

Tender No: RailTel/Tender/LT/ER/HQ/2016-17/953 Dt. 04.08.2016

TENDER DOCUMENT

For

Supply, Installation and Commissioning of Router , Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring , Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata



RAILTEL CORPORATION OF INDIA LIMITED

(A Government of India Enterprise)

EASTERN REGION

**3rd Floor, Chatterjee International Centre, 33A
Jawaharlal Nehru Road,
Kolkata – 700 071.**

Phone (033)44041499 FAX: (033)44041490

Cost of Tender Document (Including VAT): Rs. 5250 (Rupees Five Thousand Two Hundred Fifty only)

COPY NO.

:: ISSUED TO

Tender Notice

RAILTEL CORPORATION OF INDIA LIMITED

3rdFloor, Chatterjee International Centre,
33A Jawaharlal Nehru Road, Kolkata– 700 071
Phone (033)44041499 FAX: (033)44041490

Tender No.: RailTel/Tender/LT/ER/HQ/2016-17/ 953 Dt. 04.08.2016

RailTel Corporation of India Limited, Eastern Region, Kolkata invites sealed Tenders for the work of “Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata”.

Tender documents containing Schedule of Requirements, Instructions to Tenderers, Tender conditions and Technical Specifications are enclosed.

a)	Estimated cost of the work	Rs. 59,57,330/-
b)	Earnest Money Deposit	Rs. 1,19,150/-
c)	Cost of tender Document	Rs.5,250/- (inclusive of VAT)
d)	Receipt of Tender document	Up to 15:00 hrs. on 19.08.2016
e)	Opening of Tender Document	At 15:30 hrs. on 19.08.2016
f)	Validity of offer	60 days.

The offer shall be submitted at **RailTel Corporation of India Ltd., Eastern Regional Office at 3rdFloor, Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata - 700071** by due date.

All pages of the original tender document duly signed by tenderer should be submitted along with the offer. Tender received without EMD & Cost of Tender Document will be rejected. The envelope containing offer shall be super-scribed as “Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata”

Tender document is not transferable. For any clarification you may contact this office. Thanking you,
For RailTel Corporation of India Ltd.

(Ganesh Chakravorty)

Dy. General Manager / Marketing
for RailTel Corporation of India Ltd.

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Chapter– 1

OFFER LETTER

To
RailTel Corporation of India Limited,
Eastern Region, 3rd Floor,
Chatterjee International Centre,
33A Jawaharlal Nehru Road, Kolkata – 700 071.

I/We have read the various conditions & detailed in tender documents attached here to and hereby agree to ABIDE BY THE SAID CONDITIONS. I/We also agree to keep this tender open for acceptance for a period of 60 days from the date of opening the same and in default thereof, I/We will be liable for forfeiture of my/our Earnest Money. I/We submit our offer for **“Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata”** at the rates quoted in the attached schedules and hereby bind myself/ourselves to supply the materials within 15 days from the date of issue of Work Order/ Letter of Acceptance. I/We also hereby agree to abide by the Various Conditions of tender document and to carry out the supplies according to the Specifications for materials laid down by the RailTel for the present tender document.

2. A sum of Rs. 1,19,150/- (Rupees One Lakh Nineteen Thousand One Hundred Fifty Only) as a Account Payee Demand Draft in favour of “RailTel Corporation India Ltd” DD No- dtissued by is herewith forwarded as “Earnest Money”. The full value of Earnest Money shall stand forfeited without prejudice to any other rights or remedies if, I/We withdraw or modify the offer within validity period or do not deposit the Performance Bank Guarantee as a security deposit within 15 days of issue of the LOA.

3. A sum of Rs. 5250/- (Rupees Five Thousand Two Hundred Fifty only) as Cost of Tender Document through A/C payee DD in favor “RailTel Corporation of India Ltd” DD No- dt drawn on is being tendered.

SIGNATURE OF TENDERER (S)

Date _____

TENDERER (S) ADDRESS

SIGNATURE OF WITNESS

1.

2.

Chapter – 2

Schedule of Requirement (SOR) and PRICE BID

Name of the work: “Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata”

Schedule of Requirement.

SN	Description of Item	Total Qty	UoM	Rate/ Unit (Rs.)	Total Amount (Rs.)
1	Supply & Installation of Router -Technical specifications in Annexure-A at Site	21	No.	126000	2646000
2	Supply & Installation of 24 port Layer-2 Switch - Technical specifications in Annexure-B at Site	21	No.	22500	472500
3	Supply, Installation, Configuration & Commissioning of Indoor Access Point with patch Antenna and pigtail as per Technical specification detailed in Annexure-C and should also include Supply & Installation of 10 nos Network Rack (6U) with front Glassdoor & with AC Power distribution strip mat respective site.	35	No.	30486	1067010
4	Supply of Wi-Fi USB Adaptor for desktop PC at Site	60	No.	2100	126000
5	Supply & Installation of LAN extender at Site	22	Pair	16320	359040
6	Supply & Installation of OFC Media Converter – AC power supply at Site	22	Pair	9000	198000
7	Supply of cable CAT6, 4 pair, UTP- 305 mtr. Of reputed make including I/O Box at Site	7300	Mtr	18	131400
8	Laying of UTP CAT6 Cable through PVC casing/ conduit of 1" dia, from Equipment rack to the each I/O Box, Supply of PVC casing/ caping/ conduit of 1" dia is included in this scope of work at Site	7300	Mtr	27	197100
9	Supply & Installation of 1 KVA Online UPS (1 Hour Backup) with 3 nos of 7AH Battery -Technical specifications in Annexure-D at Site	22	No.	22500	495000
10	Supply & Installation, commissioning of maintenance free Earthing . Arrangement for racks ,power equipments etc to be along with the supply of all the requisite stores. Technical specifications in Annexure-E at Site	10	No.	26528	265280
	TOTAL VALUE EXCLUDING TAX				5957330

Note: Supply, Installation of materials also includes Transportation of all the materials at Site.

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Details of Quantities:

SN	Description of Items	BOQ									HRT WS	Total Qty
		ECR HQ/HJP	DHN	DNR	MGS	SEE	SPJ	PD MGS	SPJ Work Shop	Con/MHX		
1	Supply & Installation of Router-Technical specifications in Annexure-A	2	2	2	2	2	2	2	2	2	3	21
2	Supply & Installation of 24 port Layer-2 Switch -Technical specifications in Annexure-B	2	2	2	2	2	2	2	2	2	3	21
3	Supply, Installation, Configuration & Commissioning of Indoor Access Point with patch Antenna and pigtail as per Technical specification detailed in Annexure-C and should also include Supply & Installation of 10 nos Network Rack (6U) with front Glassdoor & with AC Power distribution strip mat respective site.	3	3	3	3	3	3	3	3	3	8	35
4	Supply of Wi-Fi USB Adaptor for desktop PC	5	5	5	5	5	5	5	5	5	15	60
5	Supply & Installation of LAN extender	2	2	2	2	2	2	2	2	2	4	22
6	Supply & Installation of OFC Media Converter	2	2	2	2	2	2	2	2	2	4	22
7	Supply of cable CAT6, 4 pair, UTP- 305 mtr. Of reputed make including I/O Box	700	700	700	700	700	700	700	700	700	1000	7300
8	Laying of UTP CAT6 Cable through PVC casing/ conduit of 1" dia, from Equipment rack to the each I/O Box, Supply of PVC casing/ caping/	700	700	700	700	700	700	700	700	700	1000	7300

	conduit of 1" dia is included in this scope of work											
9	Supply & Installation of 1 KVA Online UPS (1 Hour Backup) with 3 nos of 7AH Battery -Technical specifications in Annexure-D	2	2	2	2	2	2	2	2	2	4	22
10	Supply & Installation, commissioning of maintenance free Earthing . Arrangement for racks, power equipments etc to be along with the supply of all the requisite stores. Technical specifications in Annexure-E	4	0	0	1	1	1	1	1	0	1	10

Total Value Schedule of Requirement = 59, 57, 330/- (Rupees Fifty Nine Lakh Fifty Seven Thousand Three Hundred and Thirty Only)

i.	I/We undertake to supply, install & commission, with warranty support, mentioned in the schedule at _____% (in words: _____ percent) _____ (write 'at par with' or 'below' or 'above') the RailTel's total estimated cost of work as per schedule of requirement mentioned above.
ii.	It is certified that I/We have inspected the site of work and acquainted myself or ourselves with local conditions.
iii.	I/We have carefully gone through the specifications, special conditions etc. attached with the tender document.
iv.	I/We undertake to keep this offer valid for period indicated in Tender document from the date of opening of Tender and further not to revoke the same before the expiry of such period.

SIGNATURE AND SEAL OF TENDERER (S)

Date_____

Chapter – 3A

PREAMBLE

1. **Scope of work:** “Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata”
2. Bidder should quote single percentage rate only at par with/above/below the RailTel’s total estimated cost of work.
3. The single percentage rate should be quoted both in figures and words
4. **Bidder should also provide separate Breakup of Cost /Rate against each item of work in the SOR i.e. Supply, Installation and Commissioning with its Tax Component.**
5. Quoted rates are excluding taxes. But should provide break up all type of applicable taxes separately along with Bid.
6. If Only Percentage is written in the BID without mentioning either ‘at par with’ or ‘below’ or ‘above’, then the quoted percentage (%) will be treated as above the RailTel’s Estimated Cost of Work.
7. Last Date of receipt of Tenders: Sealed tenders for the above Tender Notice will be received in the office of the Executive Director, RCIL, Kolkata up to 15:00 hrs. IST on 19.08.2016 and will be opened at 15:30 hrs. on same day. If the above said day happens to be a holiday, the same shall be done on the next working day.
8. The bid shall consist of the following: -
 - a) Offer letter complete.
 - b) Schedule of Requirement and Price Bid
 - c) Earnest Money Deposit
 - d) Clause wise compliance to bid conditions by signing on each page of bid document.
 - e) Any other information desired to be submitted by the bidder.
 - f) Copy of registration/exemption certificate for EPF/ESI.
 - g) Registration with labour commissioner
 - h) Service Tax Registration Certificate.
 - i) VAT, CST Registration Certificate
 - j) Copy of PAN Card
 - k) RTGS Details / Bank Details
9. Period of completion of the Contract:
 - a. Supply, Installation and Commissioning of the Work should be completed within 45 Days of issue of LOA
 - b. The contract shall be valid for a period of 12 months from the date of issue of PAC for Supply, Installation and Commissioning of all the materials.

10. Earnest Money

Earnest money and cost of Tender document shall be deposited in favor of: **RailTel Corporation of India Ltd.**, payable at **Kolkata**, in the form of Demand Draft drawn on any Nationalized/ Scheduled Bank. No interest is allowed on this Deposit and RailTel Corporation reserves the right to forfeit EMD if the successful tenderer fail to submit the Performance Guarantee required by the terms and conditions of the tender. Tenders not accompanied by Earnest Money and Cost of tender document will be rejected. No Bank guarantee instead of EMD will be accepted. The Demand Draft should be valid for 2 months from the date of opening of Tender.

11. Performance Bank Guarantee

On receipt of the Letter of Acceptance (LOA) of Tender from RailTel, within a period of 15 days, the successful tenderer shall deposit 5% of the contract/ LOA value , as Performance Bank Guarantee in favour of RailTel Corporation of India Limited, Kolkata. This PBG will be valid up to 90 days beyond the contract period of 12 months.

12. Materials to be supplied by Contractor

- a) The quoted rates in the schedule should be inclusive of all materials required to be provided for the work to be under taken by the contractor as described in the tender document and the schedule of requirement attached. All materials including the materials covered under the Schedule of Requirement and those required to achieve the end objective and any special protection materials needed are to be supplied by the contractor. Tenderer's special attention is invited to the fact that no material shall be arranged/ supplied by RailTel to achieve end objective
- b) The approval for supply of materials shall be specifically taken from representative of Executive Director/Eastern Region, RailTel Corporation of India Ltd., in this regard.

13. Maintenance Support

The tenderer should submit their strategy for providing Comprehensive Maintenance of the entire work for a period of 1 (One) Years at the time issue of PAC,

14. LOA and Contract Agreement

A "Letter of Acceptance" (LOA) shall be issued by RailTel on acceptance of the offer of successful tenderer. The successful tenderer shall convey acceptance of the LOA and submit the Performance Bank Guarantee within 15 days of issue of LOA. If Tenderer fails to submit PBG within stipulated time period and sign agreement, Competent Authority may consider to impose penalty / LD or Cancellation of LOA.

- i. The successful tenderer shall also sign an agreement for the execution of the work within 15 days of issue of LOA

15. The tenderer shall keep the offer open for a minimum period of Sixty days from the date of opening of the tender.

16. The work has to be executed in close co-ordination with RailTel field executive in-charge of the work. Before quoting, the tenderers are advised to ascertain the nature of work involved, including site inspection.

17. Tender should be submitted for the entire work.

18. The submission of tender will be deemed to imply that this memorandum and all documents enclosed have been studied and understood and the tenderer is aware of the full scope of the

work to be done and the conditions affecting the execution.

19. The tenderer shall not increase the quoted rates in case RailTel Corporation negotiates for reduction in rates. Such negotiations shall not amount to cancellation or withdrawal of the original offer and the rates originally quoted will be binding on the tenderer. The tender should abide by Fall Back principle also.
20. If the tenderer deliberately gives wrong information in his tender or creates such circumstances for the acceptance of his tender the RailTel Corporation reserves the right to reject such tender at any state.



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Chapter -3B

SPECIAL CONDITIONS OF THE CONTRACT

- i. The bidder shall have to supply all the materials strictly as per the configuration as given in SOR
- ii. The successful bidder shall have to provide Comprehensive Maintenance for a period of 1 (One) year from successful date of implementation. The uptime required for all the equipment supplied and installed under the scope of this work shall be 100%.
- iii. If any active element is required to be taken out from the site, for repair/maintenance, a suitable replacement of same or higher configuration is required before such activity but approval of suitable authority of RailTel.
- iv. The bidder should give a separate written undertaking to ensure all spares required for maintaining the system, supplied and installed by them for at least 1 (One) years more from the date of successful commissioning.
- v. The successful bidder should engage qualified technicians/engineers/workforce for this project and use proper tools for execution of the works.
- vi. During the entire contract period of 1 (One) years the bidder shall be responsible for smooth working of all the equipment supplied and installed under this project.
- vii. Bidder should provide detail configuration of all materials/ equipment supplied.
- viii. All required Licenses should be in the name of “RailTel Corporation of India Limited” and supporting documents should be submitted by successful bidder.
- ix. Bidder should provide **Manufacturer Authorization’s Form** on OEM’s Letter Head and abide Fall Back Principle.

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Chapter – 4

TECHNICAL SPECIFICATION

Introduction: Detailed Technical Specification are provided in Annexure

- i. Annexure A: Detailed Technical Specification of Router.
- ii. Annexure B: Detailed technical Specification of Switch.
- iii. Annexure C: Detailed technical Specification of Indoor Access Point.
- iv. Annexure D: Detailed technical Specification of 1 KVA Online UPS.
- v. Annexure E: Detailed technical Specification of Maintenance free Earthing.

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CHAPTER – 5

Commercial Terms & Conditions

1. INSTRUCTION FOR INSTALLATION:

Tenderer shall Supply, Install & commission all the materials with proper configuration as detailed in the Tender document. All materials are required to be approved by RailTel's Engineer at site and no additional payment shall be made on this account.

2. OFFER LETTER AND VALIDITY OF OFFER:

2.1 The bidder shall complete the Offer Letter (Chapter 1) and the Schedule of Requirements (Chapter 2) furnished in the bid documents, indicating make and model no. of the product to be supplied, description of the product, associated technical literature, quantity etc.

2.2 The offer should remain valid for a period of 60 days from the date of opening.

3. WARRANTY:

- 3.1 The material is to be warranted for 1 (One) years from date of commissioning. The bidder shall warrant that stores to be supplied shall be new and free from any defects/faults in material, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards of materials and shall be in full conformity with the specifications and drawings. The bidder shall be responsible for any defects that may develop under the conditions provided by the contract and under use, arising from faulty materials, design or workmanship such as corrosion, inadequate quantity of material to meet equipment requirements, inadequate protection, deficiencies in design and/ or otherwise and shall remedy such defects at his own cost when called upon to do so by the Purchaser who shall state in writing in what respect the stores are faulty.
- 3.2 If it becomes necessary for the contractor to replace or renew any defective portion/portions of the supplies under this clause, the provisions of the clause shall apply to the portion/portions of the equipment so replaced or renewed or until the end of the above mentioned period of twenty four months, whichever may be later, If any defect is not remedied within a reasonable time, the Purchaser may proceed to do the work at the contractor's risk and expenses, but without prejudice to any other rights which the Purchaser may have against the contractor in respect of such defects the defective units shall have to be made functional within next working day of receipt of complaint in writing/telephonically or verbally if conveyed in need of urgency. In case of major breakdown of the unit, the tenderer shall install a standby unit for the interim period.
- 3.3 Replacement under warranty clause shall be made by the contractor free of charges at site including freight, insurance and other incidental charges. No extra payment shall be made by the RailTel on this account.

4. COMPLETION PERIOD:

The overall Completion Period of the work is 45 days from the date of issue of LOA.

5. EARNEST MONEY DEPOSIT (EMD):

- i. Earnest money of Rs. 1,19,150/- (Rupees One Lakh Nineteen Thousand One Hundred Fifty Only) is to be submitted along with the tender and should be in the form of Demand Draft drawn from any Nationalized/scheduled bank in favour of "RailTel Corporation of India Limited" payable at Kolkata. The Demand Draft should be valid for 2 months from the date of opening of Tender.
- ii. The EMD shall stand forfeited if the bidder withdraws his offer or modifies the terms and conditions of the offer within the validity period, or fails to accept the purchase order or fails to furnish the Performance Bank Guarantee
- iii. Tenders not accompanied by Earnest Money shall be summarily rejected.
- iv. Earnest money of the unsuccessful bidder will be returned and no interest will be paid on the EMD.
- v. The amount of EMD of the successful bidder shall be adjusted towards Security Deposit in case of NSIC registered companies, copy of valid certificate should be submitted with tender document.

6. PERFORMANCE BANK GUARANTEE:

- i. On receipt of Letter of Acceptance of the Tender from RailTel; within a day period of 15 days, the Successful Tenderer shall deposit 5% of the Contract / LOA Value as Performance Bank Guarantee (PBG) in favour of RailTel Corporation of India Ltd, Kolkata. This PBG shall be valid for a period of 90 days beyond the total contract period; that is; 1 years from the date of issue of PAC. The Performa for PBG is given in Chapter6.

7. SECURITY DEPOSIT:

Security deposit shall be 5% of the total Contract Value.

- i. The amount of EMD of the successful bidder shall be adjusted towards Security Deposit (5% of the contract value) i.e., accepted value of the contract.
- ii. The balance amount should be recovered by percentage deduction from the Contractor's "on account" bills. Provided also that in case of defaulting Contractor RailTel may retain any amount due for payment to the Contractor on the pending "on account bills" so that the amounts so retained may not exceed 5 % of the total value of the contract.
- iii. Unless otherwise specified in the special conditions, if any, the rates for Deposit / rate of recovery / mode of recovery shall be as under:
 - a) Security Deposit should be 5% of the contract value.
 - b) The rate of recovery should be at the rate of 10% of the bill amount till the full security deposit is recovered.
 - c) Security Deposits will be recovered from the running bills of the contract only and no other mode of collecting Security Deposit such as Security Deposit in the form of instruments like BG, FD etc. shall be accepted towards Security Deposit.
- iv. No interest will be payable upon the Earnest Money / Security Deposit or any amounts payable to the Contractor under the Contract.

8. PAYMENT TERMS:

Payment shall be made as per following criteria

- i. 75% payment would be paid after supply of all the item as per SOR at respective site duly inspected by RailTel Officer.
- ii. 20 % payment will be released after successful Installation, Commissioning of the work at respective site & after the issue of PAC.
- iii. The following document shall be attached along with the bills:
 - a. Invoice
 - b. Delivery challan
 - c. Inspection certificate
 - d. Warranty certificate of the OEM/Authorized dealer.
 - e. Contractors Certificate of Dispatch
 - f. Undertaking for Fallback Clause
 - g. Excise gate duty pass
 - h. Copy of Purchase Order
 - i. Insurance of the materials

9. FINAL PAYMENT

Final payment of 5% (Five Percent) of the contract value shall be made after one year from the date of issue of PAC.

10. UNIT PRICE:

- i. This tender consists of a percentage bidding system. The estimated prices of each and every item of the schedule are indicated in the Schedule of Requirements. The tenderer is expected to quote the %age above (+) or below (-) or At par the total estimated price indicated in the schedule. For the purpose of calculating the unit price for releasing payment, the total %age above/below finalized for the entire schedule will form the basis for calculation of the unit prices where the estimated prices of the individual items of the schedule will be marked up/below the final overall %age accepted.
- ii. The percentage above/below finalized for the entire schedule shall be firm and exclusive of all taxes. The prices indicated in the schedule are in Indian Rupees for the units under metric system.
- iii. Tax breakup to be mentioned clearly in a separate sheet.

11. LIQUIDATED DAMAGES:

The timely completion of the work is the essence of this contract. Liquidated Damages will be applicable at the rate of: half percent (0.5%) per week or part thereof for undelivered portion subject to a maximum of 10% of the cost of work awarded. RailTel will have the right to cancel the order or place order on alternative source.

12. STATUTORY DEDUCTION:

Statutory deductions (viz., STDS, TDS etc.) will be made at source as per the rules prevalent in the area of work.

13. CRITERIA FOR PLACEMENT OF ORDER:

The Purchaser shall consider placement of orders for commercial supplies on the bidders

whose offer has been found technically and commercially acceptable.

14. VARIATION OF QUANTITIES:

RailTel reserves the right during the currency of contract to the signing of the agreement till the successful completion of the project) to increase or decrease by up to 25% of the quantity of supply and services specified in the Schedule of Requirements without any change in unit price of the ordered quantity or other terms and conditions. Variation beyond 25%, PBG for the full amount to be submitted.

15. PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

RailTel reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of contract without assigning any reason whatsoever and without thereby incurring any liability to the affected bidder or bidders on the grounds for the Purchaser's action.

16. ISSUE OF PURCHASE ORDER AND AWARD OF CONTRACT

- a) The issue of a Work Order/ Letter of Acceptance in favour of eligible bidder shall constitute the intention of the Purchaser to enter into the contract with the bidder.
- b) The bidder shall within 15 days of issue of the Purchase Order/ Letter of Acceptance, give his acceptance along with Performance Bank Guarantee as per clause 6 above.

17. ANNULMENT OF AWARD:

Not used

18. BID PRICES, TAXES & DUTIES:

- a) The bidder shall quote in percentage (%) bid exclusive of all taxes. However, in a separate sheet, the details of tax applicable for each component of the SOR shall be furnished.
- b) The breakup of price for each item of SOR in terms of Basic Unit Price, Excise duty, Sales Tax, Freight, Forwarding, Packing, Insurance and any other Statutory Taxes/Levies/Charges already paid or payable by the supplier shall also be quoted separately.
- c) The price quoted by the bidder shall remain fixed during the entire period of contract and shall not be subject to variation on any account. Any change in statutory duties/taxes, in position/ removal of any duty/ taxes shall be to RailTel's account.

19. CLAUSE WISE COMPLIANCE:

Clause wise compliance statement of the Technical Specifications (Chapter-4) and Commercial Terms & be enclosed along with the offer. The offer should also contain technical literature/Broachers/Other document against the material to be supplied in support of the relevant clauses.

20. TRAINING:

NA

21. INSPECTION:

- a) Pre-shipment/pre-dispatch inspection shall be carried out at manufacturers/supplier's premises by RailTel's authorized representative. Traveling, lodging & boarding

expenses of RailTel's representative and charges for 3rd party inspection, if any, shall be borne by RailTel but necessary facilities to carry out tests/inspection shall be provided by the manufacturer/supplier free of cost.

- b) Along with inspection call, the supplier/manufacturer shall submit details of test procedures, program, parameters together with permissible values, etc., and their Quality Assurance Plan.
- c) In case material/equipment fails during inspection, the fresh lot of material shall be offered without any extra cost, by the manufacturer/supplier. In such a case, total cost of re-inspection including travel, lodging & boarding of the inspecting officials shall be to manufacturer's /supplier's account.

22. FORCE MAJEURE:

Force majeure shall mean-

- i. War, hostilities (whether war be declared or not), act of foreign enemies.
- ii. Rebellion, revolution, insurrection, or military or usurped power, or civil war,
- iii. Ionizing radiation, or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radioactive
- iv. Toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.
- v. Presume waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds.
- vi. Riot, commotion or disorder, unless solely restricted to employees of the Contractor or of his Subcontractors and arising from the conduct of the Works.
- vii. Loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract.
- viii. Loss or damage due to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible, and
- ix. Any operation of the forces of nature against which an experienced contractor could not reasonably have been expected to take precautions.

23. SETTLEMENT OF DISPUTES:

In case of any dispute concerning this order both the supplier and RailTel shall try to settle the same amicably through mutual discussion/negotiations. Any unsettled dispute shall be settled in terms of Indian Act of Arbitration and conciliation 1996 or any amendment thereof. Place of arbitration shall be New Delhi. Managing Director, RailTel Corporation of India Limited shall appoint Arbitrator.

24. GOVERNING LAWS:

This contract shall be interpreted in accordance with the laws of India. The court at Kolkata shall have exclusive jurisdiction to entertain and try all matters arising out of this contract.

25. TERMINATION FOR DEFAULT

- i. The purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default, sent to the Supplier and terminate this contract in whole or in part.
- ii. If the supplier fails to deliver any or all of the goods within the time period(s) specified in the contract.
- iii. If the supplier fails to perform any other obligation(s) under the contract; and
- iv. If the supplier, in either of the above circumstance(s) does not remedy his failure within a period of 30 days (or such longer period as the Purchaser may authorize

- in writing) after receipt of the default notice from the Purchaser.
- v. In the event the Purchaser terminates the contract in whole or in part, pursuant to Para 24.a, the Purchaser may proceed, upon such terms and in such manner as it deems appropriate, to purchase goods similar to those undelivered and the supplier shall be liable to the Purchaser for any excess cost for such similar goods. However, the Supplier shall continue performance of the contract to the extent not terminated.
 - vi. Fall Back Clause.

26. TERMINATION FOR INSOLVENCY:

The purchaser may at any point of time terminate the contract by giving written notice to the supplier, without compensation to the supplier, if it becomes bankrupt or otherwise insolvent as declared by the competent court provided that such termination will not prejudice or affect any right of action or remedy which is accrue thereafter to the Purchaser.

27. BID SUBMISSION AND OPENING DATE:

- a. The bid should be submitted duly signed and stamped on each page, duly filled offer letter in chapter 1. EMD & cost of tender document should be enclosed with the original bid. The personal seal of the bidder should seal the envelope containing the bid duly marked Tender for: "Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata".
- b. The envelope shall be addressed to the Purchaser at the following address:
**Executive Director,
RailTel Corporation of India Ltd., Eastern Region,
3rd Floor, Chatterjee International Centre,
33A Jawaharlal Nehru Road, Kolkata – 700 071.**
- c. The envelope shall bear name of work, the tender no. and the words "DO NOT OPEN BEFORE" (19.08.2016.)
- d. Bid should be delivered to the above address or dropped in the Tender box marked for this tender so as to reach up to 15:00 hours of due date. The bids shall be opened at 15:30 hours on the same day in the above office in the presence of those representatives of the bidders who choose to be present with proper authentication. Bids received after due date and time shall be summarily rejected and shall not be opened.

28. FALLBACK CLAUSE:

The contract, if and when placed, will be subject to following fallback clause: -

- i. The price quoted by the supplier should not be higher than the maximum price, if any, for the materials and the same shall not be higher than the price usually charged by the supplier for materials of the same nature, class or description to any other purchaser.
- ii. The price charged for the materials supplied under the contract by the supplier shall in no event exceed the lowest price at which the supplier sells the materials of identical description to any other person during the period till performance of all supply orders placed during the currency of the contract is completed. If at any time during the period the supplier reduces the sale price of such materials or sells such materials to any other person including his

dealers at a price lower than the price chargeable under the contract, he shall forthwith notify such reduction or sale to the purchase and the price payable under the contract for these materials supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.

- iii. It is discovered that the supplier has contravened the above conditions, then without prejudice to any other action which might be taken against him, it shall be lawful for the purchaser to (a) revise the price at any stage so as to bring it in conformity with sub-clauses above, or (b) to terminate the contract and purchase the materials at the risk and cost of the supplier and in that event the provision of General Conditions of Contract shall, as far as possible, be applicable or recover the loss.
- iv. The Contractor shall furnish the following certificate to the concerned Accounts Officer along with each bill for payment of supplies made against the Contract:

“I/We certify that there has been no reduction in sale price of the stores of description identical to the stores supplied to the Government under the contract herein and such stores have not been offered/sold by me/us to any person /organization including the purchaser or any Department of Central Government or any Railway Office or any Railway Undertaking as the case may be up to the date of bill/the date of completion of supplies against all supply orders placed during the currency of the contract at a price lower than the price charged to the RailTel, Eastern Region, under the contract.”

29. SUBLETTING AND ASSIGNMENT:

- a. The contractor may sublet a part of the work under this contract and enter into contract with suppliers for supply of materials.
- b. The contractor shall arrange for effective supervision of sub contractor's work and remain solely responsible for materials supplied and for works carried out on his behalf by the sub-contractor.

30. CLEARANCE OF SITE

At the end of the work at each location the Contractor shall as a part of his contractual obligation leave the area completely neat and clean.

31. PROVISIONAL ACCEPTANCE CERTIFICATE (PAC)

- i. Immediately after the completion of the work at all the sites, the contractor shall certify and advise the purchaser in writing that the installation is (i) complete (ii) commissioned and (iii) ready for handing over to customer.
- ii. The tests will be conducted jointly by purchaser and contractor as soon as possible after receipt of such advice of completion of the work from the contractor. The test schedule shall be finalized mutually between the contractor and RailTel. Any component/modules/sub-assemblies or equipment failing during the commissioning shall be replaced/repaired free of cost by tenderer.
- iii. Purchaser's Engineer shall issue a Provisional Acceptance Certificate (PAC) for successful Supply, installation, Configuration, integration & commissioning at all locations covering all materials and services included in the Schedule of Requirements after the acceptance test as per the approved test procedure have been completed and the performance has been

found to meet the specifications. RailTel's decision in this respect shall be final. The Provisional Acceptance Certificate (PAC) shall be signed by both the parties. The period of Comprehensive Maintenance shall commence from the date of issue of Provisional Acceptance Certificate (PAC).

32. PLACING IN SERVICE & MAINTENANCE SUPERVISION

- i. After the work has been completed & placed in service and Provisional Acceptance certificate issued by RailTel, the contractor shall be responsible for proper Comprehensive Maintenance supervision of the work for a period of One years from the date of issue of PAC. For this purpose, he shall prepare a maintenance plan and make available the services of qualified maintenance engineer stationed at the location approved by RailTel who will guide and supervise the work of maintenance staff. The maintenance engineer of the tenderer will visit all the sites at least once in a quarter.
- ii. During this period of Comprehensive Maintenance supervision if any lacuna is noticed in the functioning, as a result of any work, the contractor free of cost will rectify the same. During such rectification if any faulty equipment/modules need replacement or repair, they shall be provided by the contractor from the set of equipment or modules that the contractor should bring to the site of installation in addition to all the materials to be supplied against this contract. Use of spare modules covered under the Schedule of material of this tender shall not be permitted to be used during installation, commissioning and period of maintenance supervision.

33. FINAL ACCEPTANCE CERTIFICATE (FAC)

- i) The final acceptance of the works shall take effect after One year i.e. 12 months of issue of Provisional Acceptance Certificates, provided in any case that the contractor has complied fully with his obligations in respect of each item under the contract.
- ii) Notwithstanding the issue of Final Acceptance Certificate (FAC), the contractor and the purchaser (subject to Sub Clause as above) shall remain liable for fulfillment of any obligation incurred under the provision of the contract prior to the issue of Final Acceptance Certificate which remains unperformed at the time such certificate is issued and for determining the nature and extent of such obligation the contract shall be deemed to remain in force between the parties hereto.

34. INSURANCE:

- 34.1 It shall be the sole responsibility of the Contractor to insure his workmen against risks of accidents and injury while at work as required by the relevant Rules and to pay compensation, if any, to them as per Workmen's Compensation Act. The Contractor shall also insure his staff against accidents. The work will be carried out in a protected area and all the Rules and Regulations of RAILTEL/its Client in the Project Area which are in force from time to time will be followed by the Contractor.
- 34.2 If due to negligence and/or non-observance of safety and other precautions, any accident/injury occurs to any other persons/public, the Contractor shall pay necessary compensation and other expenses, if so decided by the appropriate authority.
- 34.3 The Contractor will take necessary precautions and due to protect the material, while in his custody from any damage/loss till the same is taken over by RAILTEL or customer. For lodging/processing of insurance claim the Contractor will submit necessary documents. RAILTEL will reserve the right to recover the loss from the Contractor, in case the damage/loss is due to carelessness/negligence on the part of the Contractor. In case of any theft of material under Contractor's custody, matter shall be reported to police by the Contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to RAILTEL for taking up with insurance.

CHAPTER - 6

Performa for Performance Bank Guarantee

PERFORMANCE BANK GURANTEE BOND

(On Stamp Paper of Rs One Hundred) (To be used by approved Scheduled Banks)

In consideration of the RailTel Corporation of India Limited, 6th Floor, IIIrd Block, Delhi Technology Park, Shastri Park, Delhi 110053 with Eastern Regional office at 3rd Floor, Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata – 700071 (Herein after called RailTel) having agreed to exempt (Hereinafter called “the said Contractor(s)”) from the demand, under the terms and conditions of an Agreement No./LOA No _____ dated _____ made between _____ and _____ for (hereinafter called “ the said Agreement”) of security deposit for the due fulfillment by the said Contractor (s) of the terms and conditions contained in the said Agreement, or production of a Bank Guarantee for Rs. _____ (Rs. _____ only). We, _____ (indicate the name of the Bank) hereinafter referred to as “the Bank”) at the request of _____ Contractor(s) do hereby undertake to pay the RailTel an amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the RailTel by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.

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

We, bank undertake to pay to the RailTel any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) / Supplier(s) in any suit or proceedings pending before any court or Tribunal relating thereto our liability under this present being, absolute and unequivocal.

The payment so made by us under this Bond shall be a valid discharge of our liability for payment there under and the Contractor(s) / Supplier(s) shall have no claim against us for making such payment.

We, Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the RailTel under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till RailTel certifies that the terms and conditions of the said Agreement

have been fully and properly carried out by the said Contractor(s) and accordingly discharges this Guarantee. Unless a demand or claim under the Guarantee is made on us in writing on or before the (1) We shall be discharged from all liability under this Guarantee thereafter.

We, We, (Indicate the name of Bank) Further agree with the RailTel that the RailTel shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the Agreement or to extend time of to postpone for any time or from time to time any of the powers exercisable by the RailTel against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension to the said Contractor(s) or for any forbearance, act or omission on the part of RailTel or any indulgence by the RailTel to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us. This Guarantee will not be discharged due to the change in the Constitution of the Bank or the Contractor(s) Supplier(s). (Indicate the name of Bank) lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the RailTel in writing.

Dated: _____

for

(Indicate the name of the Bank)

Witness

1. Signature

Name

2. Signature

Name

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CHAPTER – 7

BID DATA SHEET

Reference	Description
Schedule of requirement Chapter – 2.	Name of the work: “Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata”
Tender Notice (Page- 2-34)	Submission of Tender: up to 15:00 hrs. on 19.08.2016 Opening of Tender : at 15:30 hrs. on 19.08.2016 Venue : RailTel Corporation of India Ltd., 3 rd Floor, Chatterjee International Centre, 33A, Jawaharlal Nehru Road, Kolkata – 700 071. Phone : 033-44041499; FAX : 033-44041490
Tender Notice, Clause – 2 Commercial Terms & Conditions Chapter – 5	Validity of offer 60 (Sixty) days from the date of opening of tender
Commercial Terms & Conditions Clause 3, Chapter – 5	Warranty As per Clause of the Tender Document
Commercial Terms & Conditions Clause 4, Chapter – 5	Completion Period Completion Period for the work will be 45 Days from date of issue of LOA followed by Comprehensive Maintenance for a period of 1 (one) Years from the date of issue of PAC.
Commercial Terms & Conditions Clause 6 , Chapter – 5	Performance Bank Guarantee As per Clause no. 6 Chapter 5 of Tender Document
Commercial Terms & Conditions Clause 7, Chapter – 5	Security Deposit: As per Clause no. 7 Chapter 5 of Tender Document
Commercial Terms & Conditions Clause 5, Chapter – 5	Earnest Money: Rs 1,19,150/- (Rupees One Lakh Nineteen Thousand One Hundred Fifty Only) Pay Order / Demand Draft shall be drawn in favour of RailTel Corporation of India Ltd., payable at Kolkata.

Commercial Terms & Conditions Clause 28, Chapter – 5	Authority and Address Executive Director/ Eastern Region, 3 rd Floor, Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata – 700 071.
Inspection Commercial Terms & Conditions Clause 22, Chapter – 5	Inspection of materials and the work shall be done by the representative of Executive Director/Eastern Region, RailTel Corporation of India Ltd, 3 rd Floor, Chatterjee International Centre, 33A, Jawaharlal Nehru Road, Kolkata – 700 071.

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CHAPTER – 8

CONTRACT AGREEMENT

(On Stamp Paper of Rs One Hundred)

CA No. _____ for “Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata”

This AGREEMENT is made at _____ on this _____ day of _____ two thousand and fifteen, by and between RailTel Corporation of India Limited (A Govt. of India Undertaking) having its Registered & Corporate office at 6th Floor, IIIrd Block, Delhi Technology Park, Shastri Park, Delhi 110053, and Eastern Region office at 16th Floor, Chatterjee International Centre, 33A, Jawaharlal Nehru Road, Kolkata – 700 071 acting in the premises through Executive Director /Eastern Region (hereinafter referred to as ‘RailTel’, which expression should unless repugnant to the context or meaning thereof include its successors and permitted assigns) of the one part;

And _____ having its registered office at _____ acting in the premises through _____ (hereafter referred to as “Contractor”, which expression should unless repugnant to the context or meaning thereof include its successor and permitted assigns) of the other part.

Whereas in response to a call for bid by RailTel for the work of “Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata” as per tender papers at Annexure ‘A’ read with Corrigendum..... Issued by RailTel hereto, the Contractor has submitted a bid as per Annexure ‘B’ hereto

AND WHEREAS the said Bid of the Contractor has been accepted for the work of “Supply, Installation and Commissioning of Router, Switch, Indoor Access point, Wi-Fi USB Adapter for Desktop, LAN Extender, Media Converter, 1 KVA Online UPS & LAN wiring, Maintenance Free Earthing etc in different important locations under East Central Railway for RailTel Corporation of India Ltd. Eastern Region Kolkata” as per copy of Letter of Acceptance of Tender No. _____ dated _____ complete with enclosures at the accepted rates and agreed deviations from tender papers as per Annexure-C hereto at contract value of Rs. _____ (Rupees _____ Only) duly accepted by the contractor.

Now this agreement witnesses that in consideration of the premises and the payment to be made by the Purchaser (RailTel) to the Contractor provided for herein, the Contractor shall supply all equipment and materials and execute and perform all works for which the said Tender of the Contractor has been accepted strictly according to the various provisions in Annexure ‘B’ and ‘C’ hereto and upon such supply, execute and performance to the satisfaction of the purchaser (RailTel) and the purchaser (RailTel) shall pay to the Contractor at the rates accepted as per the said Annexure ‘C’ and in terms of the provisions therein.

IN WITNESS whereof both the parties have hereunto set and subscribed their respective hands and/or

seals on the day and year respectively mentioned against their respective signatures.

Signed and delivered by Shri _____ for and on behalf of RailTel Corporation of India Ltd.

The contract within named in the presence of:

1. Signature :
Date :
Name in Block Capitals :
Address :

2. Signature :
Date :
Name in Block Capitals :
Address :

Signed and delivered by Shri. _____ for and on behalf of _____, the contractor within named in the presence of:

1. Signature :
Date :
Name in Block Capitals :
Address :

2. Signature :
Date :
Name in Block Capitals :
Address :

Annexure – A : Tender Paper No. _____ with corrigendum, if any.
Annexure – B : Firm's offer.
Annexure – C : Letter of Acceptance No. _____ with all enclosures.
Annexure – D : Copy of Contract Performance Guarantee.

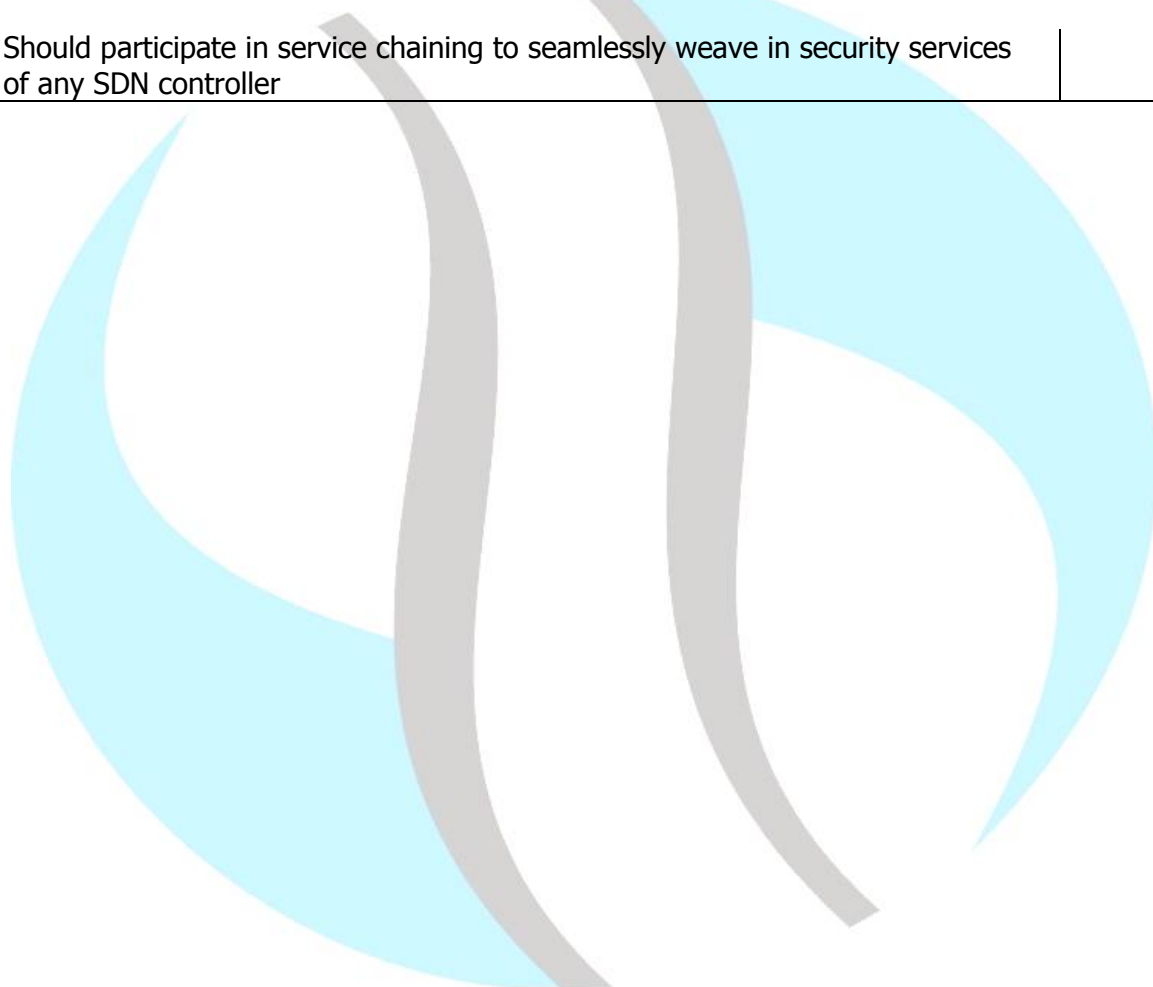
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Annexure 'A'**Router Specification :-**

	Branch Router	Compliance (Yes/No)
A	Modular platform	
1	Modular platform with integrated Ethernet interfaces and an additional slot to provide connectivity and services for varied branch-office network requirements	
2	Should offer a choice of LAN, Serial, E1/T1, DSL modules to accommodate field upgrades to future technologies without requiring replacement of the platform.	
B	Processors	
	High-performance multiprocessor system that supports growing demands of branch-office networks by supporting high-throughput WAN requirements.	
C	Memory	
1	DRAM : 2 GB or more	
2	Flash : 2 GB or more	
D	Performance	
1	Routing performance (IMIX): 600 Mbps or more	
2	Routing throughput (IMIX): 200 Kpps or more	
3	IPSec VPN tunnels: 300 or more	
4	Routing+NAT+QoS+ACL throughput: 200 Mbps or more	
E	Interfaces	
1	8 x 10/100/1000 Gigabit Ethernet WAN-routed ports.	
2	2 x USB	
F	Virtual Private Network	
1	GRE, IP-IP, IPsec, IPsec, DES (56-bit), 3DES (168-bit), AES (128-bit+) encryption, Message Digest 5 (MD5), SHA-1, SHA-128, SHA-256 authentication, Browser-based remote access	
2	Should allow network administrators to have no-touch deployment for IPsec VPN networks. No configuration changes should be required on the hub when spoke devices are added or deleted, thus allowing administrators flexibility in managing large-scale network deployments.	
3	The group IKE user type should be configured on the hub to allow strings to be specified to match the alternate subject field in spoke certificates.	
G	Protocols	
	IPv4, static routes, Open Shortest Path First (OSPF), Border Gateway Protocol (BGP), Intermediate System-to-Intermediate System (IS-IS), Multicast Internet Group Management Protocol (IGMPv1/v2/v3), Protocol Independent Multicast sparse mode (PIM SM), Protocol Independent Multicast dense mode (PIM DM), PIM Source Specific Multicast (SSM), Distance Vector Multicast Routing Protocol (DVMRP), MSDP, SDP, IPsec, generic routing encapsulation (GRE), MPLS, 802.3ad, 802.1ad, STP, Layer 2 and Layer 3 VPN	
H	IPv6	
	OSPFv3, RIPng, BGP, IS-IS, MLD	
	Should transparently provide existing or new services to IPv6 Internet users by deploying Network Address Translation IPv6 to IPv4 (NAT64) technology with little or no change in their existing network infrastructure, thus maintaining	

	business continuity. (If not available in the device external appliance should be quoted)	
I	Multiprotocol Label Switching	
	Multicast VPN, OSPF and IS-IS traffic engineering extensions, Point-to-multipoint connections (P2MP LSPs), RSVP, Virtual private LAN service (VPLS), Standards-based fast reroute, Secondary and standby label-switched paths (LSPs), LDP, Layer 2 VPNs for Ethernet connections, Circuit cross-connect	
J	Encapsulations	
	Ethernet, 802.1q VLAN, Point-to-Point Protocol (PPP), Multilink Point-to-Point Protocol (MLPPP), Frame Relay, Multilink Frame Relay (MLFR) , High-Level Data Link Control (HDLC), Serial, Point-to-Point Protocol over Ethernet (PPPoE) and ATM (PPPoA)	
K	Integrated threat control	
1	Stateful firewall, Zone based Firewall, ACL filters, DoS and DDoS protection, Network Admission Control	
2	Detection of protocol usage against published RFCs for any anomaly	
3	Prevent or protect DDoS attacks by detecting unexpected traffic patterns using heuristic rules	
4	Logical entities to which one or more interfaces are bound should be configured for multiple security partitions, dividing the network into segments to which various security options can be applied to satisfy the needs of each segment	
5	Should act as a Layer 3 enforcement point, controlling access by using IP-based policies pushed down from the NAC devices.	
L	Traffic management	
1	QoS, Class-based queuing with prioritization, Weighted Random Early Detection (WRED), Policy-Based Routing (PBR), Guaranteed bandwidth, Diffserv marking, Ingress traffic marking	
2	Granular control over application traffic through firewall policies by identifying applications and tunneled applications independent of protocol and port numbers.	
M	Identity management	
1	RSA SecureID, LDAP, RADIUS accounting, Web-based, 802.X authentication, PKI certificate	
2	Custom application signatures and signature groups for application identification	
3	Administrator authentication by Local password authentication, RADIUS, TACACS+	
N	High availability	
1	VRRP, Active/active or Active/standby, Stateful failover	
2	Route and Interface failover monitoring	
3	Node redundancy by grouping a pair of devices into a cluster.	
O	Management	
1	Web User Interface, CLI	
2	The router should have active probes to track and monitor real time traffic across the network and to investigate network problems.	
3	Should have monitoring technology like netflow/j-flow/s-flow to randomly sample network packets and send the samples to a monitoring station	
4	Should have the capability to revert to the last known good state if the router image, configuration and the backup configuration files become damaged beyond repair	
5	Onbox application tracking statistics for better visibility	

6	Should participate in service chaining to seamlessly weave in security services of any SDN controller	
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Annexure 'B'**Switch Type-B:**

SN	Description
a.	Should have 24 ports of 10/100 Base T.
b.	Should have support for 4 ports SFP Based Gigabit ports.
c.	Should have at least 9.6 Gbps switching fabric.
d.	Should Support port trunking of at least 4 GE ports.
e.	Should have support for 802.3x flow control.
f.	Should support 802.1D spanning tree control and RSTP/MSTP.
g.	Should support SNMP, web based management as well as RMON monitoring.
h.	Should support Auto MDI-II/MDI-X uplink for all the twisted pair ports.
i.	Should support 802.1Q VLAN, 802.1p Priority queues.
j.	Should support port mirroring.
k.	Should support at least 8000 entries in the MAC table.
l.	Should have Console port.
m.	Should support jumbo frame.
n.	Should support IPv6.
o.	Should support at least 128 IGMP Group.
p.	Should support Private VLAN or similar functionality.
q.	Should support spanning-tree root guard or similar functionality.
r.	Should support Optical Transceiver Digital Diagnostic Monitoring.
s.	The following Ethernet services should support.
i.	Q in Q , Double VLAN (Q-in-Q) ,Port-based Q-in-Q and VLAN Translation
ii.	IEEE 802.1ag Ethernet OAM: Connectivity Fault Management
iii.	Ethernet OAM compliant with IEEE 802.3ah/Y.1731
iv.	ITU-T G.8032 Ethernet Ring Protection designed for loop protection and fast convergence times (sub 50 ms) in ring topologies.
v.	L2 Protocol Tunneling
vi.	Loopback Detection
t.	The operating system of the Switches series should be MEF-9&14 or CE (Carrier Ethernet) Certified.
u.	Should have inbuilt AC power supply.
v.	The following features are not mandatory
i.	Shall support Domain Name System (DNS) to provide IP address resolution with user-defined device names.
ii.	Shall support DHCP Server enabling a convenient deployment option for the assignment of IP addresses in networks that do not have without a dedicated DHCP server.
iii.	Switch should be PoE compliant as per IEEE802.3af.
iv.	It shall support Local Proxy Address Resolution Protocol (ARP) to work in conjunction with Private VLAN Edge to minimize broadcasts and maximize available bandwidth.
v.	Switch shall support spanning-tree Port Fast guard for fast convergence (IEEE 802.1w).

Annexure 'C'**Specification of Wireless Access Point**

WIRELESS ACCESS POINT	Compliances (Yes/No)
Model: Single radio 802.11 a/b/g/n with external antenna	
1. Essential Features	
1.1 Wireless Access Point (WAP) specification	
The Access Point should have one Auto-sensing 10/100/1000Base-T Ethernet	
AP should be Thick and in case of Controller goes down, services wont effect and no compromise on security on the Edge.	
802.11n Access Point should be able to power up using standards 802.3af POE input, and at the same time operate in full MIMO mode.	
The AP should have basic IPS handing capacity	
The AP should independently be configurable to handle security, mesh, firewall, WIPS, RF Management, QOS , roaming, local forwarding without the need for a controller so as to increase performance of the WLAN network.	
The AP should be able to act as controller for small deployments of upto 20 AP and provide basic features like seamless roaming, QOS, Security and RF management. This will reduce the cost of overall deployment.	
AP should have single Band Single Radios to support 2.4 GHz with 802.11 a/b/g/n capability. AP Must support 2x2 MIMO.	
AP should provide minimum 23dBm transmission power (limited as per govt regulation for indoor AP's).	
Wireless Interface: Single radio; 802.11a/b/g/n; 2.4Ghz or 5Ghz	
AP should support Advanced RF management features like self-healing.	
Access Points can perform encryption / decryption on itself so as not to bottleneck the controller	
Access Point capable of supporting part time scanning - serving clients and scanning the RF spectrum at the same time	
Operating Frequency : 2.412-2472 GHz and 5.150 GHz - 5.850 GHz-As per regulatory for Indoor AP's.	
SSID support : 16 SSID (8 BSSID)	
Should have basic WIPS to detect events related to DoS type attacks, AP anamoly and Wireless Clients. It should also support customized signature for device classification as neighbor or authorized wireless access points and wireless clients.	
Bandwidth supported with automatic Fallback:	
802.11b: 1, 2, 5.5, 11Mbps	
802.11g: 6,9,12,18,24,36,48, 54Mbps	
802.11a: 6,9,12,18,24,36,48, 54Mbps	
802.11n: MCS 0-15 up to 300Mbps	
Transmit Power 1 dBm increments / per regulatory domain	
1.4 Environmental	
Should support the operating temp 0° to 40° C and Humidity: 5 to 90% non-condensing.	
1.5 Regulatory	
•FCC • CE Marked • IC	

Regulatory and Safety Compliance : UL 60950, UL, EU EN 60950, RoHS, FCC (USA), Industry Canada, CE (Europe), FCC Part 15 Subpart B, EN 55022,	
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Annexure 'D' – Technical specification for UPS

Technical Specification		Compliances (Yes/No)
1KVA Online UPS		
OUTPUT PARAMETER		
Capacity	1kVA/ 800 W	
Power Factor	0.8	
Wave Form	Pure Sine Wave (Online Double Conversion)	
Nominal Voltage	220/230/240 V	
Voltage THD	<3% Linear Load, <=6% -Non Linear Load	
Frequency Regulation-Free Run (Unsynchronized with Bypass)	±0.5 Hz	
Frequency Regulation (Synchronized with Bypass)	47.5 to 52.5 Hz / 57.5 to 62.5 Hz	
Creast Factor	3:01	
AC-AC Efficiency	88% at R-Load, 87%RCD-Load	
Transfer Time Mains-Battery	0 millisec	
Transfer Time Inverter-Bypass	4msec	
INPUT PARAMETER		
Configuration	1Ph,L-N+PE	
Nominal Voltage	230 Vac	
Voltage Range	160V to 300V at 100% Load, 110V to 300 V at 60% Load	
Frequency	50Hz / 60Hz	
Freq Range	40 to 70Hz, ±0.2 Hz	
PF	>=0.95	
BATTERY CHARGER		
Nominal Float Voltage	41Vdc	
Max Charging Current	4/8Amps	
BATTERY PARAMETER		
Type	SMF	
Backup Time	Minimum 1512 VAH is required for 60mins backup at 800W load	
No. of Battery Blocks	3nos	
Battery Voltage	36 V DC	
ENVIRONMENTAL PARAMETER		

Operating Temperature	0 to 40 deg°C	
Storage Temperature	-20 to 50 deg°C	
Noise Level	<45db	
MECHANICAL PARAMETER		
Product Size (DXWXH)	220 X 145 X 388.5	
Weight	13 kg	
Colour	RAL7016 dark grey	
Protection	IP20	
Communication Port	RS232, USB	
EPO	Yes	
Monitoring Software support	SNMP, UPSlion 2000, Dry Contact Card	
STANDARDS		
EMI	EN62040-2 : 2006	
Safety	EN62040-1-1 : 2003	
Performance	IEC / EN 62040-3	
MANUFACTURER'S CREDENTIALS	Manufacturer must be ISO 9001:2008 certified.	
	Manufacturer Must be ISO 14001 Certified	
	Bidder if not the manufacturer, must provide Manufacturer's Tender Specific Authorization that the bidder is authorized sales & service provider.	
Desired Feature	UPS system should be through a Transient Voltage Surge Suppressor of 10kA capacity and response time of < 0.5 nano second. Please enclose brochure of the offered UPS System.	
<u>Please enclose a printed brochure of the UPS system along with the offer in case there is a mismatch between quoted specifications and the Brochure Specifications then the tender may be rejected</u>		

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-Annexure 'E' Technical specification for Earthing

- Supply, installation, commissioning of maintenance Free earthing.
- Provision of brick masonry chamber with internal Clearance (300x300mm) over the pit with C.I Cover heavy duty hinged to CI frame.
- Provision of at least 2 output connection from the electrode either by provision of additional copper plate with nuts & bolts of suitable dimension over the electrode.
- Measuring of pit resistance through Earth tester & submission of jointly taken test reports.
- Supply installation & commissioning of earth pit electrodes (maintenance free earthing) with corrosion resistant earth rod(17mm dia (3/4 inch) & 10 feet long copper bonded steel rods specially designed earthing made of Nickel Steel alloy) including necessary accessories complete.
- Supply laying termination at both ends with single core min. 16mm² copper conductor cables from earth pit electrode to SEB neutral supply at main electrical panel/Neutral of DG set/RO earthing grid as applicable.
- Supply of earth enhancing Back fill Compound copper strips 25mmx6mm, GI strip, Fitting Clamps, Copper Cable. (16 Sq mm)
- All materials required for the work has to be supplied by the contractor.
- The ground enhancement material shall be electrically conductive and nonsoluble and it is used to achieve low ground resistance. It shall improve conductivity in the electrode – ground contact area & should improve earth's absorbing power and humidity retention capacity. It shall be non corrosive in nature having low water solubility It shall be thermally stable between 0 degree + 60 degree Celsius shall be achieved .Shall be used in any kind of electrode and all kinds of grounds different sensitivity though the simple spill of the proper solution to the ground which surrounds the electrode. The desired result is lesser than or equal to 1 ohm. The measurement of the earth will be taken before and after monsoon and the minimum guarantee shall be not less than 24months for any failure, bad workmanship, improper material etc. This should be attended free of cost. Special earth treatment shall have to be provided in case Earth resistance goes above the specified maximum limit of one ohm.

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