquidated damages under this condition shall not exceed 5% of the contract value or of the total value of the item or groups of items of work for which a separate distinct completion period is specified in the contract. <table border="1"><thead><tr><th>S.No</th><th>Duration of extension of time under Clause 17B- para 6.28.2</th><th>Rate of Liquidated Damages</th></tr></thead><tbody><tr><td>(i)</td><td>Up to Twenty Five percent of original period of completion including period of extension of time granted under Section 17A(i)</td><td>As decided by Engineer, between 0.01% to 0.05% of contract value for each week or part of the week</td></tr><tr><td>(ii)</td><td>Above Twenty Five percent but upto Fifty percent of original period of completion including period of extension of time granted under Section 17A(i)</td><td>0.10 % of contract value for each week or part of the week</td></tr><tr><td>(iii)</td><td>Above Fifty percent of original period of completion including period of extension of time granted under Section 17A(i)</td><td>0.30 % of contract value for each week or part of the week</td></tr></tbody></table> Provided further, that if the Railway is not satisfied that the works can be completed by the Contractor and in the event of failure on the part of the contractor to complete the work within further extension of time allowed as aforesaid, the Railway shall be entitled without prejudice to any other right or remedy available in that behalf, to appropriate the contractor's Security Deposit and rescind the contract under Clause 62 of GCC, whether or not actual damage is caused by such default. NOTE: In a contract, where extension(s) of time have been allowed once under clause 17B, further request(s) for extension of time under clause 17A can also be considered under exceptional circumstances. Such extension(s) of time under clause 17A shall be without any Liquidated damages, but the Liquidated damages already recovered during extension(s) of time granted previously under clause 17B shall not be waived. However, Price variation during such extension(s) shall be dealt as applicable for extension(s) of time under clause 17B. (17 C) Bonus for Early Completion of Work: In open tenders having advertised value more than Rs.50 crore and original period of completion 12 months or more, when there is no reduction in original scope of work by more than 10%, and no extension granted on either railway or Contractor's account, Contractor shall be entitled for a bonus of 1% for each 30 days early completion of work. The period of less than 30 days shall be ignored while working out bonus. The maximum bonus shall be limited to 5% of original contract value. The completion date shall be reckoned as the date of issuance of completion certificate by Engineer. (As per Railway Board letter No.2022/CE-I/CT/GCC-2022/Policy dated:14.07.2022)			S.No	Duration of extension of time under Clause 17B- para 6.28.2	Rate of Liquidated Damages	(i)	Up to Twenty Five percent of original period of completion including period of extension of time granted under Section 17A(i)	As decided by Engineer, between 0.01% to 0.05% of contract value for each week or part of the week	(ii)	Above Twenty Five percent but upto Fifty percent of original period of completion including period of extension of time granted under Section 17A(i)	0.10 % of contract value for each week or part of the week	(iii)	Above Fifty percent of original period of completion including period of extension of time granted under Section 17A(i)	0.30 % of contract value for each week or part of the week
S.No	Duration of extension of time under Clause 17B- para 6.28.2	Rate of Liquidated Damages													
(i)	Up to Twenty Five percent of original period of completion including period of extension of time granted under Section 17A(i)	As decided by Engineer, between 0.01% to 0.05% of contract value for each week or part of the week													
(ii)	Above Twenty Five percent but upto Fifty percent of original period of completion including period of extension of time granted under Section 17A(i)	0.10 % of contract value for each week or part of the week													
(iii)	Above Fifty percent of original period of completion including period of extension of time granted under Section 17A(i)	0.30 % of contract value for each week or part of the week													
6.29	DETERMINATION OF CONTRACT: This shall be considered in accordance with the clause no. 61 and 62 of GCC, with the latest available amendment to clause, if any. 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 order given to him in writing by the Purchaser's Engineers in connection with the work lags persistently behind the time schedule due to his neglect, the Railway shall 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 action as per clause 62 of GCC and 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.
6.30	LOSS SUSTAINED DUE TO DEFAULT AND DELAY: In the event of any loss to the Railways on account of execution and/or delay in completion of the work or any part thereof by agencies other than the contractor, the contractor shall be liable to reimburse the loss to Railways 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 Railways from out of all or any of the following sources viz i) Any amount due and payable to the contractor by the Railways on any account whatsoever; ii) The Contractor's security deposit in hands of the Railways as far as available, and any other assets whatsoever of the contractor; In the event of re-imbursement from out of sources (i) and/or (ii) above mentioned, the Railway shall have the right of appropriation suo-moto.
6.31	CONTRACTOR'S LIABILITIES FOR COSTS AND DAMAGES:
6.31.1	WITHHOLDING AND LIEN IN RESPECT OF SUMS CLAIMED This shall be considered in accordance with the clause no. 52 of GCC, with the latest available amendment to clause, if any. Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the Contractor, the Railway shall be entitled to withhold and also have a 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 Railway shall be entitled to withhold the said cash Security Deposit or the Security if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. 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 Railway shall be entitled to withhold and have a lien to the extent of the such claimed amount or amounts referred to supra, 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 contract with this or any other Railway or any Department of the Central Government pending finalization or adjudication of any such claim. It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above, by the Railway will be kept withheld or retained as such by the Railways till the claim arising out of or under the contract is determined by the arbitrator (if the contract 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 or 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. For the purpose of this clause, where the Contractor is a partnership firm or a

6.31.2	company, the Railway 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 / company, as the case may be whether in his individual capacity or otherwise. LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS: (i) Any sum of money due and payable to the Contractor (including the Security Deposit returnable to him) under the contract may be withheld or retained by way of lien by the Railway, against any claim of this or any other Railway or any other Department of the Central Government in respect of payment of a sum of money arising out of or under any other contract made by the Contractor with this or any other Department of the Central Government. (ii) However, recovery of claims of Railway in regard to terminated contracts may be made from the Final Bills, Security Deposits and Performance Guarantees of other contract or contracts, executed by the Contractor. The Performance Guarantees submitted by the Contractor against other contracts, if required, may be withheld and encashed. In addition, 10% of each subsequent 'on-account bill' may be withheld, if required, for recovery of Railway's dues against the terminated contract. (iii) It is an agreed term of the contract that the sum of money so withheld or retained under this Clause by the Railway will be kept withheld or retained as such by the Railway till the claim arising out of or under any other contract is either mutually settled or determined by arbitration, if the other contract is governed by Arbitration Clause or by the competent court as the case may be and Contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this Clause and duly notified as such to the Contractor.
6.32	INSURANCE OF MATERIALS & INSTALLATIONS: The contractor shall take out and keep in force a policy or policies of Insurance for all materials including Railway supply materials equipment irrespective of whether used up in the portion of work already done or kept for the use in the balance portion of the work until such works are handed over to the Railways. The Contractor shall not be liable for losses/damages to the materials either used up in the portion of work done or his material kept for use at site, in consequence of mutiny, or other similar causes over which the Contractor has no control and which cannot be insured. Such losses or damages shall be the liability of the Railways and if required by the Railways, be made good by the contractor, at the cost of the Railways. The Contractor should, however, insure the stores brought to site, against risks in consequence of war and invasion, as required under the Emergency Risk (Goods) Insurance Act in force from time to time. It may be noted that the beneficiary of the insurance policy should be Railways or the policies should be pledged in favour of Railway. The contractor shall keep the policy/policies current till the installations are handed over to the Purchaser. It may also be noted that in the event of contractor's failure to keep the policy current and alive, renewal of the policy will be done by the Railways for which the cost of the premium plus 20% of premium shall be recovered from the contractor. For purpose of enabling the contractor to take the insurance cover in connection with this contract, the purchaser's engineer will advise the approximate price of all the Railway s supply materials to the contractor.

6.33	ENGAGEMENT OF QUALIFIED ENGINEER: (i) The contractor shall place and keep on the works at all times efficient and competent staff to give the necessary directions to his workmen and to see that they execute their work in sound and proper manner and shall employ only such supervisors, workmen & labourers in or about the execution of any of these works as are careful and skilled in the various trade. (ii) The contractor shall at once remove from the works any agents, permitted sub-contractor, supervisor, workman, or labourer who shall be objected to by the Engineer and if and whenever required by the Engineer, he shall submit a correct return showing the names of all staff and workmen employed by him. (iii) In the event of the Engineer being of the opinion that the contractor is not employing on the works a sufficient number of staff and workmen as is necessary for proper completion of the works within the time prescribed, the Contractor shall forthwith on receiving intimation to this effect deploy the additional number of staff and labour as specified by the Engineer within seven days of being so required and failure on the part of the contractor to comply with such instructions will entitle the Railway to rescind the contract under clause 62 of these conditions. New Clause 26A of GCC: Deployment of Qualified Engineers at Work Sites by the Contractor i. The contractor shall also employ Qualified Graduate Engineer(s) or equivalent, or Qualified Diploma Holder Engineer(s), as prescribed in tender documents. ii. In case the contractor fails to employ the Engineer, as aforesaid in para(i), he shall be liable to pay liquidated damages at the rates, as prescribed in tender documents. iii. No. of qualified engineers required to be deployed by the contractor for various activities contained in the works contract shall be specified in the tender documents as 'special condition of the contract'. iv. Accordingly in terms of provision of clause(i) above, contractor shall also employ following qualified Engineers during the execution of allotted work i. One qualified Graduate Engineer when the cost of work to be executed is Rs.200 lakh and above, and ii. One qualified Diploma Holder Engineer when the cost of work to be executed is more than Rs.25 lakh but less than Rs.200 lakh. v. Further in case the contractor fails to employ the qualified Engineer, as aforesaid in para (iv) above, he in terms of provision of clause (ii) above, shall be liable to pay an amount of Rs.40,000/- and Rs.25,000/- for each month or part thereof for the default period for the provision, as contained in para [iv (i)] and [iv (ii)] above respectively. Date: _____ Signature of Tenderer/ _____
6.34	PROVISIONAL ACCEPTANCE TEST (PAT): As soon as the Contractor informs the Railway and the Railway's Engineer determines that the works are completed from end to end, Railways shall carry out all tests as per the acceptance test schedule. Any component, modules, sub-assemblies or equipment failing during the commissioning test shall be replaced/repared free of cost by the Tenderer. When all the tests are successfully completed end to end, the provisional test report will be jointly prepared. Note: PAT shall be done separately for each division.
6.35	OBSERVATION PERIOD : After the completion of provisional acceptance test, system shall be put under

	observation for period as per Clause No.2.12 of chapter-2. During this period, Railways may at their discretion connect the user equipment and observe the performance from the end user point of view. If any defects or failures are noticed during this period the contractor will replace or rectify such modules and additional test or repetition of some of the tests will be carried out to make sure that all parameters are within specified values.
6.36	PROVISIONAL ACCEPTANCE CERTIFICATE (PAC): After completion of provisional acceptance test and if no problems are noticed during observation period, Purchaser's Engineer shall issue a Provisional Acceptance Certificate for successfully commission of whole system covering all materials and services included in the Schedule of works, after the acceptance test and as per the approved test procedure have been completed and the performance has been found to meet the specifications. Railway's decision in this respect shall be final. The date of issue of the Provisional Acceptance Certificate will be treated as start of warranty. Note: PAC shall be done separately for each division.
6.37	FINAL ACCEPTANCE : (i) The final acceptance of the entire equipment installed at the station shall take effect from the date of expiry of the period of Warranty & certification of the engineer in charge. Final acceptance certificate shall be issued after completion of warranty of all the divisions. (ii) The contract shall not be considered as completed until the issue of Final Acceptance Certificate by the Railways. (iii) The Railways shall not be liable to the contractor for any matter arising out of or in connection with the contract or execution of the work unless the Contractor shall have made a claim in writing in respect thereof before the issue of Final Acceptance Certificate under this clause. Notwithstanding the issue of Final Acceptance Certificate, the contractor and the Railways (subject to sub clause as above) shall remain liable for fulfilment 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 here to.
6.38	CERTIFICATE OF COMPLETION OF WORKS: As soon as in the opinion of the Engineer, the work has been completed and has satisfactorily passed any final test or tests that may be prescribed, the Engineer shall issue a certificate of completion duly indicating the date of completion in respect of the work and the period of maintenance of the work shall commence from the date of completion mentioned in such certificate. The certificate, inter alia, should mention that the work has been completed in all respects and that all the contractual obligations have been fulfilled by the Contractor and that there is no due from the Contractor to Railways against the contract concerned. The Engineer may also issue such a certificate indicating date of completion with respect to any part of the work (before the completion of the whole of work), which has been both completed to the satisfaction of the Engineer and occupied or used by the Railway. When any such certificate is given in respect of part of a work, such part shall be considered as completed and the period of maintenance of such part shall commence from the date of completion mentioned in the completion certificate issued for that part of the work.
6.39	PART COMMISSIONING: If the works are not completed as per the programme of work and there is deviation

	from the milestones to be achieved Railways will be free to make use of the partially commissioned work. Making such use of partially commissioned work will not be deemed as provisional acceptance from the Railways.
6.40	PLACING IN SERVICE AND MAINTENANCE: After the equipment has been commissioned and placed in service, the contractor shall be responsible for proper maintenance of the equipment for a period mentioned in para 2.10 of chapter-2. For this purpose he shall prepare a maintenance plan and make available the services of qualified maintenance engineers. Service engineers for maintenance shall normally be out of those engineers associated with the execution of the work. Changes, if any on special case shall be with the specific approval of railways. Details of the Service Personnel/Engineers (Bio-data and experience) proposed to be associated with maintenance, shall be furnished by the Contractor to the Railways, well in advance of the commencement of the maintenance period. Railway maintenance staff shall be fully associated with the maintenance work under the guidance/supervision of service engineers. If any lacuna is noticed in the functioning as a result of any defect in design or manufacture, the same will be rectified by the contractor free of cost. During such rectification if any faulty equipment/modules need replacement or repair, they shall be provided by the contractor from the set of equipment or modules that the contractor should bring to the site of installation in addition to all the materials to be supplied against this contract. Use of spare modules covered under the schedule of material of this tender shall not be permitted to be used during installation, commissioning and during the period of maintenance/supervision. During this maintenance period contractor will be liable to pay penalty for outage as per penalty clause. Maintenance - The Vendor shall provide System maintenance and repair of system or workmanship defects during the Maintenance period (parts and labour) - Service or maintenance personnel shall be able to receive 24 Hour Help Desk Technical support provided by the system manufacturer.
6.41	WARRANTY : As per clause no. 2.10, the contractor shall warrant that everything to be furnished here under shall be free from all defects and faults in material, workmanship and manufacture and shall be the highest grade and consistent with the established and generally accepted standards for materials of the type ordered in full conformity with the contract specifications, drawings, or samples, if any and shall if operable, operate properly. This warranty shall survive after acceptance of the System by Railways. Any approval or acceptance by the Railway or the stores or of the materials incorporated herein shall not in any way limit the contractor's liability. The Contractor shall, if required, replace or repair the equipments or such portion thereof as is rejected by the Railway free of cost at the ultimate destination or at the option of the Railway and contractor shall pay to the Railway value thereof at the contract price and such other expenditure and damages as may arise by reasons of the breach of the condition herein, specified. All inspections, adjustments, replacements or renewals carried out by the contractor during the maintenance period shall be the same conditions of the contracts.

	Until the final certificate shall have been issued, the contractor shall have the right to entry with permission of Railways, at his own risk and representatives, whose names shall have previously been communicated, in writing, to the purchaser at all reasonable working hours upon all necessary parts of the works for the purpose of inspecting the working and the records of the plant and taking notes there from and if he desires at his own risk and expense, making any tests, subject to the approval of the purchaser which shall not be unreasonably withheld. The decision of the Senior Divisional Signal & Telecom Engineer, Western Railway, Mumbai Central, Mumbai-400 008 in regard to Contractor's liability and the amount, if any payable under this warranty shall be final and conclusive.
6.42	LONG TERM AVAILABILITY OF SPARES AND SYSTEM SUPPORT: The Contractor / manufacturer shall ensure the availability of all components/ sub-systems, if required by the Railways from time-to-time on mutually agreed terms and conditions after warranty is over. The manufacture shall guarantee that spare parts for the system shall be available for a minimum of Seven years after expiry of the warranty period and thereafter at least one year's notice shall be given to the Railways before any equipment or components are discontinued or phased out from the manufacturing plans. This will enable the Railways to assess the lifetime requirement of spares needed and order in sufficient quantity prior to stoppage of the manufacture. The contractor shall undertake to supply on payment of all maintenance spares and tools required for the equipment during lifetime. He shall also undertake to supply additional equipment required for replacement or expansion of the network; that may become necessary due to additional traffic requirements. The price variation formula adopted in pricing such maintenance spares and additional supply that may be ordered in future shall be provided by mutual discussion.
6.43	INDEMNITY BOND : The Contractor will have to furnish an Indemnity Bond for all the value of materials (as per attached Format-2) for the Security of the Railway material issued to him. Indemnity Bond will be released after commissioning of work and when all balance material is returned by contractor; i.e. after signing the final material statement for closing the contract. The security of the material brought to the site of work will remain with the Contractor, till commissioning of the complete structure and same in handed over to Railway's nominated representative of Engineer-in-charge.
6.44	INTRODUCTION OF NEW SOR ITEMS IN CONTRACT FOR WORKS : 1. The items of work proposed for inclusion should be relevant to the main scope of work. 2. Revision to contract value shall be proposed by way of variation statement. 3. The variation shall be governed as per notes Para 6.46 of this chapter-6.
6.45	INTRODUCTION OF NEW NON-SCHEDULE ITEMS IN CONTRACT FOR WORKS: 1. It should be ensured that the rates sanctioned for such non- schedule items, are comparable to the rates for similar works executed in the area. 2. Rates should be derived from Last Accepted rates of SOR/NS items of similar conditions and where new items cannot be derived from such SOR/NS items, market rates should be taken. Rates of such NS items accepted without finance concurrence cannot be quoted as Last accepted rate (LAR) for justifying similar rates in future tenders. 3. The variation shall be governed as per notes of Para 6.46 of this chapter-6.
6.46	MODIFICATIONS:

6.46.1	The contractor shall be responsible for and supply any additional equipment without extra cost for any alterations of the works due to any discrepancies, errors or omissions in the drawings or other particulars supplied by him, whether such drawings or particulars have been approved by the Railway or not due to inaccurate information or particulars furnished to the Contractor on behalf of the Railway. If any dimensions/figures upon the drawings or plans differ from those obtained by scaling the drawings or plans shall be taken as correct. Any minor modifications required during the course of work shall be done without extra charges and the Railway's decision as to whether the modifications are minor or not shall be final. Where modifications are not minor and the Railway is satisfied that the modifications are essential, they shall be carried out at extra charges to be approved by the Railway.
6.46.2	Modification to Contract to be in Writing: In the event of any of the provisions of the contract required to be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the Railway and the Contractor and no work shall proceed under such modifications until this has been done. Any verbal or written arrangement abandoning, modifying, extending, reducing or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Railway unless and until the same is incorporated in a formal instrument and signed by the Railway and the Contractor, and till then the Railway shall have the right to repudiate such arrangements. Powers of Modification to Contract: The Engineer on behalf of the Railway shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in their design, character position, site, quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution thereof or to order any additional work to be done or any works not to be done and the Contractor will not be entitled, to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order. (i) Unless otherwise specified in the special conditions of the contract, the accepted variation in quantity of each individual item of the contract would be upto 25% of the quantity originally contracted, except in case of foundation work. (inwhich no variation limit shall apply). However, the rates for the increased quantities shall be as per sub- para (iii) below. (ii) The Contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever upto the limit of 25% variation in quantity of individual item of works. (iii) In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable, then same shall be executed at following rates (a) Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender; (b) Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender; (c) Variation in quantities of individual items beyond 150% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender. (d) Variation to quantities of Minor Value Item: The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined

6.46.3	as an item whose original agreement value is less than 1 % of the total original agreement value. d.(i)Quantities operated upto and including 100% of the agreement quantity of the concerned minor value item, shall be paid at the rate awarded for that item in that particular tender; d.(ii)Quantities operated in excess of 100% but upto 200% of the agreement quantity of the concerned minor value item, shall be paid at 98% of the rate awarded for that item in that particular tender; d.(iii)Variation in quantities of individual minor value item beyond 200% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender. (iv) In case of earthwork, the variation limit of 25% shall apply to the gross quantity of earthwork items and variation in the quantities of individual classifications of soil shall not be subject to this limit. (v) As far as Standard Schedule of Rates (SSOR) items are concerned, the variation limit of 25% would apply to the value of SSOR schedule(s) as a whole and not on individual SSOR items. However, in case of Non Standard Schedule of Rates (SSOR) items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate (single percentage rate or individual item rate). Valuation of Variations: The enlargements, extensions, diminution, reduction, alterations or additions referred to in Sub-Clause (2) of this Clause shall in no degree affect the validity of the contract; but shall be performed by the Contractor as provided therein and be subject to the same conditions, stipulations and obligations as if they had been originally and expressively included and provided for in the Specifications and Drawings and the amounts to be paid therefor shall be calculated in accordance with the accepted Bill(s) of Quantities. Any extra items/quantities of work falling outside the purview of the provisions of Sub-Clause (2) above shall be paid for at the rates determined under Clause-39 (GCC) of these Conditions.
6.47	FORCE MAJEURE CLAUSE: If at any time, during 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/pandemics, Quarantine restrictions, lockouts, any statute, statutory rules, regulations, order of requisitions issued by any Government Department or Competent Authority or acts of God (here-in-after referred to as event) then provided notice of the happening of any such event is given by either party to the other within thirty 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 works under the Contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, and the decision of Engineer as to whether the works have been so resumed or not shall be final and conclusive, PROVIDED FURTHER that if the performance in whole or part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 120 days, either party may at its option terminate the contract by giving notice to the other

	party.
6.48	COMPLETION PERIOD: The entire Installation, Testing & Commissioning, as well as integration of the entire system shall be completed within as per NIT from the date of issue of Letter of Acceptance. The tenderer shall submit along with his tender document, a tentative scheme as to how the tendered work will be executed by him in the time frame. Time is the essence of the contract. With a view to complete the entire work as per NIT, the contractor is required to observe the timely supply of materials and submit detailed schedule (along with PERT/Bar chart etc.) within a month from date of issue of LOA. The materials shall be supplied/made available in phase manner as work progresses. Contractor is required to ensure that work progresses as per submitted time schedule. The contractor should depute skilled technicians, supervisors and engineers as per provisions of this tender document.
6.49	STORES TO BE SUPPLIED BY CONTRACTOR: (i) All materials mentioned in the schedule of material and works required for the execution of the contract, shall be arranged and supplied by the Contractor as to realize the end objective. (ii) The material mentioned in the schedule shall be supplied in the stores of the Consignee's site as per instruction of Engineer In charge. (iii) The material required for work at site will be issued to the contractor by Consignee. The transportation of material from stores of Consignee's to site of work will be the responsibility of contractor. (iv) The contractor will be responsible for the safety of the material at site from the date of issue to the date of commissioning of the system. (v) Consignee will keep record of material on day-to-day basis in summarized form and shall convey monthly position of material (supplied and installed by the contractor) to the engineer in charge of the work.
6.50	TECHNICAL DOCUMENTS TO BE PROVIDED: i) Detailed technical description and design of the systems offered along with manuals. ii) Detailed Operating Instructions of the systems offered, along with manuals. iii) Details of test accessories, test and measuring instruments required. Test facilities required for the installation, testing & commissioning maintenance of the system along with a write-up of testing and troubleshooting procedures. iv) Location & Connectivity diagram of each station/location, showing all equipments.
6.51	PROGRAMME OF WORK EXECUTION: (i) Time is the essence of this contract and time schedule shall be strictly adhered to. The entire work as per the Contract will have to be completed within as per NIT, from the Date of issue of Letter Of Acceptance, on a progressive basis. The Tenderer will be responsible for progress of work on progressive basis from the date of issue of acceptance letter. Since the progress of the work is critically related to the supply of material by the contractor, he will be responsible to supply of duly inspected materials etc on a progressive basis, so that entire work can be completed within stipulated time progressively. (ii) Tenderer shall employ sufficient technical, non-technical manpower and labour to complete the work within specific time frame and to the entire satisfaction of Engineer in-charge. (iii) The Contractor is expected to have worked out a detailed program for execution of

	the work well before issue of "Letter of Acceptance", by Railway. Within 15 days of the date of issue of the LOA Contractor shall commence the work by way of submitting a Detailed Time and Activity Schedule for the execution of work aiming at completing the entire work within the stipulated completion time. The schedule shall thereafter be approved by the Engineer-In-Charge normally within 5 working days. (iv) Railway reserves the right to modify the schedule while approving the same as well as at any stage during execution if situation so warrants. Once approved, in the event of any slippage from the time schedule especially when resulting into time over-run of the work the contractor shall submit revised schedule duly justifying the circumstances without any delay. The revised schedule shall be approved by the Engineer-In-Charge only when considered justified in his opinion otherwise it will attract penal action on the contractor as per provision of this contract. (v) Progress Reporting The contractor shall submit to Railways at his own cost periodic progress reports at regular intervals regarding the state and progress of work. The details and pro-forma of the report will mutually be agreed after award of the Contract. Such reports shall be for weekly work progress (man power, equipment and work development) and monthly progress review reports. All actions as directed by Railway' representative to such reports shall be promptly attended to by Contractor. The Engineer-in-Charge shall also conduct monthly meetings with the contractor to assess and review the programmed works. The action proposed to progress the work as planned, difficulties, assistance required etc. shall be clearly brought out and remedial action taken. The minutes of these meetings shall be jointly signed by Railway and contractor.
6.52	DEDUCTION OF TAXES: Railways will deduct GST, Income Tax, surcharge on Income Tax, education cess, cess of cost of work for Building construction and other Workers Act 1996 and any other tax as applicable at the time of making payments. Wherever the law makes it statutory for the purchaser to deduct any amount towards any tax on works contract, the same will be deducted and remitted to the concerned authority. 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 Railways will not accept any liability for the same. In terms of provisions of finance act and income tax act enforce deduction of income tax, surcharge & cess at source shall be made from the contractor / sub-contractor and the amount so deducted may be credited to the Central Government. All other statutory deductions, such as labour, GST, works contract tax etc., at the rates as applicable at the time of payment, shall be made both from on account bills as well as final bills as per rules in force.
6.53	DEDUCTION FROM ON ACCOUNT BIILLS: All costs, damages or expenses, which Railways may have paid or incurred, which under the provisions of contract are Contractor's obligations will be deducted by Railways from progressive payment Bills/Invoice of Contractor, as and when it is understood that such expenses has been incurred or paid for. All such claims of Railways shall, however, be duly supported by appropriate and certified vouchers, receipts or explanations as are available to enable the Contractor to identify such

	claims.
6.54	POLICE VERIFICATION OF CONTRACTUAL LABOURERS: Police Verification of Contractual Labourers deployed for execution of this work is compulsory and it will be the responsibility of the contractor to get this verification done.

For Divisional Railway Manager (S&T)
Mumbai Central, Mumbai – 400008,
For and on behalf of President of India

Chapter-7

VARIOUS FORMAT AND PROFORMA

TENDER NO.

REQUISITION-CUM-RECEIPT FOR THE MATERIAL

Requisition-cum-receipt for the material

Sr. No. _____

Date:

(A) Please arrange to supply the bearer _____

Description of materials required

Qty	Nos.	in words	in figures

at (place of supply) _____ Station _____ for sub-section between Km.
 _____ to Km. _____ against Contract no. _____

Signature of the
Contractor/Contractors

(Specimen signature)

(B) Received the above material Qty. _____ (fig)
 _____ as mentioned above.

On _____ received in good condition and I/We undertake the
 responsibility for replacement / payment of/ for the same as shall be deemed fit by the Railway in terms of
 Special Conditions

Station:

Signature of the Contractor(s)

Date:

INDEMNITY BOND

Indemnity Bond for safe custody of Railway material to be supplied to
 M/s. _____ under _____ Tender
 no. _____

We, M/s. _____ (hereinafter called the Contractor) do
 hereby undertake that we shall hold in our custody for and on behalf of the President of India acting in the
 premises through the General Manager, Western Railway or for him all Railway materials which have
 been handed over to us against the contract for Tender no. _____ dtd. _____ for
 the _____ work _____ of
 “ _____

_____” by the Railway for the purpose of
 execution of the said contract until such time the materials are duly installed and/or erected or otherwise
 handed over to the Railway.

We shall be entirely responsible for the safe custody and protection of the said materials against all risk
 till they are duly delivered as installed and/or erected equipment to the Railway or as directed otherwise
 and shall indemnify the Railway against any loss, damage or deterioration whatsoever in respect of the
 said materials. Any Officer authorized by the General Manager, Western Railway or his nominee shall at
 all time open the said materials to Inspection.

Should any loss, damage or deterioration of materials occur or surplus materials disposed off and a
 refund becomes due, the Railway shall be entitled to recover from us the full cost and compensation
 determined in terms of the contract 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 thereafter becomes due to us under the said or any other contract.

In the event of any loss or damage as aforesaid the assessment of such loss or damage and the
 assessment of the compensation there for would be made by the President of India acting through the
 General Manager, Western Railway or his authorized nominee shall be final and bind upon us.

Signed at _____

on this day of _____

Signature of Witness: _____

for& on behalf of _____

M/s. _____

Name of Witness in

BLOCK LETTERS

ADDRESS:

PROFORMA FOR BANK GUARANTEE BOND

The President of India,
Acting Through the
Senior Divisional Finance Manager,
Mumbai Central ,Mumbai-400 008.
Western Railway

1. In consideration of the President of India (hereinafter called "the Government") having agreed to accept from.....(hereinafter called "the said contractor/s"), under the terms and conditions of an Agreement/Acceptance letter datedmade between.....and

.....(hereinafter called "the said Agreement") the Performances Guarantee for the due fulfillment by the Contractor/s of the terms and conditions in the said Agreement on production of Bank Guarantee for Rs.....(Rupees.....)only we,.....(indicate the name of Bank thereafter referred to as "the Bank") at the request ofcontractor/s do hereby undertake to pay the government an amount not exceeding Rs.....against any loss or damage caused to or suffered by or would be caused to or suffered by the Government by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.

2. We,..... (indicate the name of Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on demand from the Government stating that the amount claimed is by way of loss or damage caused to or suffered by the Government by reason of breach by the said contractor/s of any of the terms or conditions contained in the said agreement or by reason of the contractor/s failure to perform the Agreement, any such demand made on the bank shall be conclusive as regards the amount due and payable to the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....

3. We undertake to pay to the Government any money so demanded notwithstanding any dispute or dispute raised by the contractor/s/supplier(s) in any suit or proceeding pending before any Court or Tribunal relating thereto 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 payments.

4. We..... (indicate the name of the bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement, including Maintenance/Warranty Period, and that it shall continue to be enforceable till the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharge or till office/Department. Ministry of Railway certifies that the terms and conditions of the Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharged this guarantee, unless a demand or claim under this guarantee is made on us in writing on or before thewe shall discharge from all liability under this guarantee thereafter.

5. We,..... (indicate the name of the bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone from any time or from time to time any of the powers exercisable by the Government against the said contract 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, extension being granted to the contractor/s for any forbearance act or commission on the part of the Government or indulgence by the Government to the said

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

6.This Guarantee will not be discharge due to the change in the constitution of the bank or the Contractor(s)/Suppliers(s)

7. We,..... (Indicate the name of Bank).....undertake not to revoke this guarantee during its currency except with the previous consent of the Government in writing.

Date this.....day of2023.

For
(Indicate the name of Bank)

Signature of Tenderer

For Divisional Railway Manager (S&T)
Mumbai Central, Mumbai – 400008,
For and on behalf of President of India.

**STATEMENT OF DEVIATIONS
PROFORMA FOR STATEMENT OF DEVIATIONS**

1. The following are the particulars of deviations from requirement of the instructions to Tenderers, General Conditions of contract, Special Condition of Contract and requirement of the technical specification.

1.1 General Instructions to Tenderers & Standard Conditions of Contract

CLAUSE	DEVIATION	REMARKS (INCLUDING JUSTIFICATION)
--------	-----------	--------------------------------------

1.2 General Conditions of Contract & Tender Forms

CLAUSE	DEVIATION	REMARKS (INCLUDING JUSTIFICATION)
--------	-----------	--------------------------------------

1.3 Special Conditions

CLAUSE	DEVIATION	REMARKS (INCLUDING JUSTIFICATION)
--------	-----------	--------------------------------------

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

(Separate Statement for each specification)

CLAUSE	DEVIATION	REMARKS (INCLUDING JUSTIFICATION)
--------	-----------	--------------------------------------

Note Where there is no deviation, the statement should be returned duly Signed with an endorsement indicating no deviations.

Signature of Tenderer(s)

TECHNICAL CREDENTIALS

(Only for the successfully completed or substantially completed similar work / works)

- a. Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or
- b. Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or
- c. One similar work costing not less than the amount equal to 60% of advertised value of the tender.

Tenderer shall also enclose relevant certificate/documents issued by concerned authority in this regard.

Note :

- i. Tenderer should upload minimum Three format-5 for (a) or Two format-5 for (b) or One format-5 for (c) respectively.
- ii. Tenderer should ensure that these works are of similar nature works as mentioned in Para 2.2 of Chapter -2 (Special Condition).

1. Name of work	:-
2. Contract awarding Authority.	:-
3. Contact agreement No.	:-
4. Name of the firm	:-
5. Date of award	:-
6. Original value of contract	:-
7. Original date of completion.	:-
8. (a) Whether work has been physically completed	:-
(b) Actual date of completion	
9. Final value of contract	:-
10. Whether worked as a main contractor	:-
11. Whether worked in the individual capacity or in a joint venture.	:-
12. If the work was executed as a joint venture firm, the share of each partner to be given.	:-
13. Brief scope of work	:-

TURNOVER

(Each Bidder or each member of a JV must fill in this form separately)

NAME OF BIDDER/JV PARTNER:

Annual Contractual Turnover Data for the Previous 3/4 Years (Contractual Payment only)			
Year	Amount Currency	Exchange Rate	Indian National Rupees Equivalent
Average Annual Contractual Turnover for last 3 years			

1. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover.
2. The information supplied shall be substantiated by data in the audited balance sheets and profit and loss accounts for the relevant years in respect of the bidder or all members constituting the bidder.
3. Contents of this form should be certified by a Chartered Accountant duly supported by Audited Balance Sheet duly certified by the Chartered Accountant.

SEAL AND SIGNATURE OF THE BIDDER

Certified that all figures and facts submitted in this form have been furnished after full consideration of all observations/notes in Auditor's reports. _____

(Signature of Chartered Accountant)

Name of CA: _____

Registration No: _____

(Seal)

FORMAT - 8

List of Works in Hand

All the works in progress and also the works which are awarded to tenderer but yet not started upto the date of inviting tender.

Description of work	Contract Value	Value of work completed	Approx. value of balance work yet to be done
Total			

FORMAT – 9

NEFT / RTGS MANDATE FORM

FROM:

Date:

Sub: Willingness to Receive Payment through NEFT / RTGS System.

We refer to the National Electronic Fund Transfer (NEFT) System for remittance of our payment using NEFT / RTGS SCHEME and confirm that we are agreeable to our payments being made through the above scheme to our under noted Account:

NAME OF ORGANISATION AND ADDRESS :

IFSC CODE :

MICR CODE :

BANK NAME :

BRANCH NAME :

BANK ADDRESS :

BRANCH TELE/FAX NO. :

ACCOUNT (CORE BANKING SYSTEM) NO. :

TYPE OF ACCOUNT :

We have agreed to accept all the terms and conditions of Electronic Fund Transfer System, as enclosed herewith. A Xerox copy of the cheque leaf is attached herewith for necessary action at your end.
Encl: As stated above.

**Signature and Stamp
Confirmed by Bank**

FORMAT-10

Certificate of no relative being an employee of Western Railway

I/We the under signed hereby solemnly declare and certify that I/ We do not have any of our relative/relatives employed in the western railway (Signal and Telecom department) except the names mentioned herein under:

1.....

2.....

3.....

and so on

Note:- Names , Designation , Name of office, Headquarter of the tenderer's relative in western railway (Signal and Telecom Department) to be mentioned by the tenderer/ tenderers in 1,2, 3 and so on above.

Signature of Tenderer / Tenderers

FORMAT-11

Certificate of Information regarding Employment/Partnership etc. of Retired Railway Employees with the tenderer

TABLE-A

S No.	Information Sought	Whether 'Yes' or ' No'
1.	Is any retired Railway Engineer/Gazetted officer associated with the firm as detailed vide para 16(a) of GCC, April- 2022.	

Note: If the answer is 'Yes' above, comply the condition as per para 16(a) of part I of GCC, April 2022 as per Table-'B' below. If the space is left blank in Table "A" it will be presumed as 'NO' by Default.

TABLE-B

Sl.No	Name	Type of association with the tenderer	Date of Retirement from the service	Post held at the time of retirement	Particulars of permission taken for association with the tenderer	Any other information linked with para 16(a) of part I of GCC, April-2022

If answer is 'Yes' in Table 'A', details at Table-'B'; is not entered, the tender offer shall be rejected.

SIGNATURE OF TENDERER WITH STAMP.....

CHECKLIST OF ITEMS TO BE COMPLIED BY THE TENDERERS WHILE SUBMITTING THE OFFER

Name of Tenderer:

Name of Work:

Sr. No.	Description of Item	Chapter/Clause of Tender Document	Compliance (Yes/No/Not Applicable)	Remarks if any
1.	Have you paid the required Bid Security in prescribed and acceptable form as instructed on www.ireps.gov.in Note:- In case Bid Security are not paid in cash through e-payment gateway or not submitted Bid security as Bank Guarantee Bond as per Annexure-IV , the offer will be summarily rejected.	As per NIT, Clause 6 of Tender Form (Second Sheet) & Clause 5.1		
2.	<u>Single Packet System:</u> Have you submitted bid online at E-Tender portal on IREPS. Note:- With bid the tenderer will upload scanned copies of documents online at E-Tender portal on IREPS while submitting their offer. OR <u>Two Packets System:</u> Have you submitted two bids (i.e. Technical Bid & Financial Bid) online at E-Tender portal on IREPS. Note:- (a) With bids the tenderer will upload scanned copies of documents online at E-Tender portal on IREPS while submitting their offer. (b) The Documents submitted with Technical Bid should under no circumstances contain the rates offered or financial implications of any deviation from tender conditions; otherwise, the tender shall be summarily rejected for non-compliance. (c) The offer of rates and/or any information connected with rates/financial implications must be quote online at E-Tender portal on IREPS with Financial Bid only.	Clause - 2.15		
3.	Have you attached the Tender form (First Sheet) duly filled & signed by the contractor & Witnesses ?	Chapter - 1		
4.	Have you attached the Tender form (Second Sheet) duly signed by the contractor?	Chapter - 1		
5.	Have you submitted covering letter signed & complete in all respect? Giving details of the firm like Name, Type of Firm (Pvt. Ltd., Partnership, JV etc.), Complete Address with PIN code, Contact details with E-mail ID etc.?	Clause - 5.6		
6.	Have you furnished the credentials to establish the eligibility? The documents required for ascertaining Technical & Financial capability as Specified in Clause 5.2 & 5.3. Tenderer should also submit Format 5 & 6 along with required Annexures.	Clause 5.2 & 5.3		
6.1a	Have you furnished Completion Certificate(s) regarding meeting Technical Eligibility Criteria for	Clause 5.2.1 & 5.3		

Sr. No.	Description of Item	Chapter/Clause of Tender Document	Compliance (Yes/No/Not Applicable)	Remarks if any
	successful completion of Similar work in the last seven financial years, ending last day of month previous to the one in which tender is invited, from the executive of user Railway? (with contact details of FAX, phone and E-Mail of issuing authority)			
6.1b	Have you submitted duly filled & signed copies of Format – 5 for completed Works to certifying Technical eligibility criteria ? This Form should be accompanied with certificate from user Railways.	Format - 5		
6.2a	Have you furnished supporting documents for meeting Financial Eligibility Criteria? Certificates to this effect which should be submitted requisite information as per Format-6 along with copies of Audited Balance Sheets duly certified by the Chartered Accountant / Certificate from Chartered Accountant duly supported by Audited Balance Sheet. (with contact details of FAX, phone and E-Mail of issuing/certifying authority)	Clause – 5.2.2(a)& 5.3		
6.2b	Have you furnished the details of year-wise contractual payment received during the last three/four financial years on FORMAT-6 duly verified by Chartered Accountant regarding meeting Eligibility Criteria in average annual contractual turnover?	Format – 6		
6.3	Have you furnished the details of existing commitments and balance amount of ongoing works with you, as per the Format-8 .	Format - 8		
7.	Have you submitted a copy of certificate stating that we are not liable to be disqualified and all our statements/documents submitted alongwith bid are true and factual?	Clause – 11 of Tender Form (Second Sheet) Annexure – II& II(A)		
8.	Have you enclosed a declaration that the tenderer accept all the terms and conditions of Railways? In case of deviations, have you furnished “Statement of Deviations” as per Format-4 ?	Clause – 5.6(i) Format - 4		
9.	Have you furnished Certified copy of JV agreement (MoU) ?(In case of offer is from JV firm)	Clause 14, & 17 of Tender Form (Second Sheet)		
10	Have you submitted all the supporting legal Documents in Case of Partnership Firms, JV, LLP etc.? (Like Partnership Deed, Power of Attorney, Articles of Association etc.)	Clause no. 14. 15, 17& 18 of Tender Form (Second Sheet)		
11.	Have you submitted Technical Specification & Literature of the equipment and sub- systems offered along with brief outline (along with diagrams and drawings, description of the equipment and specifications)?			
12.	Have you quoted rates as percentage above / below /at par the Railways estimated grand total, online at E-Tender portal on IREPS ?	Clause – 5.9		
13.	Have you submitted NEFT/RTGS Mandate Form ?	Clause – 5.6(j) Format - 9		

Sr. No.	Description of Item	Chapter/Clause of Tender Document	Compliance (Yes/No/Not Applicable)	Remarks if any
14.	Have you submitted a Certificate no relative being as Employee of Western Railway ?	Clause – 5.4(viii) Format - 10		
15.	Have you submitted a Certificate of Information regarding Employment/ Partnership etc. of Retired Railway Employee with the tenderer?	Clause – 5.4(viii) Format - 11		
16.	List of Personnel, Organization available on hand and proposed to be engaged for the subject work.	Clause 5.6(c)		
17.	List of Plant & Machinery available on hand (own) and proposed to be inducted (own and hired to be given separately) for maintenance support of the system.	Clause 5.6(f)		
18.	Details of set up/technical know-how available with the Tenderer for execution of work and testing/ trouble shooting/ repairing of equipments under warranty/ maintenance period.	Clause 5.6(g)		
19.	Have you submitted details of Schedule items as per Format-15?	Clause 5.19		
20.	Have you submitted a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing Chartered Accountant (in respect of suppliers other than companies) giving the percentage of Local Content?	Clause 5.19		
21.	Have you signed on all the pages of the documents attached with the bid?			
22.	Have you attested all the corrections/ over writings made in the attached documents?			

Signature of the Tenderer

Note : The Documents submitted with Technical Bid should under no circumstances contain the rates offered or financial implications. Otherwise, the tender shall be summarily rejected.

PROFORMA FOR OEM'S AUTHORIZATION CERTIFICATE / MAF

Note : This authorization letter should be printed on the letterhead of the Original Equipment Manufacturer (OEM) and should be signed by a competent person.

Tender no. : _____

Date : _____

To,
The President of India,
Acting through Sr. Divisional Signal and Telecom Engineer,
Western Railway, Mumbai Central,
Mumbai - 400 008.

Dear Sir,

Sub : **OEM's Authorization Certificate / MAF for work of Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railways.**

We are established and reputable manufacturers/Developer/producers of _____ having facilities setup at _____ (address of factory/ facility) do hereby authorize M/s _____ (Name and address of the Contractor) to supply the above said items.

We hereby extend our full guarantee and warranty for the Solution, Products and services offered to be supplied by the above firm against this Tender.

We ,

1. MTCTE certification for LER and LSR as per relevant TEC ER.
2. Certify that as OEM, we have facilities for engineering, assembly, integration testing, Repair, Service Center Support and spare depot in India.
3. Guarantee to provide technical, service and maintenance support to the Contractor/Railway that may be required during installation, commissioning and working period of the equipment till the OEM announces End of Life(EOL) of the product or till 8 years from the date of supply whichever is later.
4. Guarantee to assure the continued support including all updates/bug-fixes/patches/upgrades on the supplied items for a minimum period of Eight years from the date of supply or till the OEM announces End of Life(EOL) of the product, whichever is later.

We duly authorize the said firm to act on our behalf in fulfilling all installations, technical support and maintenance obligations required by the contract, if awarded.

Place:

Date:

Seal and signature of the OEM

Place:

Date:

Seal and signature of the Tenderer

Format – 15

Tenderer needs to declare make & model intended to be supplied and local content of individual schedule items mentioned below.

Schedule Item	Make of the item intended to be supplied	Model of the item intended to be supplied	Local content in %
LER			
LSR			
NMS			
24 Port Aggregate L2 switch			
24 port L2 switch with SFP modules			
8 Port manageable PoE switch			
VoIP servers			
Optical Fiber Cable			
VRLA Battery			
SMPS based Charger			
IP Phones			
Entire work	NA	NA	

(Annexure-II)

FORMAT FOR CERTIFICATE TO BE SUBMITTED / UPLOADED BY TENDERER ALONGWITH THE TENDER DOCUMENTS.**(It is mandatory to submit this certificate with bid for all tenders, otherwise bid will be summarily rejected)**

I.....(Name and designation)**appointed as the attorney/authorized signatory of the tenderer, M/s..... (hereinafter called the tenderer) for the purpose of the Tender documents for the work of..... as per the tender No. of(Railway)**, 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 Indian Railway website www.ireps.gov.in . I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration 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 railway 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 certify that I/we the tenderer(s) is/are not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of submission of bids, either in individual capacity or as a HUF/ member of the partnership firm/LLP/JV/Society/Trust.
8. I/we understand that if the contents of the certificate 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 Bid Security besides banning of business for a period of upto two year. Further, I/we (insert name of the tenderer) **.....and all my/our constituents understand that my/our offer shall be summarily rejected.
9. I/we also understand that if the contents of the certificate 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 Bid Security/Security Deposit and Performance guarantee besides any other action provided in the contract including banning of business for a period of upto two year.
10. I/We have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India and certify that I am/We are not from such a country or, if from such a country, have been registered with the competent Authority. I/We hereby certify that I/we fulfil all the requirements in this regard and am/are eligible to be considered (evidence of valid registration by the competent authority is enclosed)

**SEAL AND SIGNATURE
OF THE TENDERER**

Place:
Dated:

****The contents in Italics are only for guidance purpose. Details as appropriate are to be filled in suitably by tenderer.**

(This certificate is to be given by attorney/authorized signatory/each member of Partnership firm/Joint Venture (JV) / Hindu Undivided Family (HUF) / Limited Liability Partnership (LLP) etc.)

I/We.....(Name), attorney/authorized signatory of the
..... (constituent firm/constituent partner) and member/partner of the
.....(tendering firm) hereby solemnly affirm and state as under:

1. I/we certify that (constituent firm/constituent partner) is/are not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of submission of bids, either in individual capacity or as a HUF/ member of the partnership firm/LLP/JV/Society/Trust.
2. I/We have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India and certify that I am/We are not from such a country or, if from such a country, have been registered with the competent Authority. I/We hereby certify that I/we fulfil all the requirements in this regard and am/are eligible to be considered (evidence of valid registration by the competent authority is enclosed),

SEAL AND SIGNATURE
OF THE CONSTITUENT FIRM/CONSTITUENT PARTNER

Place:

Dated:

Annexure-III

LCDA No.(18 DIGIT IPAS GENERATED NO.)

Dated: _____

DOCUMENT OF AUTHORIZATION

Reference: (i) Works Contract No. _____ Dated _____

(ii) Inland Letter of Credit No. _____ Dated _____

This document is issued against contract No.----- (From IREPS)----- Dated----- for work of
 -----(DISCRIPTION OF WORK FROM IREPS)-----.

The beneficiary of aforementioned Letter of Credit M/s.....(NAME AND VENDOR CODE)
(Vendor Code as per IREPS.....) is entitled to receive payment aggregating INR.....(FROM
 ABSTRACT OF BILL PASSED)... out of a total LC amount of INR.....(FROM MASTER TABLE OF LC
 OPENED)-----against the first/second * commercial Invoice No.(FROM IPAS)_____ Dated
 _____ FROM IPAS _____ for INR(FROM IPAS)----- Raised against the above contract from State
 Bank of India----- (branch-FROM LC MASTER TABLE)----- on the strength of this certificate.

The details of payments already made to the beneficiary under this Letter of Credit are as follows:

S.No.	Invoice No.	Invoice date	Invoice Amount(INR)	LCDA No.	LCDA Date	Amount paid(INR)
Total Paid						

THIS PAYMENT :- _____

LC BALANCE AFTER THIS PAYMENT: _____

(Signature of authorized Railway authority)

Name

Designation

Official Seal

Bid Security

Bank Guarantee Bond from any scheduled commercial bank of India
(On non-judicial stamp paper, which should be in the name of the Executing Bank).

Name of the Bank: -----

President of India,
Acting through Sr.DFM/MMCT
Western Railway,
Beneficiary: ...Western.... Railway
Date:.....

Bank Guarantee Bond No.:

Date:-----

In consideration of the President of India acting through----- (**Designation & address of Contract Signing Authority**),Railway, (hereinafter called "The Railway") having invited the bid for through Notice inviting tender (NIT) No., We have been informed that **[Insert name of the Bidder]**..... (**hereinafter called "the Bidder"**) intends to submit its bid (hereinafter called "the Bid") .

WHEREAS, the Bidder is required to furnish Bid Security for the sum of **[Insert required Value of Bid Security]**, in the form of Bank Guarantee, according to conditions of Bid.

AND

WHEREAS,**[Insert Name of the Bank]**, with its Branch**[Insert Address]** having its Headquarters office at..... **[Insert Address]**, hereinafter called the **Bank**, acting through**[Insert Name and Designation of the authorised persons of the Bank]**, have, at the request of the Bidder, agreed to give guarantee for Bid Security as hereinafter contained, in favour of the Railway:

1. KNOW ALL MEN that by these present that I/We the undersigned **[Insert name(s) of authorized representatives of the Bank]**, being fully authorized to sign and incur obligations for and on behalf of the Bank, confirm that the Bank, hereby, unconditionally and irrevocably guarantee to pay to the Railway full amount in the sum of **[Insert required Value of Bid Security]** as above stated.
2. The Bank undertakes to immediately pay on presentation of demand by the Railway any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any such demand made by the Railway on the Bank shall be final, conclusive and binding, absolute and unequivocal on the Bank notwithstanding any disputes raised/ pending before any Court, Tribunal, Arbitration or any Authority or any threatened litigation by the Bidder or Bank.
3. The Bank shall pay the amount as demanded immediately on presentation of the demand by Railway without any reference to the Bidder and without the Railway being required to show grounds or give reasons for its demand of the amount so demanded.
4. The guarantee hereinbefore shall not be affected by any change in the constitution of the Bank or in the constitution of the Bidder.
5. The Bank agrees that no change, addition, modifications to the terms of the Bid document or to any documents, which have been or may be made between the Railway and the Bidder, will in any way absolve the Bank from the liability under this guarantee; and the Bank, hereby, waives any requirement for notice of any such change, addition or modification made by Railway at any time.
6. This guarantee will remain valid and effective from.....**[insert date of issue]**till**[insert date, which should be minimum 90 days beyond the expiry of validity of Bid]**. Any demand in respect of this Guarantee should reach the Bank within the validity period of Bid Security.
7. The Bank Guarantee is unconditional and irrevocable.

8. The expressions Bank and Railway herein before used shall include their respective successors and assigns.
9. The Bank hereby undertakes not to revoke the guarantee during its currency, except with the previous consent in writing of the Railway. This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No.758.
10. The Bank hereby confirms that it is on the SFMS (Structured Financial Messaging System) and shall invariably send the advice of this Bank Guarantee to the following bank details: -

IFSC CODE	SBIN000RAIL
IFSC TYPE	BRANCH
BANK NAME	STATE BANK OF INDIA
BRANCH NAME	RAIL
CITY NAME	NAVI MUMBAI
ADDRESS	SECTOR-11, CBD BELAPUR, NAVI MUMBAI
DISTRICT	NAVI MUMBAI
STATE	MAHARASHTRA
BG ENABLED	YES

11. The Guarantee shall be valid in addition to and without prejudice to any other security Guarantee(s) of Bidder in favour of the Railway. The Bank, under this Guarantee, shall be deemed as Principal Debtor of the Railway.

Date

Place.....

Bank's Seal and authorized signature(s)
[Name in Block letters]
[Designation with Code No.].....

[P/Attorney] No.

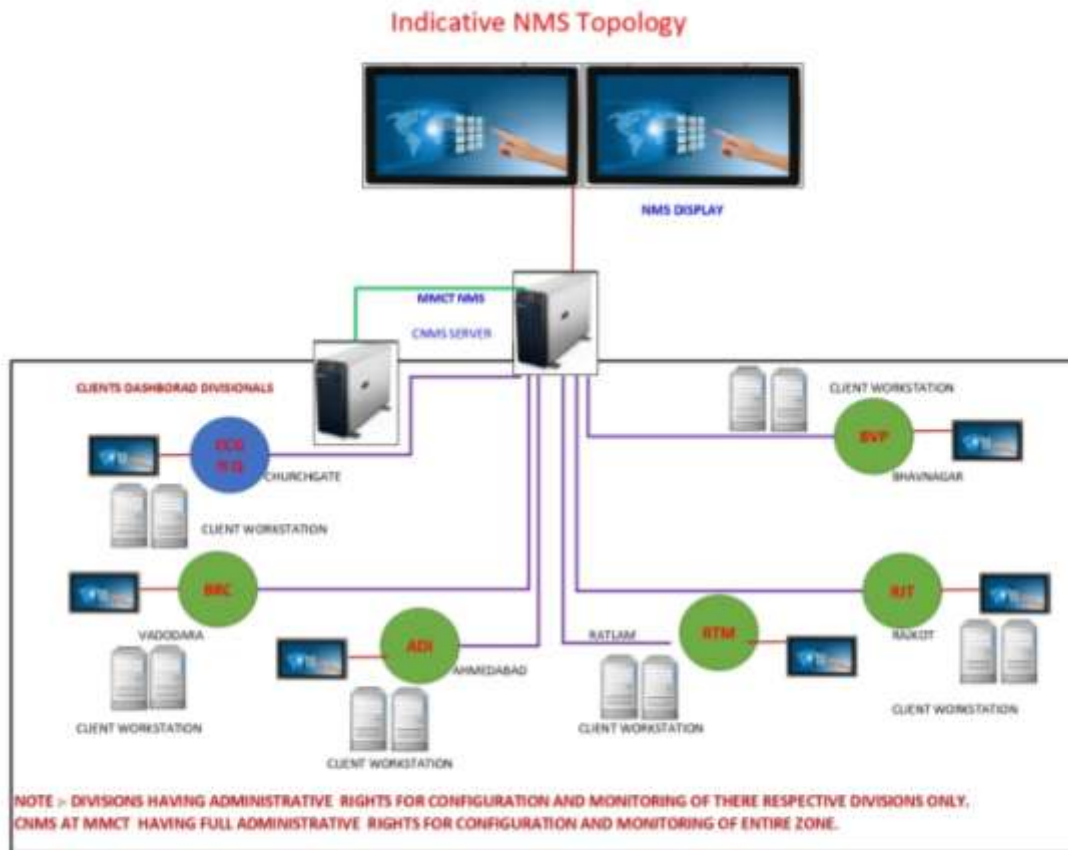
Witness:

- 1 Signature, Name & Address & Seal
- 2 Signature, Name& address & Seal

Bank's Seal

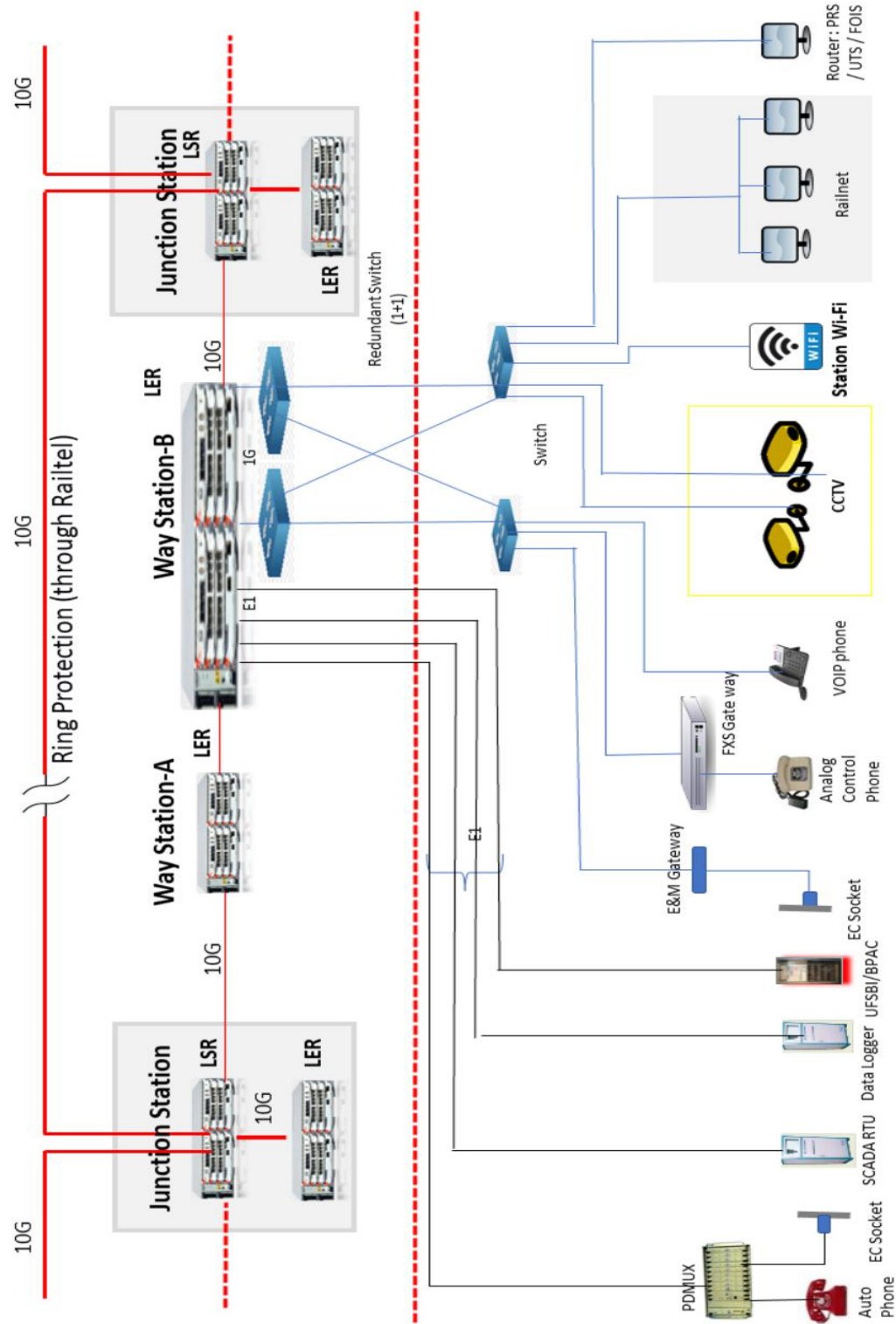
*[P/Attorney]*No.

Note: All italicized text is for guidance on how to prepare this bank guarantee and shall be deleted from the final document.



END OF DOCUMENT

Annexure-VI



Tentative IPMPLS Network Diagram as per TAN VER.2

PROFORMA FOR OEM'S AUTHORIZATION CERTIFICATE / MAF

Note : This authorization letter should be printed on the letterhead of the Original Equipment Manufacturer (OEM) and should be signed by a competent person.

Tender no. : _____

Date : _____

To,
The President of India,
Acting through Sr. Divisional Signal and Telecom Engineer,
Western Railway, Mumbai Central,
Mumbai - 400 008.

Dear Sir,

Sub : **OEM's Authorization Certificate / MAF for work of Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railways.**

We are established and reputable manufacturers/Developer/producers of _____ having facilities setup at _____ (address of factory/ facility) do hereby authorize M/s _____ (Name and address of the Contractor) to supply the above said items.

We hereby extend our full guarantee and warranty for the Solution, Products and services offered to be supplied by the above firm against this Tender.

We,

1. Certify that, as OEM we are TEC certified OEM of routers
or
We have already applied for TEC certification and the offered make and model of LSRs and LERs are in the list of Trusted Telecom portal of the Govt. of India.
2. Certify that as OEM, we have facilities for engineering, assembly, integration testing, Repair, Service Center Support and spare depot in India.
3. Guarantee to provide technical, service and maintenance support to the Contractor/Railway that may be required during installation, commissioning and working period of the equipment till the OEM announces End of Life (EOL) of the product and/or support with spares till 8 years from the date of supply.
4. Guarantee to assure the continued support/updates/bug-fixes/patches/upgrades/spares on the supplied items for a minimum period of Eight years from the date of supply.

We duly confirm that said firm is entitled to fulfilling all installations, technical support and maintenance obligations required by the contract, if awarded.

Place:

Date:

Seal and signature of the OEM

Place:

Date:

Seal and signature of the Tenderer

Corrigendum - II

Name of Work : Implementation of unified communication infrastructure comprising IPMPLS LAN infra, VOIP exchange, IP based control communication and replacement of UTN over Western Railway.

Sr. No.	Clause No.	Existing	Read as
1	2.16 (9) of Chapter 2	iv. MTCTE certification for LER and LSR as per relevant TEC ER.	iv. For LER & LSR, MTCTE certification as per relevant TEC ER is necessary. Else, the Make and Models offered for LSRs and LERs by OEM must be in the list of the Trusted Telecom portal of the Government of India and should have applied for TEC certification as on date of Tender opening.
2	4.04 of Chapter 4	TEC certificate for router. Proof of which needs to be enclosed along with MAF.	For LER & LSR, MTCTE certification as per relevant TEC ER is necessary. Else, the Make and Models offered for LSRs and LERs by OEM must be in the list of the Trusted Telecom portal of the Government of India and should have applied for TEC certification as on date of Tender opening.
3	Format-14	Existing format deleted	New format attached
4	2.17 of Chapter 2	i. In order to be successful in the evaluation of the technical bid, bidder has to successfully demonstrate the proposed solution. Advice to begin the POC shall be issued within 7 days of the opening of the tender. The Proof of Concept shall be demonstrated at OEMs / Purchasers place or as decided by Railway. The Purchaser will not be liable to pay/reimburse any type of cost incurred by the successful bidder pertaining to the PoC. iv. If successful POC has been carried out for same offered router in any other Railway, then that router may be exempted from conduction of POC, based on documents submitted in support of successfully completed POC.	i. In order to be successful in the evaluation of the technical bid, bidder has to successfully demonstrate the proposed solution. PoC to be started within 15 days of the opening of the Tender. The Proof of Concept shall be demonstrated in Mumbai. The Purchaser will not be liable to pay/reimburse any type of cost incurred by the successful bidder pertaining to the PoC. iv. Deleted
5	New item	-----	Annexure-VI added (<u>Tentative IPMPLS Network Diagram</u>)