

**RAILTEL CORPORATION OF INDIA LIMITED**

**(A Govt. of India Undertaking)**

**Expression of Interest for Selection of Partner from Empanelled  
Business Associate for EXCLUSIVE TEAMING  
ARRANGEMENT**

**For**

**“Enquiry For**

**Network Restructuring in MAHAGENCO for its Nine Plants and  
Three Offices across Maharashtra”**

**EOI No: RCIL/WR/MUMBAI/Mktg/24-25/07 dated 01<sup>st</sup> Aug, 2024**

रेलटेल  
RAILTEL

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

**EOI Notice No:** RCIL/WR/MUMBAI/Mktg/24-25/07 dated 01<sup>st</sup> Aug, 2024

RailTel Corporation of India Ltd., (here after referred to as “RailTel”) invites EOIs from RailTel’s Empanelled Partners for the selection of suitable partner as Exclusive teaming arrangement for “Network Restructuring in MAHAGENCO for its Nine Plants and Three Offices across Maharashtra” as per Maharashtra State Power Generation Company Limited Enquiry enclosed for reference and any other addendums/ corrigendums/ documents/ amendments contained within and related to the same.

The details are as under:

1	Last date for submission of Technical Packet against EOIs by bidders	06 <sup>th</sup> Aug 2024 at 15:00 Hrs
2	Opening of Technical Bid of EOIs	06 <sup>th</sup> Aug 2024 at 15:30 Hrs
3	EOI fees inclusive tax (Non-refundable)	Rs. 10,000/- (non-refundable in the form of online transfer)
4	EMD for Pre-Bid Arrangement	<b>Total EMD:</b> Rs. 1,00,00,000/- Total EMD to be paid online/ as BG/ DD

The EMD should be in the favor of RailTel Corporation of India Limited payable at Mumbai through online bank transfer/ BG/ DD. Partner needs to share the online payment transfer details like UTR No, date of payment along with the Bid and if EMD is in the form of BG/ DD then original copy of the instrument is to be submitted to RailTel Mumbai Office as per last date aforesaid ie before 06<sup>th</sup> Aug, 2024 15:00 Hrs.

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. Viplov Nath Mishra

**Designation:** Senior Deputy General Manager/ Marketing

**E-Mail Address:** viplovmishra@railtelindia.com

**Mobile No:** +91- 9004444124

**2. Level 2**

**Contact Name:** Sh. Santosh Parage

**Designation:** Group General Manager/ Marketing

**E-Mail Address:** santosh.parage@railtelindia.com

**Mobile No:** +91- 7020906278

**Note:**

1. Empanelled partners are required to submit soft copy of technical & price packet through an e-mail at [eoι.wr@railtelindia.com](mailto:eoι.wr@railtelindia.com) duly signed by Authorized Signatories with Company seal and stamp. File size should be maximum 15 MB. A bidder can send multiple files in multiple mails in his Bid to ensure clarity of documents.
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 teaming arrangement with empanelled business associate of RailTel for participating in the end customer Tender/RFP/Enquiry**. Selected partner's authorized signatory has to give an undertaking and is deemed to have agreed that they will not submit directly or indirectly their proposals and techno-commercial solution/association with any other organization once selected in this EOI for teaming arrangement. This undertaking has to be given with this EOI Response.
5. The Empanelled partner has to also submit his empanelment LOI
6. 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.
7. **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.
8. 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.
9. Any changes made by RailTel's end customer in Enquiry enclosed for reference upto the last date of submission of the said proposal by RailTel will be unquestionably & without any objection accommodated by the Bidders in their Technical & Price offer submitted against this EoI. Also if any changes in the end customers' requirements in future will be accommodated by the BA in the proposal if end customer asks RailTel to do the said. Changes include all the technical, financial, format changes and any other changes as applicable and deemed applicable by RailTel.

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RAILTEL

## 1. As 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.

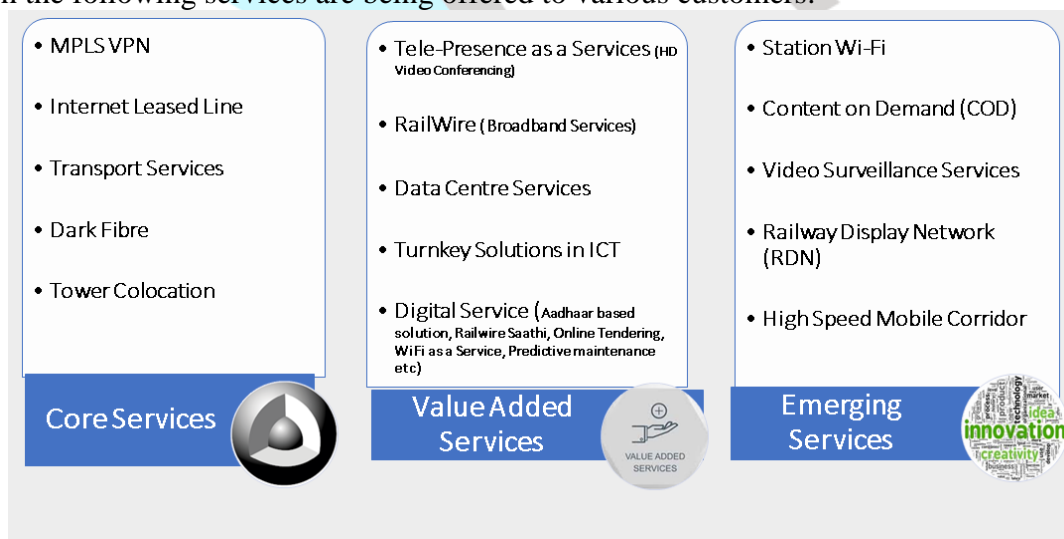
RailTel has approximately 60000 kms of OFC along the protected Railway tracks. The transport network is built on high capacity DWDM and an IP/ MPLS network over it to support mission critical communication requirements of Indian Railways and other customers. RailTel has Tier-III Data Center in Gurgaon 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 up to 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 submit commercial quotation to its end Customer organization for “Network Restructuring in MAHAGENCO for its Nine Plants and Three Offices across Maharashtra” as per Maharashtra State Power Generation Company Limited Enquiry enclosed for reference

RailTel invites EOIs from RailTel's Empanelled Partners for the selection of suitable partner for participating in above mentioned work for the agreed scope work. The empanelled 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/RFP/Enquiry for “Network Restructuring in MAHAGENCO for its Nine Plants and Three Offices across Maharashtra” as per Maharashtra State Power Generation Company Limited Enquiry enclosed for reference with latest addendums/ corrigendums/ documents/ amendments contained within and related to the same upto the last date of submission of the aforesaid proposal to end customer.

The broad scope of deliverables is provided in the referred Enquiry which is enclosed along with this EOI

In case of any discrepancy or ambiguity in any clause / specification pertaining to scope of work area, the Tender/RFP/Enquiry and corrigendum/addendum/documents released by end customer organization shall supersede and will be considered sacrosanct. (All associated clarifications, response to queries, revisions, addendum, corrigendum and documents 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 empanelled partner 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 Tender/RFP/Enquiry, 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 180 days from the date of Bid submission issued by the end Customer organization for which proposal is going to be submitted.

#### **4.5 Bid Earnest Money (EMD)**

**4.5.1** The Business Associate shall furnish a sum as given in EOI Notice via online transfer/ BG/ DD from any nationalized or scheduled bank excluding Co-Operative Banks 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.

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

**4.5.4 Return of EMD for successful Business Associate:** EOI EMD and Integrity Pact BG of the successful bidder will be discharged / returned as promptly as possible on receipt of Security Deposit Performance Bank Guarantee as applicable (clause no. 4.6) from Business Associate whichever is later.

**4.5.5 Forfeiture of EOI EMD or EOI EMD and or Penal action as per EMD Declaration:**

**4.5.5.1** The EOI 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.

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

**4.5.5.3** Having participated with another party/directly/through consortium apart from RailTel in RailTel's end customer Tender/RFP/Enquiry

#### **4.6 Security Deposit / Performance Bank Guarantee (PBG)**

**4.6.1** In case the bid is successful, the PBG which will be back to back as per end customers PBG to RailTel calculated as per the total contract value of agreed scope 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/RFP/Enquiry**

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/RFP/Enquiry 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/RFP/Enquiry.

Also it may be noted that RailTel may choose multiple BAs for final bidding depending upon the lowest offer received so that a winning bid can be put forth.

The BA's will have to encompass RailTel margin over all components of the Price in end customer Tender/RFP/enquiry.

Any Changes in the end customer Tender/RFP/Enquiry after the last date of submission of RailTel EoI shall be unquestionably & without any objection accommodated by the BA/BAs in their Technical & Price offer submitted against this EoI.

**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

Sr No	Criteria	Supporting Documents to be submitted
1	<b>Legal Entity</b>	
	Bidder should be a legal entity registered in India under either Indian Companies Act 1956/2013 or LLP Act 2008 since last 5 years on the bid submission date.	A copy of the Certificate of Incorporation
2	<b>GST REGISTRATION</b>	
	The bidder should have valid PAN & GST registration in India	PAN & GST Registration certificates issued by competent authority
3	<b>FINANCIAL CAPABILITY</b>	
	The bidder should have overall average annual turnover of at least INR 70 Crore (Turnover from System Integration Business) in last 3 financial years ( FY 21-22, FY 22-23, FY 23-24) or ( FY 20-21, FY 21-22, FY 22-23)	Certificate(s) from Chartered Accountant with all relevant details from the bidder.  The bidder shall provide a copy of each of audited Profit & Loss Statement and Balance Sheet to ascertain its turnover & net-worth.
4	<b>NON- BLACKLISTING/NON-LIQUIDATION / COURT RECEIVERSHIP</b>	
	The bidder should not have been blacklisted or under Non-Liquidation or under Court Receivership by any Indian or International Government (Central/ state /PSU) Organization as during the last three years from the date of Bid submission date.	Self-Certification on Company Letter Head from the authorized signatory of the bidder
5	<b>ISO Certifications</b>	
	The bidder must be <b>ISO 9001 and ISO 27001</b> certified having a Valid Certificate on the date of bidding	Valid Certificates to be attached
6	<b>Experience of Executing similar works in India within the last three years.</b>	Copy of Work Orders / Contracts in PSU, Central or State Government Departments.
	One Purchase orders of Similar Work with Order costing not less than 40 Crore value OR Two Purchase orders of Similar Work with Order costing not less than 25 Crore value Each OR Three Purchase orders of Similar Work with Order costing not less than 15 Crore value Each  <b>Note</b> - Similar work means experience in Switching or experience in SD-WAN or experience in Routing or experience in Server with virtualization or experience in Backup Solution or	

	experience in setting up Data Centre.	
7	<b>Manufacturer Authorization Form.</b> The bidder should submit Manufacturer Authorization Form (MAF) for the following products: <ul style="list-style-type: none"> <li>Active products</li> </ul>	MAF for all the above to be submitted along with the proposal

## 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.	PAN, GST, TAN Registration numbers	

## 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 Management Committee (BMC) 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 or scheduled banks excluding Co-operative banks as per the format given in this bid, payable on demand, for the due performance and fulfilment of the contract by the Bidder.

This Performance Bank Guarantee will be submitted within 30 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 30 days and up to 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 (e.g.: Poor service, etc).

This Performance Bank Guarantee will be for an amount which will be back to back as per end customers PBG to RailTel calculated as per the total contract value of agreed scope. All charges whatsoever such as premium, commission, stamp duties 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 30 days 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 BA.

#### 12.4 Payments to selected BAs will be in Arrears only

### 13 SLA/Penalty/LD

The selected bidder will be required to adhere to the SLA/Penalty/LD matrix as defined in the end Customer organization Tender/RFP/Enquiry for his scope of work and the SLA/Penalty/LD breach penalty will be applicable proportionately on the selected bidder, as specified in the end Customer organization Tender/RFP/Enquiry. The SLA/Penalty/LD scoring and penalty deduction mechanism for in-scope of work area shall be followed as specified in the Tender/RFP/Enquiry. 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/Penalty/LD breach which is attributable to Partner and will be passed on to the Partner proportionately based on its scope of work.

### 14 Duration of the Contract Period

The contract shall remain in force for a minimum period of 1 years from the Commercial Operation Date (COD) and extendable as per end customer requirements. The effective date will be the day when the Condition Precedents are met. RailTel as per its end customer will review the performance of the Selected Bidder and may renew the engagement if any on same terms and conditions or as per revised terms laid by the end customer one year at a time or as prescribed by end customer, subject to satisfactory performance.

#### **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 to be shared/executed Back to Back as per the end customer Maharashtra State Power Generation Company Limited Enquiry enclosed for reference and any other addendums/ corrigendums/ documents/ amendments contained within and related to the same**
- 3. In case of any discrepancy or ambiguity in any clause /specification pertaining to scope of work area, the Tender/RFP/Enquiry released by end customer organization shall supersede and will be considered sacrosanct. (All associated clarifications, response to queries, revisions, addendum, corrigendum & documents, associated prime service agreement (PSA)/ MSA/ SLA also included.)**
- 4. All clauses such as cost involved, payment term, validity, lock in period, etc will be back to back as per Maharashtra State Power Generation Company Limited Tender/RFP/Enquiry**
- 5. All required and related documents mandatory in RailTel's end customer Tender/RFP/Enquiry is to be arranged by Selected Bidders before RailTel's submission of proposal to end customer.**



## **Annexure 1: COVERING LETTER**

**(To be submitted by sole Bidder on 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:**

**Contact No:**

**E-Mail Address:**

**Signature:**

**Seal of the Organization:**

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RAILTEL

**Annexure 2: Self-Certificate & Undertaking**  
**(To be submitted by sole Bidder on 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, Commercial & other compliances

1. Having examined the Technical specifications mentioned in this EOI & end customer Tender/RFP/Enquiry, 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/RFP/Enquiry 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 on Letter Head)**

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:**

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#### **Annexure 4: Format of Affidavit**

**(To be submitted by sole bidder)**

#### **FORMAT FOR AFFIDAVIT TO BE UPLOADED BY SOLE PARTNER ALONG WITH 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](http://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.**

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## **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 does 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 submitted on Letter Head of the Bidder)**

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 procedure’s contract/s for

‘ \_\_\_\_\_ ,  
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 witnessed 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 binding 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 remainder 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:

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Witness 2:

---

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RAILTEL

## **Annexure 7: Complete EoI Examination & Nil Deviation Certificate**

(To be submitted by Bidder)

To  
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  
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) Maharashtra State Power Generation Company Limited Enquiry enclosed for reference and any other addendums/ corrigendums/ documents/ amendments contained within and related to the same

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/RFP/Enquiry 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 :

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## **Annexure 9: Performance Bank Guarantee Format**

(For a sum of percentage of the value of the contract as per RailTel's end customer Letter)  
(Stamp Duty to be confirmed by RailTel in co-ordination with RailTel's Legal Department)  
(Final Draft to be confirmed by RailTel Legal before BG issuance)

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

1. In consideration of RailTel Corporation of India Ltd (hereinafter called — RailTel) having agreed to accept from <Company Name of Bidder>(hereinafter called —the said contractor/sll), under the terms and conditions of an Agreement/Acceptance letter dated <Date> (Letter No: <LOA/LOI/PO No>) made between RailTel and <Company Name of Bidder> (hereinafter called —the said Agreementll) 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. <Amount>/- (Rupees <Amount in Words> Only) we, <Bank Name> (thereinafter referred to as —the Bankll) at the request of <Company Name of Bidder>contractor/s do hereby undertake to pay the RailTel an amount not exceeding Rs. <Amount>/- (Rupees <Amount in Words> Only) against any loss or damage caused to or suffered by or would be caused to or suffered by RailTel by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.
2. We, <Bank Name> (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 RailTel stating that the amount claimed is by way of loss or damage caused to or suffered by Railtel 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. <Amount>/- (Rupees <Amount in Words> Only)
3. We undertake to pay to RailTel 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 <Bank Name> 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/Warrantee Period, and that it shall continue to be enforceable till the dues of RailTel under or by virtue of the said agreement have been fully paid and its claims satisfied or discharge or till <Date>. RailTel will certify

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 the <Date> we shall discharge from all liability under this guarantee thereafter.

5. We, <Bank Name> further agree with RailTel that RailTel 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 RailTel against the said contract and to forebear 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 RailTel or indulgence by RailTel 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, <Bank Name> undertake not to revoke this guarantee during its currency except with the previous consent of RailTel in writing.

Date this <Date> day of <Month> 2024.

For <Bank Name>

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## **Annexure 10: Format for EMD as BG**

Name of the Bank: <Bank Name>

To

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

Date: <Date>

Bank Guarantee Bond No.: <BG Number>

Date: <Date>

In consideration of RailTel Corporation of India Ltd (hereinafter called — “RailTel”) having invited the bid for ‘\_\_\_\_\_’ through EOI No \_\_\_\_\_ Dt. \_\_\_\_\_. We have been informed that <Company Name of Bidder> having its Office address <Address> (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 Rs. <Amount>/- (Rupees <Amount in Words> Only), in the form of Bank Guarantee, according to conditions of Bid.

AND

WHEREAS, <Bank Name>, with its Branch <Bank Branch Name> having its Headquarters office at <Bank 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 RailTel full amount in the sum of Rs. <Amount>/- (Rupees <Amount in Words> Only) as above stated.
2. The Bank undertakes to immediately pay on presentation of demand by RailTel any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any such demand made by RailTel 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 RailTel without any reference to the Bidder and without RailTel 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 RailTel 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 RailTel at any time.
6. This guarantee will remain valid and effective from <BG Date> till <Validity Date>. 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 RailTel 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 RailTel. 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	UBIN0531782
BANK NAME	Union Bank of India
BRANCH NAME	Mahalaxmi
CITY NAME	MUMBAI
ADDRESS	22, Bhulabhai Desai Road, Mahalaxmi Chambers, Mahalaxmi, Mumbai – 400026
STATE	MAHARASHTRA

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

Date <Date>

Place <Place>  
signature(s)

Bank's Seal and authorized

[Name in Block letters]

[Designation]

[P/Attorney] No.

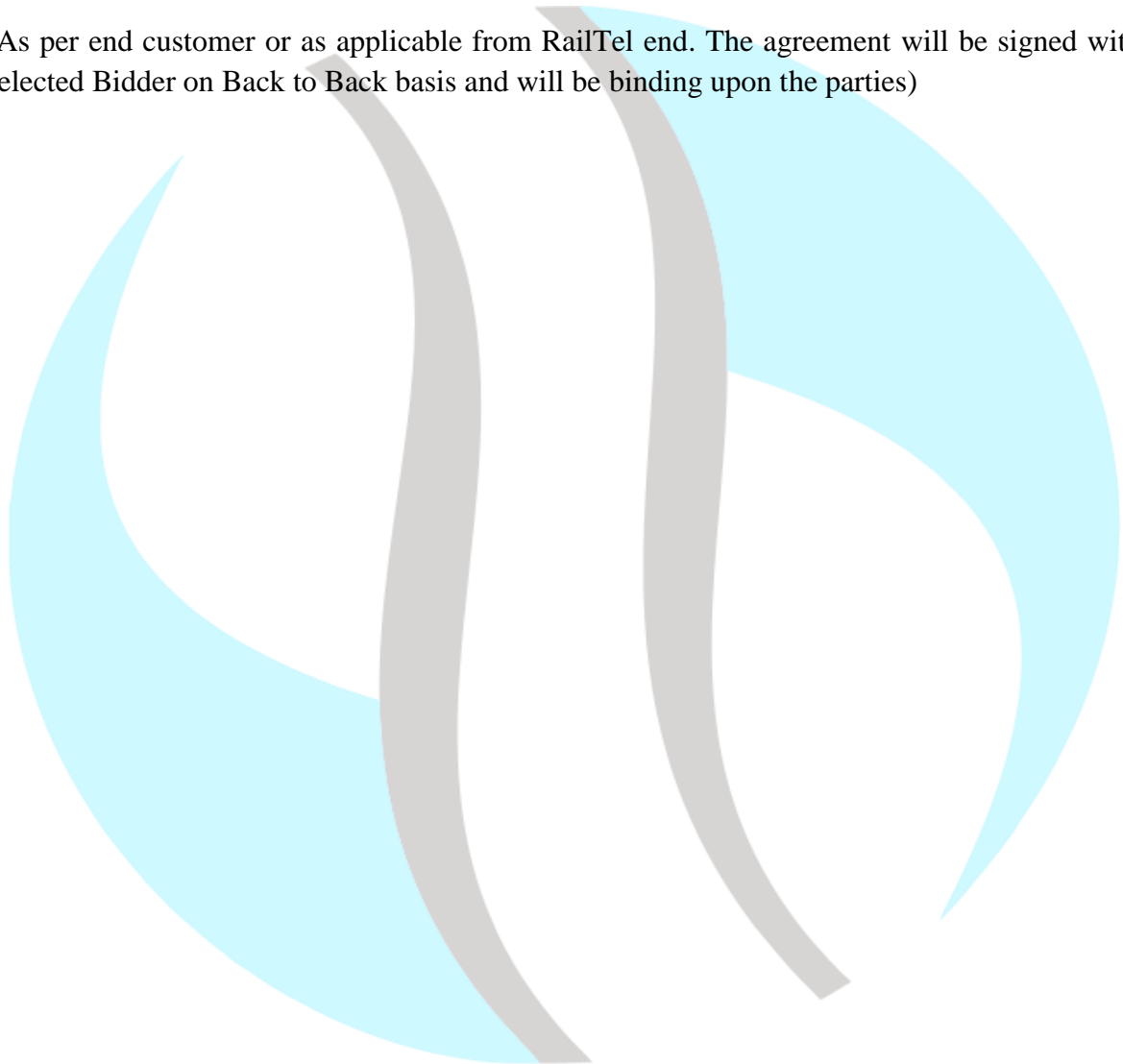
**Witness:**

1. Signature, Name & Address & Seal
2. Signature, Name & Address & Seal

**Bank's Seal**

### **Annexure 11: Agreement Draft Format**

(As per end customer or as applicable from RailTel end. The agreement will be signed with selected Bidder on Back to Back basis and will be binding upon the parties)



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## **Annexure 12: Manufacturers Authorization Form**

**Date:**

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

**Subject:** Manufacturer's Authorization Form.

EOI Reference No. :

Dear Sir/Ma'am,

We, (Name of the OEM) \_\_\_\_\_, are established and reputed manufacturers/ sellers of Networking Products ("Name of OEM") \_\_\_\_\_ Branded Products").

We (Name of OEM) \_\_\_\_\_, are having our registered office at \_\_\_\_\_ hereby authorizes M/s (Bidder Name) ("Partner"), having its registered office at ( Bidder Registered Office address ) to quote our \_\_\_\_\_ Branded Products in the territory of India.

The Partner intends to submit a bid to the "Customer".

If the Tender is awarded to the Partner, the Partner will subsequently bid and sign a contract, as per the agreed OEM and Delivery terms as agreed between the Partner and ( Name of the OEM) \_\_\_\_\_ for the tender, for the supply to the Customer of an IT solution including Name of the OEM Branded Products.

Name of the OEM shall only provide standard OEM warranty and standard support as mentioned in tender / EOI . The Partner will be solely responsible and liable for any expansion or extensions of such warranty, support and/or associated terms and conditions.

MAF will be applicable for below quoted product only.

Sr No	OEM Name	Product details	Qty

Thanking You ,

Authorized Signatory

**Annexure 13: Price Bid Format**

**(Back to Back as per end customer Tender/RFP/Enquiry referred including all its amendments/ corrigendums/ clarifications/ documents)**

Sr. No.	Description	Qty	Unit Price	Total Price
1	12 CORE Outdoor Direct burial Single Mode OFC Cable	219900		
2	6 Core Outdoor Direct burial OM4 Multi-Mode Cable	8240		
3	4 Pair UTP cable (305 Mtr. Box)	1158		
4	CAT6 I/O	15660		
5	24 port patch panel (Unloaded)	720		
6	Single Face Plate with SMB	8175		
7	CAT6 Patch Cord 1 Meter	8238		
8	CAT6 Patch Cord 2 Meter	8238		
9	24 Port LIU loaded with SC style adapter plate & Single Mode SC pigtail.	246		
10	12 Port LIU loaded with SC style adapter plate & Single Mode SC pigtail.	213		
11	SC-LC Duplex Single Mode 2 Meter patch cord	772		
12	SC-SC Duplex Single Mode 2 Meter patch cord	30		
13	24 Port LIU loaded with SC style adapter plate & Multi Mode SC pigtail. (OM4)	58		
14	12 Port LIU loaded with SC style adapter plate & Multi Mode SC pigtail. (OM4)	84		
15	SC-LC Duplex Multi Mode 2 Meter patch cord (OM4)	278		
16	Smart Rack with Standard Accessories & 2 PDUs	14		
17	15U Wall Mount rack with standard Accessories	318		
18	9U Wall Mount rack with standard Accessories	114		
19	6U Wall Mount rack with standard Accessories	115		
20	HDPE Pipe	63000		
21	Conduit	11600		
22	Laying of OFC cable	228140		
23	Laying of UTP Cable	349925		
24	Installation of Conduit or casing capping	11600		
25	Laying of HDPE pipe	63000		
26	Digging Hard soil	78014		
27	Digging soft soil	21300		
28	I/O Termination	15660		
29	Pannel installation	720		
30	SMB installation	8175		
31	Face plate installation	8175		
32	6U or 9U wall mount rack installation	238		
33	Smart rack installation	14		
34	LIU installation	601		
35	OFC Splicing	11352		
36	Core / Distribution Switch with all the accessories	37		
37	Layer 2 Switch with all the accessories	569		



Sr. No.	Description	Qty	Unit Price	Total Price
38	Layer 2 PoE Switch for wifi access points and all other accessories	131		
39	Wireless Access Point: Indoor environments, with internal antennas	281		
40	NAC SOLUTION	14		
41	55" DISPLAY	14		
42	10 SFP+ Transceivers MM	356		
43	10 SFP+ Transceivers SM	892		
44	Installation & Commissioning	14		
Total Prices INR				
GST @18%				
Total Prices Including GST INR				

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**Scope for  
“Network Restructuring in MAHAGENCO for its Nine Plants and Three  
Offices across Maharashtra”**

MAHAGENCO Plants and Offices are spread across Maharashtra. Organisation is continuously taking efforts for the improvement in the areas of modernization and digital transformation to enhance operational efficiency. All the Business processes are being carried through SAP-ERP. Other systems including eTendering, Website, Cloud interfaces, Deviation Settlement Mechanism (DSM) system, Payment Gateway, Real-time MW, Management Dashboards etc. are implemented and in use by the end users. To have a smooth access and connectivity to the resources, organisation is having established Local Area Network.

However, the implemented Local Area Network across MSPGCL is very old and is commissioned in bits and pieces with the scattered technology as and when the need arose.

Upgrading LAN is essential for future-proofing IT infrastructure. A modern network shall not only support current needs but also provide the flexibility to integrate emerging technologies.

Following characteristics as per the industry standard are to be taken into the consideration while restructuring the network.

- *Security*
- *Reliability*
- *Scalability*
- *Flow of Data*
- *High performance*
- *Fault tolerance*
- *Quality of Service (QoS)*

The Locations that are included for the restructuring of network across MSPGCL are-

Sr.No.	Location	Offices/TPS covered
1	Head Office	Prakashgad/Dharavi/HDIL/HSBC
2	Bhusawal	TPS/Project
3	Chandrapur	TPS/Project
4	Koradi	TPS/KTC/Project
5	Khaperkheda	TPS
6	Nashik	TPS/NTC/ReC
7	Paras	TPS
8	Parli	TPS
9	Uran	GTPS
10	Pophali	Stage - I/II/III/IV
11	Pune	ReC Office
12	Nagpur	Coal Office

The objectives of Setting up Next Generation Local Area Network across Nine Plants and Three offices are as follows :-

1. **Current Challenges :** In many places the departments are still operating on legacy network infrastructure that may not support the demands of modern applications and technologies. At few locations outdated hardware is used which does not have any warranties.
2. **Implications:** Old infrastructure may lead to inefficiencies, increased maintenance costs, and difficulties in integrating with newer technologies. It may hinder the organization's ability to scale and adapt to changing business requirements.
3. **Non-standardized network environments :** Lack of adherence to industry best practices or the use of proprietary technologies that deviate from established standards can create interoperability issues, making it challenging to integrate new devices or technologies into the network. This can result in increased complexity, higher maintenance costs, and difficulties in troubleshooting.
4. **Frequent network downtime :** It disrupts normal business operations. Downtime usually occurs due to hardware failures, software glitches, or configuration errors or accidental loops in networks. Downtime directly impacts productivity and can result in financial losses for organizations. It may lead to frustrated users, damage to the organization's reputation.
5. **Poor network performance:** It can manifest as slow data transfer speeds, high latency, or inconsistent connectivity. This can be caused by congestion, insufficient bandwidth, or network bottlenecks. In many places the entire network is a single broadcast domain & does not have any sort of micro-segmentation. This is a most common reason behind poor performance & other network issues. Subpar performance affects user experience, leading to reduced productivity and dissatisfaction among employees. It may also hinder the effective use of applications and services that rely on a high-performing network.

To provide much more reliability, Security and Scalability we intend to implement the 3-tier architecture with a Fiber Back bone ( Single Mode or Multi Mode) depending upon the distance across all the plants & offices.

By incorporating the Network Segmentation in the Secured Tier 3 Local Area Network MSPGCL can Strengthened security, Improved network monitoring, Enhanced operational performance etc.

The total consolidated Bill of Material/Quantity for all the locations would be as tabulated below –

<b>Sr. No.</b>	<b>Description</b>	<b>Qty</b>
1	12 CORE Outdoor Direct burial Single Mode OFC Cable	219900
2	6 Core Outdoor Direct burial OM4 Multi-Mode Cable	8240
3	4 Pair UTP cable (305 Mtr. Box)	1158
4	CAT6 I/O	15660
5	24 port patch panel (Unloaded)	720
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8	CAT6 Patch Cord 2 Meter	8238
9	24 Port LIU loaded with SC style adapter plate & Single Mode SC pigtail.	246
10	12 Port LIU loaded with SC style adapter plate & Single Mode SC pigtail.	213
11	SC-LC Duplex Single Mode 2 Meter patch cord	772

Sr. No.	Description	Qty
12	SC-SC Duplex Single Mode 2 Meter patch cord	30
13	24 Port LIU loaded with SC style adapter plate & Multi Mode SC pigtail. (OM4)	58
14	12 Port LIU loaded with SC style adapter plate & Multi Mode SC pigtail. (OM4)	84
15	SC-LC Duplex Multi Mode 2 Meter patch cord (OM4)	278
16	42U Network Rack with Standard Accessories & 2 PDUs	14
17	15U Wall Mount rack with Standard Accessories	318
18	9U Wall Mount rack with Standard Accessories	114
19	6U Wall Mount rack with Standard Accessories	115
20	HDPE Pipe	63000
21	Conduit	11600
22	Laying of OFC cable	228140
23	Laying of UTP Cable	349925
24	Installation of Conduit or casing capping	11600
25	Laying of HDPE pipe	63000
26	Digging Hard soil	78014
27	Digging soft soil	21300
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33	42U rack installation	14
34	LIU installation	601
35	OFC Splicing	11352
36	Core / Distribution Switch with all the accessories	37
37	Layer 2 Switch with all the accessories	569
38	Layer 2 PoE Switch for wifi access points and all other accessories	131
39	Wireless Access Point: Indoor environments, with internal antennas	281
40	NAC SOLUTION	14
41	55" DISPLAY	14
42	10 SFP+ Transceivers MM	356
43	10 SFP+ Transceivers SM	892
44	Installation & Commissioning	14

## A) Specifications for Active Components

### Core & Distribution Switches

Sr.No	Specification
<b>A</b>	<b>Architecture</b>
1	The switch Shall support 1Gbase-T, SX, LX, 10Gbase-SR, LR, QSFP SR4, LR4 and QSFP28-SR4, LR4
2	The switch shall have 1.28 Tbps switching capacity
3	The switch should have 98K MAC address table size, 24K IPv4 Unicast Routes and 12K IPv6 Unicast Routes
4	The switch should support 4000 Multicast Routes and 4000 IGMP Groups
5	The switch should support 32MB Packet buffer
6	The Switch should support Jumbo Frames and Loopback
7	The Switch should Protect against unknown broadcast, multicast, or unicast storms with user-defined thresholds
8	The switch should support 16GB RAM, 32GB Flash
<b>B</b>	<b>Quality of Service (QoS)</b>
1	The Switch should support Strict priority (SP) queuing and Deficit Weighted Round Robin (DWRR)
2	The Switch should support Data Centre Bridging (DCB), Priority Flow Control (PFC), Enhanced Transmission Service (ETS) and DCB Exchange Protocol
3	The Switch should Prevent accumulation of excessive congestion with periodic flushing. Avoids packets buffering for an extended time period and support Flow-Control Guard
4	The Switch should be able to Mark packets as ECN-CE (Congestion Experienced) to help TCP to reduce receive window size during congestion Advanced Lossless Pool Configuration
<b>C</b>	<b>Resiliency and High Availability</b>
1	The proposed switch should support distributed and redundant architecture by deploying two switches with each switch maintaining independent control and synchronized during upgrades or failover and should support upgrades during live operation.
2	The switch should have modular operating system with micro-services or equivalent architecture providing superior fault tolerance and high availability
3	The Switch should have Hot swappable power supply and fan modules from day one
4	The Switch should support Virtual Router Redundancy Protocol (VRRP) and Bidirectional Forward Detection (BFD)
5	The Switch should support Unidirectional Link Detection (UDLD) and support IEEE 802.3ad LACP
<b>D</b>	<b>Management</b>
1	The Switch should support REST API interface and support Industry-standard CLI with a hierarchical structure
2	The Switch should provide Restricts access to critical configuration commands; offers multiple privilege levels with password protection; ACLs provide SNMP access; local and remote Syslog capabilities allow logging of all access.



3	The Switch should support IP SLA,SNMP v2c/v3 and sFlow and support TFTP and SFTP
4	The Switch should support ping and traceroute for IPv4 and IPv6 and support Network Time Protocol (NTP)
5	The Switch should IEEE 802.1AB Link Layer Discovery Protocol (LLDP) and Dual flash images
<b>E</b>	<b>Layer 2 Switching</b>
1	The Switch should up to 1000 port-based or IEEE 802.1Q-based VLANs, VLAN Translation,Bridge Protocol Data Unit (BPDU) tunneling and Port mirroring
2	The Switch should support IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) and Rapid Per-VLAN spanning tree plus (RPVST+) or equivalent
<b>F</b>	<b>Layer 3 Services</b>
1	The Switch should support Address Resolution Protocol (ARP)
2	The Switch should support directed broadcast on configured network subnets.
3	The Switch should support Dynamic Host Configuration Protocol (DHCP)
4	The Switch should support DHCP Relay enables DHCP operation across subnets.
5	The Switch should support DHCP Server
6	The Switch should support for DHCP smart relay.
7	Allows DHCP relay coexistence with DHCP server for both IPv4 and IPv6.
8	The Switch should support Domain Name System (DNS)
<b>G</b>	<b>Layer 3 Routing</b>
1	The Switch should support Static IPv4 and IPv6 routing and VRF
2	The Switch should support Sub-Interface
3	The Switch should support Open shortest path first (OSPF) and OSPFv3
4	The Switch should support Border Gateway Protocol 4 (BGP-4), Multiprotocol BGP (MP-BGP) and Dynamic BGP Peering
5	The Switch should support Routing Information Protocol version 2 (RIPv2) and Routing Information Protocol Next Generation (RIPng)
6	The Switch should support Policy Based Routing (PBR) and support the tunneling of IPv6 traffic in an IPv4 network.
7	The Switch should support Equal-Cost Multipath (ECMP),Generic Routing Encapsulation (GRE) and Dual IP stack
8	The Switch should support Dynamic VXLAN with BGP-EVPN
9	The Switch should support PIM-SM/IGMP snooping in the VXLAN Overlay
10	The Switch should support IPv6 VXLAN/EVPN Overlay Support
11	The Switch should support IPv6 traffic over the VXLAN overlay
12	The Switch should support VXLAN distributed anycast gateway,VXLAN ARP/ND suppression and support VXLAN Group-Based Policy (GBP) and Role-based Policies

<b>H</b>	<b>Security</b>
1	The Switch should support Access control list (ACL) Features
2	The Switch should support ACLs that can also protect control plane services such as SSH, SNMP, NTP or web servers.
3	The Switch should support 802.1x, Mac-auth, Port-Access Policy, Static Port Filtering.
4	The Switch should support Private VLAN
5	The Switch should support Remote Authentication Dial-In User Service (RADIUS) and Terminal Access Controller Access-Control System (TACACS+)
6	The Switch should support RADIUS authentication and accounting data to be passed safely and reliably across insecure networks such as the internet.
7	The Switch should support Secure shell (SSHv2)
<b>I</b>	<b>Multicast</b>
1	The Switch should support Internet Group Management Protocol (IGMP),IGMPv1, v2, and v3
2	The Switch should support PIM Multicast Boundary (v4)
3	The Switch should support Multicast Listener Discovery (MLD)
4	The Switch should support Protocol Independent Multicast (PIM), PIM-SSM,PIM-SM and PIM-Dense Mode,
5	The Switch should support Anycast Rendezvous Point (RP), Multicast Service Delivery Protocol (MSDP),MSDP Mesh Groups
6	The Switch should support IGMP/MLD Snooping, support FastLeave (FL) and Forced-FastLeave (FFL)
<b>J</b>	<b>Environmental Features</b>
1	The Switch should support RoHS (EN 50581:2012) regulations.
2	The switch support Operating temperature of 0°C to 40°C
3	Safety : IEC 62368 EMC : EN 55032 Lasers :EN60825

**Access Switch**

<b>S.No</b>	<b>Specification</b>
<b>A</b>	<b>Architecture</b>
<b>1</b>	Shall be 19" Rack Mountable
<b>2</b>	The switch should have dedicated Console Port
<b>3</b>	4GB SDRAM and 16 MB flash.
<b>4</b>	The Switch should support 8000 MAC address
<b>5</b>	The switch should have minimum 512 Ipv4 Unicast Routes and 512 Ipv6 Unicast Routes ,512 Igmp Groups ,512 Mld Groups.
<b>6</b>	The switch should have 24x ports 10/100/1000 BASE-T ports and 4x 1/10 SFP+ ports.
<b>7</b>	The switch should have 128 Gbps of Switching Capacity and 95 Mpps Throughput Capacity
<b>8</b>	The switch should support 1024 Access control entries
<b>B</b>	<b>IPv6 feature</b>
<b>1</b>	IPv6 host enables switches to be managed in an IPv6 network
<b>2</b>	Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, supporting connectivity for both protocols
<b>3</b>	MLD snooping forwards IPv6 multicast traffic to the appropriate interface
<b>4</b>	IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
<b>5</b>	IPv6 Static routing
<b>6</b>	RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping
<b>C</b>	<b>High Availability And Resiliency</b>
<b>1</b>	The Switch should support Uni-directional Link Detection (UDLD) to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops in STP- based networks
<b>2</b>	The Switch should support IEEE 802.3ad LACP supports up to 8 LAGs, each with up to 8 links per LAG and provide support for static or dynamic groups and a user-selectable hashing algorithm
<b>3</b>	The Switch should support IEEE 802.1s Multiple Spanning Tree provides high link availability in VLAN environments where multiple spanning trees are required and legacy support for IEEE 802.1d and IEEE 802.1w
<b>4</b>	The switch should support Strict priority (SP) queuing, Traffic prioritization (IEEE 802.1p) ,Class of Service (CoS) ,IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ, Rate limiting ,per-queue minimums Large buffers for graceful congestion management
<b>D</b>	<b>Management</b>
<b>1</b>	The Switch should support Built-in programmable and easy to use REST API interface
<b>2</b>	The Switch should support On-premises and cloud- based management
<b>3</b>	The Switch should support Zero-Touch Provisioning (ZTP) simplifies installation of switching infrastructure using DHCP-based
<b>4</b>	The Switch should have Scalable ASIC-based wire speed network monitoring and accounting with no impact on network performance.

5	The Switch should support Industry-standard CLI with a hierarchical structure
6	The Switch should support Management security restricts access to critical configuration commands, provides multiple privilege levels with password protection, and local and remote syslog capabilities allow logging of all access
7	The Switch should support SNMP v2c/v3 provides SNMP read and trap support of industry standard Management Information Base (MIB), and private extensions sFlow (RFC 3176)
8	The Switch should support Remote monitoring (RMON) with standard SNMP to monitor essential network functions. Supports events, alarms, history, and statistics groups as well as a private alarm extension group; RMON, XRMON, and sFlow provide advanced monitoring and reporting capabilities for statistics, history, alarms and events
9	The Switch should support TFTP and SFTP support offers different mechanisms for configuration updates;
10	The Switch should support Debug and sampler utility support ping and traceroute for IPv4 and IPv6
11	The Switch should support Network Time Protocol (NTP) synchronizes timekeeping among distributed time servers and clients
12	The Switch should support IEEE 802.1AB Link Layer Discovery Protocol (LLDP) advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications
13	The Switch should support Dual flash images provides independent primary and secondary operating system files for backup while upgrading
14	The Switch should support Assignment of descriptive names to ports for easy identification
15	The Switch should support Multiple configuration files which can be stored to a flash image
16	The Switch should support Ingress and egress port monitoring enable more efficient network problem solving
17	The Switch should support Unidirectional link detection (UDLD) monitors the link between two switches and blocks the ports on both ends of the link if the link goes down at any point between the two devices
<b>E</b>	<b>Multicast</b>
1	The Switch should support IGMP Snooping to allow multiple VLANs to receive the same IPv4 multicast traffic, lessening network bandwidth demand by reducing multiple streams to each VLAN
2	The Switch should support Multicast Listener Discovery (MLD) enables discovery of IPv6 multicast listeners; supports MLD v1 and v2
3	The Switch should support Internet Group Management Protocol (IGMP) and Any-Source Multicast (ASM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3

<b>F</b>	<b>Layer 2 Switching</b>
<b>1</b>	The Switch should support 4094 VLAN IDs and 512 VLANs simultaneously
<b>2</b>	The Switch should support Jumbo packet to improve the performance of large data transfers and support frame size of up to 9198 bytes
<b>3</b>	The Switch should support Rapid Per-VLAN Spanning Tree (RPVST+) to allow each VLAN to build a separate spanning tree to improve link bandwidth usage.
<b>4</b>	The Switch should support MVRP to allow automatic learning and dynamic assignment of VLANs
<b>5</b>	The Switch should support Bridge Protocol Data Unit (BPDU) tunnelling to Transmits STP BPDUs transparently
<b>6</b>	The Switch should support Port mirroring duplicates port traffic (ingress and egress) to a monitoring port and support minimum 4 mirroring groups
<b>7</b>	The Switch should support STP supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
<b>8</b>	The Switch should support Internet Group Management Protocol (IGMP) Controls and manages the flooding of multicast packets in a Layer 2 network
<b>G</b>	<b>Layer 3 Routing</b>
<b>1</b>	The Switch should support Static IP routing.
<b>2</b>	The Switch should support Static IPv4 and IPv6 routing to provide simple manually configured IPv4 and IPv6 routes
<b>3</b>	The Switch should support Dual IP stack to maintain separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design
<b>H</b>	<b>Convergence</b>
<b>1</b>	The Switch should support IP multicast snooping (data-driven IGMP) to prevent flooding of IP multicast traffic
<b>2</b>	The Switch should support LLDP-MED (Media Endpoint Discovery) to define a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
<b>3</b>	The Switch should support Auto VLAN configuration for voice RADIUS VLAN uses a standard RADIUS attribute and LLDP-MED to automatically configure a VLAN for IP phones
<b>I</b>	<b>Security</b>
<b>1</b>	The Switch should support integrated trusted platform module (TPM) for platform integrity. This ensure the boot process started from a trusted combination of switches.
<b>2</b>	The Switch should support Access control list (ACL) support for both IPv4 and IPv6 to allow for filtering traffic to prevent unauthorized users from accessing the network, or for controlling network traffic to save resources. rules can either deny or permit traffic to be forwarded. rules can be based on a Layer 2 header or a Layer 3 protocol header



<b>3</b>	The Switch should support ACLs filtering based on the IP field, source/ destination IP address/subnet, and source/ destination TCP/UDP port number on a per-VLAN or per-port basis
<b>4</b>	The switch should support Enrollment over Secure Transport (EST) and Remote Authentication Dial-In User Service (RADIUS)
<b>5</b>	The Switch should support Terminal Access Controller Access-Control System (TACACS+) delivers an authentication tool using TCP with encryption of the full authentication request to provide additional security
<b>6</b>	The Switch should support Control Plane Policing sets rate limit on control protocols to protect CPU overload from DOS attacks
<b>7</b>	The Switch should support multiple user authentication methods. Uses an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server to authenticate in accordance with industry standards
<b>8</b>	The Switch should support Web-based authentication provides a browser-based environment, similar to IEEE 802.1X, to authenticate clients that do not support IEEE 802.1X
<b>9</b>	The Switch should support MAC-based client authentication
<b>10</b>	The Switch should support Concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port accepts up to 32 sessions of IEEE 802.1X, Web, and MAC authentications
<b>11</b>	The Switch should support Secure management access delivers secure encryption of all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
<b>12</b>	The Switch should support Switch CPU protection to provide automatic protection against malicious network traffic trying to shut down the switch
<b>13</b>	The Switch should support ICMP throttling defeats, ICMP denial-of-service attacks by enabling any switch port to automatically throttle ICMP traffic
<b>14</b>	The Switch should support Identity-driven ACL to enable implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
<b>15</b>	The Switch should support STP BPDU port protection to block Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
<b>16</b>	The Switch should support Dynamic IP lockdown with DHCP protection to block traffic from unauthorized hosts, preventing IP source address spoofing
<b>17</b>	The Switch should support Dynamic ARP protection to blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
<b>18</b>	The Switch should support STP root guard to protects the root bridge from malicious attacks or configuration mistakes
<b>19</b>	The Switch should support Port security to allow access only to specified MAC addresses, which can be learned or specified by the administrator
<b>20</b>	The Switch should support MAC address lockout to prevent particular configured MAC addresses from connecting to the network
<b>21</b>	The Switch should support Source-port filtering to allow only specified ports to communicate with each other

22	The Switch should support Secure shell to encrypt all transmitted data for secure remote CLI access over IP networks
23	The Switch should support Secure Sockets Layer (SSL) to encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
24	The Switch should support Secure FTP to allow secure file transfer to and from the switch and protect against unwanted file downloads or unauthorized copying of a switch configuration file
25	The Switch should support Critical Authentication Role to ensure that important infrastructure devices such as IP phones are allowed network access even in the absence of a RADIUS server
26	The Switch should support MAC Pinning to allows non-chatty legacy devices to stay authenticated by pinning client MAC addresses to the port until the clients logoff or get disconnected
27	The Switch should support Management Interface Wizard to help secure management interfaces such as SNMP, telnet/SSH,SSL, Web.
28	The Switch should support Security banner displays a customized security policy when users log in to the switch
<b>J</b>	<b>Certification</b>
1	The Switch should support Green initiative for RoHS (EN 50581:2012) and WEEE regulations
2	EN 60950-1/IEC 60950-1 EN 60825 CAN/CSA C22.2 No. 60950, 2nd Edition UL 60950-1, 2nd Edition

## B) Specifications for modules

### 1. 10G Fiber Modules

Sr. No.	Minimum Technical Specifications
1	10G- SR transceiver operating on standard multi- mode fiber-optic link spans of up to approximately 300 mts in length over OM3 Fiber
2	Standards Supported : IEC 60825-1
3	Operating Temperature : 0 to 70°C

### 2. 40G Fiber Modules

Sr. No.	Minimum Technical Specifications
1	40GBase- QSFP direct-attach Active Optical Cable, 7-meter
2	Standards Supported : ROHS 6
3	Operating Temperature : 0 to 70°C

### 3. 1G Fiber Modules

Sr.No.	Minimum Technical Specifications
1	1000BASE-SX SFP, compatible with the IEEE 802.3z 1000BASE-SX standard, operates on 50 µm MM Fiber for distance upto 500 Mts
2	Standards Supported: IEC 60825-1
3	Operating Temperature: 0 to 70°C

## **C) Specifications for Passive Components**

### **Structured Cabling Systems**

1. OEM should be ISO 9001 ISO 14000 Certified.
2. All networking passive material (Fiber, Copper and pathways for Structured Cabling within the DC) shall be from one OEM only.
3. The Passive Connectivity Components, Racks and associated hardware Material should have been manufactured/ tested/ assembled at OEM factories and other supply chain locations, and shall be covered by OEM warranty
4. The OEM of Passive Components should be present in India from at least past 20 years.
5. The OEM shall have the Colo/ Multitenant Data Centre project minimum 5 projects in India. Project reference shall be for 2021-2022 financial year. Reference shall be provided.
6. OEM shall have minimum of two BICSI-RCDD (Registered Communication Distribution Designer), two BICSI-DCDC (Data Centre Design Consultant) and one BICSI-OSP (Outside plant designer) certified personal sitting in India whose services can be utilized during the project.
7. The OEM Shall have the partners listed in the Web portal which can be viewed by the customer at any time.
8. OEM shall have product Web portal by which customer can view and download the factory test reports of products at any time. Products proposed should be listed on e-catalogs available on Company website
9. All passive components should be RoHS complied. Declaration of – ROHS compliant should clearly be mentioned on data sheets of each Passive Components, or a separate RoHS declaration must be submitted.
10. The OEM Shall have Company owned ISO Certified manufacturing facility in India, which shall be visited by the customer when needed.
11. 25 years of performance warranty certificate from OEM after successful testing done and material purchase from original source of OEM to be verified.
12. Test reports of OEM devices to be verified which are generated from any testing software/ device for minimum 5000 nodes in support of experience to executing such requirement of margin (3 dB or higher) for Cat 6A of NEXT (worst case) for entire frequency range specified in ISO/IEC 11801.
13. OEM should be part of Production Linked Incentive Scheme (PLI) as per the Meity Circular F.No. No. W28/1/2019-1PHW-Meity. Proof of the same shall be submitted.
14. The OEM should have a Sustainability Program. Corporate Sustainability Report as documentary proof of the same shall be verified.

### **Network Systems**

1. The Network Equipment systems manufacturer should be ISO 9001 ISO 14000 Certified.
2. The OEM of Active components should be present in India from at least past 15 years.
3. All proposed Active products should have data sheets available on the OEM's website. URL of each product to be submitted along with the offer.

4. All Active components should be RoHS complied. Declaration of – ROHS compliant should be clearly mentioned on data sheets of each Active Components.
5. Installer / System Integrator / Contractor Qualification Criteria
6. The Contractor / Installer / System Integrator should be authorised channel partner of the OEM Suppliers mentioned above.
7. The Contractor / Installer should have completed minimum 3 Colocation / Hyperscale/ Cloud data centres with 100G / 400 G backbone Connectivity and rated 3 TIA 942 Design Data Centre.
8. The Contractor / Installer should be able to produce minimum 3 references of clients with whom they have worked for more than 1000 Fiber and 3000 Copper Port counts.
9. The Contractor / Installer should have own in-house team of structured cabling installers for copper and fiber, especially pre-terminated systems. (NO sub-contract / outsourcing)
10. The Contractor / Installer should have one RCDD Professional, one DC certified Professional, one PMP professional for better technical and project management expertise.

## **Technical Specifications – Passive Connectivity Products**

### **Single Mode Fiber**

1. The OS2 optical fiber glass shall be manufactured from ultra-pure synthetic silica glass.
2. The OS2 single mode fibers shall fully meet or exceed the specifications in:
3. EN 50173; ISO/IEC 11801; EN 187105
4. ANSI/TIA-568-D.3; TIA 598-A; ANSI/ICEA S-87-640
5. Telcordia GR-20
6. The OS2 Singlemode cable should be steel armoured fiber cable Loose tube, Gel-free construction designed to use in Backbone cabling and Outdoor Ducts or Direct Burial application.

Fiber Core: 6 / 12	Aarmor: ECCS
Jacket type- HDPE UV Anti-rodent	Tensile Strength short term(Maximum) : 2700 N N
Loose tube material: PBTP	Crush Resistance (maximum): 3000N / 100mm x 100mm
ATTENUATION @ 1310nm (max): ≤ 0.34 dB/ km @ 1550nm (max): ≤ 0.22 dB/ km	Operating Temperature: -20 to +70 deg Celsius
CHROMATIC DISPERSION @ 1310 nm: ≤ 3.5 ps/nm x km @ 1550 nm: ≤ 18 ps/nm x km	Fiber Optic Cable: 9/125µm, OS2, AS PER ITU-T G.652.D, G.657.A1

1. Cable shall have strength member as Steel wire & peripheral strength member as Aramid Yarn.
2. Single layer of water swellable tape is applied longitudinally wrapping around the loose tube.
3. Fiber Optic Cable: 9/125µm, OS2, AS PER ITU-T G.652.D, G.657.A1(Bend Insensitive)
4. Gel-Free cable is tested in accordance with Telcordia GR-20

## Multimode Fiber – OM4

### 6-core Multimode OM4 OFC, LSZH,

1. Fiber Optic Cable: 50/125µm, OM4, AS PER TIA-492AAAC. Shall be bend insensitive fiber.
2. Gel-Free cable is tested in accordance with Telcordia GR-409
3. Fiber cable Diameter Over Jacket should be maximum 10 mm, Tensile Strength should be 400 N (long term) and 1300 N (short term) and Compression of the fiber cable should be minimum of 10 N/mm.
4. Installation temp shall be at least between the range of -30- and +60-degree C. Operating Temp shall be at least between the range of -40- and +70-degree C.
5. The storage Temp shall be at least between the range of -40- and +75-degree C.

Fiber Specifications:			Fiber Geometrical Properties	
			Core diameter µm	50.0 ± 2.5
Att. at 850 nm	dB/km	< 1	Cladding diameter µm	125 ± 1
Att. at 1300 nm	dB/km	< 3	Core noncircularity %	< 5
Bandwidth at 850 nm OFL	MHzKm	> 3500	Cladding noncircularity %	< 1
Bandwidth at 1300 nm OFL	MHzKm	> 500	Core concentricity error µm	< 1.5
Numerical Aperture		0.20 ± 0.015	Primary coating diameter µm	245 ± 5

1. Gel-free construction designed to use in indoor Backbone cabling and Outdoor Ducts or Direct Burial application.
2. Jacket type- LSZH
3. Shall comply the flame test method- IEC 60332-3 | IEC 60754-2 | IEC 61034-2 | IEEE 1202 | IEEE 383 | UL 1685
4. Cable shall comply to below methods: -
5. Compression Test Method - FOTP-41 | IEC 60794-1 E3
6. Flex – 100 cycles
7. Flex Test Method - FOTP-104 | IEC 60794-1 E6
8. Impact – 5.88 N-m
9. Impact Test Method - FOTP-25 | IEC 60794-1 E4
10. Strain Test Method - FOTP-33 | IEC 60794-1 E1
11. Twist - 10 cycles
12. Twist Test Method FOTP-85 | IEC 60794-1 E7
13. Vertical Rise, maximum 500 m
14. CUT-OFF WAVELENGTH: ≤ 1260 nm
15. Zero Dispersion Wavelength, maximum- 1316 nm
16. Zero Dispersion Wavelength, minimum- 1297 nm
17. Diameter Over Jacket - ≤ 10 mm
18. Cable Qualification Standards- ANSI/ICEA S-104-696 | EN 187105 | Telcordia GR-20 | Telcordia GR409
19. Minimum Bend Radius, loaded- 15 X Cable diameter
20. Minimum Bend Radius, unloaded- 10 X Cable diameter

21. Fiber Patch Panels and Pigtails
22. The fiber patch panel Shall have 4 slots to accommodate 4 adapter plates or 4 MPO / non MPO cassettes for 1U panel, 8 slots to accommodate 8 adapter plates or 8 MPO cassettes for 2 U panel.
23. Shall have front trough for easy patch cord management and labelling identification.
24. The fiber shelf shall be sliding for easy access to the fiber connection for maintenance.
25. The shelf should be able to accommodate 48 fiber splice trays which can be mounted on top of each other if required.
26. The shelf shall have at least 8 knockouts for easy cable access. The knockouts will prevent rodents from entering the fiber shelf.
27. Pigtails / Adaptors / Cassettes - Regulatory Compliance: RoHS 2011/65/EU
28. Safety Standard: UL
29. Optical Performance – OM4
30. Insertion Loss, Typical: 0.27 dB
31. Return Loss, Min: 27.0 dB
32. Optical Performance - SM
33. Insertion Loss, Typical: 0.34 dB
34. Return Loss, Min: 50.0 dB
35. Ferrule Geometry: Pre-radiused
36. The adapters shall have hinged shutters/dust caps on them for dust protection.

## **Category 6 Cabling Systems**

### **Cat 6 Cables**

1. The Cable should meet ANSI/TIA-568.2-D Category 6 Specifications tested at 300MHz.
2. The cable should consist of Eight 23 AWG copper conductors. Copper Clad Aluminium or any other combinations are not allowed.
3. The nominal Outside diameter should be maximum or lower to 6 mm.
4. NEXT - Minimum 6 dB headroom for consistent data connectivity performance
5. Should support a minimum of 4 connector Channel with a minimum 3 dB guaranteed NEXT.

### **Channel Performance**

The Category 6/ Class E UTP SCS shall comply with the following standards

- a) ISO/IEC 11801:2010
- b) EN 50173 Part 1 through Part 5:2010 and 2011
- c) ANSI/TIA-568.2-D
- d) IEC 60603-7-41
- e) IEEE 802.3 applications as outlined in section 2

The Category 6/ Class E UTP system should support the following IEEE Ethernet applications

- a) 802.3e - 1BASE5
- c) 802.3u - 100BASE-TX, 100BASE-T4
- d) 802.3y - 100BASE-T2
- e) 802.3z - 1000BASE-X
- f) 802.3ab - 1000BASE-T
- g) 802.af - Power Over Ethernet (15.4W)
- h) 802.3at - Power Over Ethernet Enhancements (25.5W)



i) 802.3bt (Type 4) - Safe delivery of power over LAN cable when installed according to ISO/IEC 14763-2, CENELEC EN 50174-1, CENELEC EN 50174-2 or TIA TSB-184A

j) 802.3az - Energy Efficient Ethernet

Other Generic Specifications

1. It is critical that guaranteed worst-case values are provided to ensure the SCS can support 1G transmission without risk. "Average value" or "Typical Value" is not acceptable as they do not account for lower performance channels. The proposed Category 6 UTP SCS, when configured as a worst-case 100-meter channel shall provide performance headroom over limits specified by Cat6
2. Insertion Loss - 3%
3. Return Loss - 1.0 dB
4. The SCS must consist of individual components provided by the same manufacturer and product portfolio. "Mix and Match" products are not to be considered as there is no guarantee that the overall channel will meet Category 6 Channel requirements.
5. The manufacturer shall warrant the Category 6 channel cable, components, and applications for a period of 25 years.
6. The 25-year warranty shall be a transferable warranty and has component replacement policy in case of manufacturing defect.
7. The SCS must be tested by an ISP 17025 accredited 3rd Party test facility to EIA/TIA 568C or D, ISO/IEC 11801 Amendment 1 and for the channel testing must be verified.
8. The Category 6 system should support channels that are shorter than 15 meters for 2, 3, 4 connector channels without any minimum length requirements.
9. Channel performance shall be supported 1G up to maximum distance of 117 meters. with 25 years of warranty.
10. Cable shall be ETL/UL certify. 3rd party test certificates shall be submitted.
11. Horizontal Cable
12. The Cable should meet ANSI/TIA-568.2-D Category 6 Specifications
13. Cables should have TRACKING Number to check the Genuity / details of the test reports, test reports shall be available online on OEM's web portal.
14. There should be filler separating all 4-pairs
15. The Cable should be round construction
16. The weight of the cable box of 1000 Feet should not be less than 24.7 lb
17. The cable should support the installation temperature: 0 to 60 0 C
18. It should support Operating temperature of -20 to 60 0 C
19. The cable shall be available in Low-Smoke, Zero Halogen (LSZH) compatibility.

The LSZH version must comply with the following Fire Safety standards:

- 1) ISO/IEC 60332-3-22: Flame Spread
- 2) ISO/IEC 60754-2: Acidity
- 3) ISO/IEC 61034-2: Smoke Density

20. Cable shall comply to below mechanical specifications:

21. Conductor Material- Bare copper
22. Insulation Material- Polyolefin
23. Separator Material- Polyolefin

24. The cable and cordage shall be "True UTP" components that do not include internal or external shields, screened components or drain wires or break shield. No Special Grounding requirements.
25. The horizontal cable shall have a unique print string on the cable jacket. This unique identifier shall also be used for on-line reference to a full set of factory tests that were performed on a sample from the same mater reel. The test parameters shall include NEXT, PSNEXT, Return Loss, Attenuation, ELFEXT and PSELFEXT. The on-line reference must be available on the SCS public website, such that it can be accessed at any time.
26. ETL Verified Certificate for Cat 6 UTP cable.
27. OEM shall provide 3rd party test for 4 connector channels.

### **Cat 6 Patch Panels and Outlets**

1. Shall be 24 port panel capable of terminating 24 CAT 6A U/UTP cables.
2. Shall be UL Listed.
3. The panel shall be equipped with a removable rear mounted cable management bar and front and rear labels.
4. Operating Temperature Range = 14°F to 140°F (-10°C to 60°C)
5. Storage Temperature Range = -40°F to 158°F (-40°C to 70°C)
6. The 8-pin modular (RJ-45) jacks shall comply with IEC 60603-7-4
7. The Category 6 outlets shall be backward compatible with Category 5E cords and cables.
8. The information outlet shall have a Current Rating of 1.5 A at 20°C.
9. 1U, 24 Port Patch Panel
10. The ganged adapter style patch panel will utilize increments of six RJ-45 style jacks in a common molded component.
11. The Panel shall be unloaded which can accommodate 24 jacks
12. The patch panel type shall be a 1U (24 port) capable of supporting unshielded modular 8-pin connectors compliant with IEC 60603-7-4 while meeting the Channel Performance as specified in Amendment 1 to ISO/IEC 11801:2002
13. The panel shall be equipped with a removable rear mounted cable management bar and front labels
14. Patch panel Material Type: High-impact, flame retardant, thermoplastic | Powder-Coated Steel
15. The panel shall be UL and cUL Listed
16. Operating Temperature Range = 14°F to 140°F (-10°C to 60°C)
17. Storage Temperature Range = -40°F to 158°F (-40°C to 70°C)
18. Humidity = 95% (noncondensing)

### **CAT 6 U/UTP RJ45 jacks**

1. The 8-pin modular (RJ-45) jacks shall comply with IEC 60603-7-41
2. The Category 6 outlets shall be backward compatible with Category 5E cords and cables.
3. The Category 6 outlets shall be of a universal design supporting T568 A & B wiring.
4. The information outlet shall have a Current Rating of 1.5 A at 20°C
5. The information outlet must support 90-degree cable termination. As some mounting hardware does not allow for cable entry directly from the rear, this capability is necessary.

6. 3rd Party Verification test certificates shall be provided to show compliance to ISO/IEC 11801 Amendment 2 testing for Cat 6 components.
7. The 8-pin modular (RJ-45) jacks shall comply with IEC 60603-7-41
8. Universal design and label support both T568 A & B wiring
9. The rear protective strain relief cap, protects against contamination and secures the connection
10. Fully supports the safe delivery of power over LAN cabling described by IEEE 802.3bt (Type 4) and complies with the unmating under electrical load requirements prescribed by IEC 60512-99-002
11. UL 94 V-0 Complied flammability rating
12. Insertion Life is 3000 minimum insertions of an FCC 8-Position Telecommunications Plug.
13. When configured in worst-case 100-meter channels with full cross-connects and consolidation points with the other products proposed in this tender, the channel shall be capable of delivering the minimum guaranteed performance

### **Cat 6 Patch Cords**

1. The system must support patch cord lengths of 1 meter minimum and equipment cords of 2 meter minimum and The Patch cords shall be solid core construction for better performance.
2. Cords shall be equipped with 8-pin modular plugs on each end.
3. Nominal cordage diameter shall be maximum or lower than 6.5 mm.
4. The patch cord shall be Low-Smoke Zero Halogen (LSZH) and
5. The cords shall comply with the following Fire Safety standards IEC 60332-3-22, IEC 60754-2 and IEC 61034-2.
6. The cordage shall be UTP components that do not include internal or external shields, screened components, or drain wires.
7. SCS must support patch cord lengths of 1 meter minimum and equipment cords of 2 meter minimum.
8. Conductor: 24 AWG
9. Cords shall be equipped with 8-pin modular plugs on each end.
10. All cords shall be round, and consist of copper conductors, tightly twisted into individual pairs.
11. Plugs shall be designed with an anti-snag latch to facilitate easy removal during move, add and change processes.
12. The LSZH version must comply with the following Fire Safety standards: UL 94 V-0
13. The patch cord shall comply to below mechanical specification:
14. Conductor Material- Copper Alloy, Polycarbonate
15. Contact Plating Material- Gold over nickel
16. The cordage shall be UTP components that do not include internal or external shields, screened components or drain wires.
17. The patch cords will have insertion life of 3000 cycles minimum. Supports IEEE 802.3af, 802.3at, and 802.3bt PoE requirements.

\*\*\*\*\*End of Document\*\*\*\*\*