

Part - 1  
TENDER DOCUMENT FOR STRUCTURED NETWORK CABLING  
AT  
NS HOSPITAL, KOLLAM

TENDERNO: NS/TENDER/APRIL/ NSMIMS101/IT/2023-24

OPENINGDATE: 14/05/2023

On behalf of President of NS Hospital creation of Local Area Network facility at NS Hospital Theatre Block and Labor Room inviting tender. The scope of work includes supply, installation, integration, testing and commissioning of Active and Passive network equipment's for Local Area Networking as per attached technical specification and bill of quantity (BoQ).

TENDER NO	NS/TENDER/MAY/ 14/05/23
NAME OF WORK	Structured Network Cabling
LOCATION OF SUPPLY / WORK	Structured Cabling Networking at NS Hospital Expansion Block and Service Block
SALE OF TENDER DOCUMENT	Tender documents can be obtained from IT Department, NS Hospital on all working days (Monday to Saturday) from 9 AM to 5 PM or can be downloaded from <a href="http://www.nshospital.org/tender">http://www.nshospital.org/tender</a>
COST OF TENDER FORM	Rs 2,000/- by paying at the office or DD in favor of Secretary, NS Hospital, payable at Kollam. In case of Tender document being downloaded from website, DD should be submitted along with EMD. The tender fees is nonrefundable.
EARNEST MONEY DEPOSIT	EMD of Rs 10,000/- (Rupees Ten Thousand only) is to be submitted to NS Hospital directly in a separate sealed envelope so as to reach us on or before the due date of opening of tender. The EMD shall be in the form of Demand Draft, drawn in favor of Secretary, NS Hospital payable at Kollam. EMD will be refunded to the unsuccessful bidder after award of the work.
PRE-BID MEETING	A pre-bid meeting with all the prospective bidders is schedule to be held on 17/05/2023 at 14.00 hours at NS Hospital, Kollam. Interested applicants/ firms are invited to attend the same with a written statement of their query.

NOTIFICATION OF AMENDMENTS	As a result of the pre-bid meeting, if the technical specification requires any modification, suitable amendment to the tender document will be issued and the same will form part of the tender document.
SUBMISSION OF TENDER	Submission of tender document accepted only hard copies and its allied print- outs or documentations are to be forwarded to NS Hospital to reach prior opening of tender. All the covers shall be addressed to <b>The Secretary, NS Hospital, Kollam</b> . These packs should reach the office of NS Hospital through REGISTERED POST/SPEED POST/By Hand on or before the due date and time of the bid opening.
LAST DATE AND TIME OF TENDER SUBMISSION	25/05/2023 04:00PM
DATE AND TIME OF OPENING	27/05/2023 11:00AM
PERIOD OF COMPLETION OF WORK	1 Month

Note: In case of any clarification in with regard to submission of bids please contact Mr. Akhil (Tel: +0474 2720000) or [nsmimskollam@gmail.com](mailto:nsmimskollam@gmail.com).

SL NO	PRODUCT DESCRIPTION	PART NO	QTY	UNIT	ALL RATES SHOULD INCLUDE GST			
					SUPPLY	SUPPLY TOTAL	SERVICE	SERVICE TOTAL
<b>A COPPER</b>								
1	Supply Installation and Commissioning of 4 pair solid, CAT6A U/UTP, LSZH 23 AWG , UTP Cable with cross (+/x) member pair separator complete as required 305 Mtrs/Box	760107318	31	Box				
2	Supply Installation and Commissioning of CAT6A keystone information outlets(white in colour for Data & TV) Complete as required	760092429	121	Nos				
3	Supply of CAT6A Celing Connector Assembly (Accesspoint Point & Bio Metrics)	760235590	20	Nos				
4	Supply Installation and Commissioning of 1U 24 Port Cat6A loaded patch panel	760206839	5	Nos				
5	Supply, Installation and Commissioning of Face plate square versions with white color- Dual with inbuilt shutter	760200451	35	Nos				
<b>B OTHERS</b>								
1	Supply and laying of 2C 2 Sqmm multistrand, Armoured, pvc insulated shielded FRLS cable	Polycab/Varsha	150	Mtrs				
2	Supply of 25mm ISI make white conduit with Accessories	Precision / Balco / Modis	1250	Mtrs				
3	Supply of 32mm ISI make white conduit with Accessories	Precision / Balco / Modis	1250	Mtrs				
4	Supply of 25mm Flexible conduit	/ Balco /	500	Mtrs				
5	Supply of 32mm Flexible conduit	Precision / Balco / Modis	500	Mtrs				
6	Supply Installation and Commissioning of BOSCH LBC 3470/00 15 W Horn Loudspeaker	BOSCH LBC 3470/00	10	Nos				
Total Supply and Service Amount With GST								
<b>NET AMOUNT</b>								

## PART – 2

### BIDDER/ OEM ELIGIBILITY CRITERIA

1. Bidder should have experience in successfully implementing works of similar nature during the last 5 years. The work execution should be either of the following:
  - a. One similar order costing not less than Rs 25 Lakhs
  - b. Two similar orders each costing not less than Rs 15 Lakhs.[Similar order means “Supply, installation and commissioning of Network”. (Bidder to submit copy of PO/Completion Certificate from the Client)]
2. The Bidder should be OEM or Authorized Dealer/Distributor/System Integrator of the OEM of the offered product (Bidder to submit documentary proof).
3. The bidder should be in Networking business for a period of Minimum 5 years (supporting documents to be enclosed).
4. The average financial turnover during the last three consecutive financial years should be at least Rs. 25/-lacs per year for similar works.
5. The Bidder should have their service /spares center in Kollam / Kochi / Trivandrum, details of the same should be enclosed. If the Bidder doesn't have a service facility as stated, necessary proof for the understanding with vendor having service centers in Kollam / Kochi / Trivandrum to provide service support to NS Hospital for this project to be enclosed.
6. The OEM/ Bidder should give an undertaking that service & spare support will be provided for at least 3 years, after the specified warranty period on separate commercial terms.
7. The Bidder is required to quote for the complete BOQ. Partial quote are liable to be rejected.
8. Detailed Network Diagram / Solution document of the offered system should be attached along with the final invoice.
9. Bidder/OEM should submit ETL Third party certificate for the performance of Cat-6A channel cabling solution-Components certificate is NOT accepted.
10. Bidder/OEM should have at least One RCDD certified person based in India to monitor the site activities and integration (Relevant certificate with complete details shall be attached along with the BID to contact)

## PART - 3

### **SPECIAL INSTRUCTIONS**

1. The Bidder should visit the site with prior appointment and carry out necessary inspection and test/measurement as are necessary before attending the pre-bid meeting and before submitting its bids. All costs associated with such site visit and in preparation and submission of the Bid will have to be bear by the bidder. NS Hospital will in no case be responsible for such costs, regardless of the conduct or outcome of the bidding process.
2. The bidder shall submit only one option, which is best suitable to meet NS Hospital requirements. The bids submitted with more options shall be liable to be rejected.
3. Quotation should clearly specify delivery schedule.
4. Any taxes or statutory levies payable should be shown separately; otherwise quoted price will be treated as all inclusive.
5. Any deviation from NS Hospital's specification of items shall be clearly indicated in quotation itself.
6. The validity of quotation should be for a minimum of 90 days from the bid due date.
7. The Annual turnover of the bidder for the last 3 years may be submitted.
8. The bidder may quote the items, which meets the requirements and specification. In such case, the bidder shall provide the layout, make, model, material specifications, dimensions, brochures, photo catalogues of items quoted along with the bid, if available.
9. Items are to be supplied and installed at NS Hospital OT & LR.
10. Delivery of material at site and installation including loading and unloading shall be the responsibility of supplier.
11. Bidders are advised to visit and familiarize themselves with the site conditions and concerned areas before submission of tender documents.
12. The bidder should inform acceptance of Purchase Order within three days of receiving the order.
13. Split-up part numbers of each item of the BoQ is to be shown in the financial bid with line item cost.
14. The contract will be awarded to the bidder whose bid has been determined to be eligible and to be substantially responsive to the bid documents and who has offered the lowest evaluated bid.

PART - 4  
**PAYMENT TERMS**

1. **Payment Conditions.** Up to 10% of the project cost, against Bank Guarantee (Security Deposit) shall be paid as project advance. Balance payments shall be made in three or less instalments. 70% of the total amount shall be cleared within respectable time on supply of complete project BoM/BoQ at each of our site. 20% shall be paid on completion of Final Acceptance Tests and QA. Each of these payments shall be made only against delivery challans and invoices duly signed with official seal and date by authorized the purchaser's officials or our Consultant. Bank Guarantee shall be periodically renewed by our Contractor, and shall be released after the expiry of warranty period or one year of project closure or handing over, whichever is later.
2. **Delivery & Installations.** The Supply/Installation of the ordered project components shall be completed at our site within 20 days from the issue of Purchase Order. The entire project commitments (including its training, documentations and QA etc.) must be completed, (as per the terms and conditions listed in this document) within 45 days of placement of Purchase Order or Intend.
3. **Liquidated Damages (LD).** In the event of the Contractor's failure to complete the works on time, or delay in supply the stores/goods and conduct trials, installation of equipment, training, documentation etc. as specified in this project/contract, NS Hospital may, at their discretion, withhold any payment until the completion of the contract. We the BUYER may also deduct from the SELLER / Contractor as agreed, liquidated damages up to the sum of 2.5% of the contract price of the delayed/undelivered stores/services mentioned above for every week of delay or part of a week, subject to the maximum value of the Liquidated Damages being not higher than 10% of the value of delayed stores/ services or test rejections. The product/material or the work is observed to be substandard would invite invoking of LD and a case of rejection even after installation.

PART - 5  
**ARBITRATION**

In the event of any dispute or difference arising between the Contractor and tenderer out of or about the Contract or Tender or documentations or any of the terms and conditions contained therein or as to the interpretation or any other matter, both the parties shall resolve such dispute or difference first by mutual discussions. If any dispute or difference persists, it shall be referred to The President, NS Hospital for arbitration and reconciliation, who will have the freedom to appoint the Arbitrator. The arbitration will be held in Ernakulam and the proceedings shall be conducted in English. The parties to the dispute will instruct the Arbitrator(s) to render a decision within 30 days of the date of their appointment and such a decision shall be binding on both the parties. This Tender and the Contract shall, in all respects, be governed by and construed in all respects in accordance with the laws of the Republic of India.

## PART – 6

### **SCOPE OF INSTALLATION, CONFIGURATION AND INTEGRATION**

1. Physical installation and powering of all Active and Passive components as per Network requirement bidder should be informed us in prior for the UPS in lines connections.
2. Proper marking of cable, Safety Sign board/Route marker to be installed for cable laid underground and other miscellaneous work.
3. Any structure, permanent or temporary, dismantled or destroyed during the execution of the work shall be refilled/remake or restore to its original condition by the contractor at his own cost.
4. Any extra electrical points and data points required in the server room shall be provided by the contractor at his own cost.
5. Configuration and Integration of all of Active and Passive components as per the approved implementation plan.
6. Configuration of VLAN and Inter VLAN routing as per implementation plan.
7. Technical write up of the network design and functioning, System and Network architecture diagram, Active and Passive components configuration details, Security implementation.
8. As built network configuration details (port wise) with IP address, subnet, VLAN, port description, etc. for all active components.
9. Security implementation including VPNs, Firewall (Existing) rules, IDS/IPS, ACL details etc.

## PART – 7

### **SCOPE OF TRAINING**

1. Training on the Expansion & Service Block building Network design and functioning, Network architecture, Configuration of active components and Security implementation.
2. The training for the Active & Passive should be arranged to the NS Hospital Engineers at least one week.
3. Course material for the above (one copy each per participant) to be provided.
4. Any other Relevant Documentation if any.
5. The training should be conducted certified OEM staff / authorized by them.

**PART – 7**  
**SCOPE OF CONDUIT LAYING**

1. Specification for 25mm PVC conduit/casing capping & 32/40 mm HDPE Pipe for outdoor OFC.
2. OFC Route Marker: The marker should be Cast Iron for cable route marking.
3. PVC pipe minimum 25mm dia, ISI mark, HMS grade (2mm thick), accessories for PVC pipes of the same make that of pipe; such as Spacers & Saddles, Couplers, Bends, inspection or non-inspection type (Elbows not allowed), Tees, Junction boxes of required ways and resin / adhesive to make all joints rigid. Black pipe shall not be used for surface type wiring. Permanently Solid Lubricated HDPE Pipes (33 mm inner dia, 40 mm outer dia).
4. Providing and fixing conduits in position of varying sizes (as per site requirements) of ISI rated White PVC conduits or casing cap.
5. Cutting concrete for laying PVC pipes with pull cables for Concealing of Cables and re-plastering surface.

**PART – 8**  
**STRUCTURED CABLING TECHNICAL SPECIFICATION**

**1.1 System Description**

Structured cabling system will be considered for Telephone/Data/Video Communication Network. Fiber Optic components for backbone cabling and Cat-6A based components for horizontal cabling shall be recommended. Following are the passive elements to be covered under Structured Cabling System:

1. Horizontal Cabling
  - a. Cat-6A UTP Cable
  - b. Cat-6A UTP Outlets.
  - c. Face plate (Single and Dual Port)
  - d. Cat-6A Patch Panel
  - e. Cat-6A Patch Cords
  - f. Ceiling Connector Assembly (Access Point & Bio Metric Only)
  
2. Racks & Accessories
  - a. Server Room Racks
  - b. IDF/MDF Rooms Racks
  - c. Wire Manager – Horizontal and Vertical
  - d. Cable bundling material
  - e. Labels

## 1.2 Technical specification Shuttered Face Plate

Standard Compliance	Compliance (Yes/No)	Remarks
Shall be available in 1 port and 2 port square versions.		
General Specifications a) Color: White b) Width: 86.36 mm (3.4 in) c) Height: 86.36 mm (3.4 in) d) Depth: 13.72 mm (0.54 in)		
Material shall be high impact, flame retardant, UL-rated 94 V-0, thermoplastic.		
Flammability Rating: UL 94 V-0 Safety Standard: UL Listed		
Shall be compatible with CAT 5e/CAT 6/CAT 6A information outlets.		
Shall have inbuilt shutters to prevent dust to accumulate on the information outlets which are not in use.		

### 1. Specification for CAT 6A LSZH U/UTP Cable

Cat-6A U/UTP Horizontal Cable	Compliance (Yes/No)	Remarks
The Cable should meet ANSI/TIA 568C.2 Category 6A Specifications		
The cable should consist of Eight 23 AWG bare copper conductors. Copper Clad Aluminum or any other combinations are not allowed		
The weight of the cable box of 1000 Feet should not be less than 36. 90 lb/kft		
Maximum Operating Frequency will be 550 MHz		
Pair Separator shall be Isolator for between pair and within pair to reduce the cross talk and improve performance		
Should have ETL verified for Cat-6A full channel		
The LSZH Cable should support the following standard to qualify		
ISO/IEC 60332-3-22 Vertical Flame spread test		
The cable and cordage shall be UTP components that do not include internal or external shields, screened components or drain wires.		



## 2. Specification for Category 6A Information Outlets

Standard Compliance	Compliance (Yes/No)	Remarks
All Category 6A outlets shall meet or exceed Category 6A transmission requirements for connecting hardware, as specified in TIA/EIA 568-B.C.2 Commercial Building Telecommunications Cabling Standard and ISO/IEC 11801:2002 Second Edition.		
The Category 6A outlets shall be backward compatible with Category 6, 5E, 5 and 3 cords and cables.		
The Category 6A outlets shall be of a universal design supporting T568 A & B wiring.		
The Category 6A outlets shall be capable of being installed at either a 45° or a 90° angle in any M-series modular faceplate, frame, or surface-mounted box avoiding the need for special faceplates.		
The Category 6A outlets shall have improved pair splitters and wider channel for enhanced conductor placement.		
C. Certifications: UL Listed		
The 8-pin modular (RJ-45) jacks shall comply with IEC 60603-7-4.		
The information outlet shall have a Current Rating of 1.5 A at 20°C to support the PoE and PoE+ applications		
The information outlet will have insertion life of 750 cycles minimum.		
The information outlet must be able to accept termination of solid conductors with nominal diameter of between 0.40 mm to 0.64 mm (26 to 22 AWG).		

## 3. Specification for CAT 6A LSZH U/UTP RJ45 Patch Cords

Standard Compliance	Compliance (Yes/No)	Remarks
Patch Cords shall be equipped with 8-pin modular plugs on each end.		
All cords shall be round, and consist of copper conductors, tightly twisted into individual pairs.		
Nominal cordage diameter shall not exceed 7.24 mm.		
Plugs shall be designed with an anti-snag latch to facilitate easy removal during move, add and change processes.		
The cordage sheath shall be made of Low-Smoke, Zero Halogen (LSZH)		
The LSZH version must comply with the following Fire Safety standards:		

ISO/IEC 60332-3-22: Vertical Flame Spread		
The cordage shall be UTP components that do not include internal or external shields, screened components or drain wires.		
The patch cords will have insertion life of 750 cycles minimum.		

**4. Specification for CAT 6A Jack Panel**

Standard Compliance	Compliance (Yes/No)	Remarks
Cat-6A patch panels shall provide capabilities of registering patch connections made between corresponding panel ports and equipment port		
Copper patch panels shall be available in 24-port and 48-port standard and angled configurations, and a 24-port configuration that supports individual jack modules.		
Patch panels shall be compatible with standards-compliant 60603-7 (RJ45) plugs and shall detect the insertion and removal of compliant plugs into a patch panel port.		
patch panels shall be compatible with mounting on 19" based hardware per EIA-310		

**5. Ceiling Connector Assembly-CCA for connecting Camera**

Standard Compliance	Compliance (Yes/No)	Remarks
The Ceiling Connector Assembly (referred to as CCA) provides a means to connect UTP horizontal cable to a short, single-ended patch cord assembly in the field, the plug ended link may be used to connect to cameras, access points, and other ceiling-mounted devices		
The single Ceiling Connector Assembly shall support for Category 6A, Category 6 and Category 5E cabling solution		
The Ceiling Connector Assembly shall be of a universal design supporting T568 A & B wiring.		
Ceiling Connector Assembly shall available with cordage		
Plug Insertion life shall be 750 times as minimum		
Cordage length will be 18 inch as minimum		

**1.3 Warranty**

Owner seeks warranty for the installed cable plant from the OEM equipment supplier. Bidder shall ensure that the OEM norms for supply, installation, testing and documentation as specified by the OEM supplier shall be adhered to, provided those are in line with TIA / EIA standards and Owner requirement specifications. The warranty shall be provided by the OEM vendor to Owner and shall be administered in India. The duration of the warranty shall be for a minimum of 25 years and shall cover the system performance, application assurance and the costs of the supply of components and installation.

**ADDITIONAL POINTS LOCATION DETAILS**

<b>S/n</b>	<b>Level</b>	<b>Location</b>	<b>DATA</b>	<b>VOICE</b>	<b>TV</b>	<b>WIFI</b>	<b>CAM</b>	<b>PA</b>	<b>TOTAL</b>	<b>Remark</b>	
1	OLD BLOCK LEVEL 4	OT-01	3	1	1				5		
2	OLD BLOCK LEVEL 4	OT-02	3	1	1				5		
3	OLD BLOCK LEVEL 4	OT-03	3	1	1				5		
4	OLD BLOCK LEVEL 4	OT-04	3	1	1				5		
5	OLD BLOCK LEVEL 4	OT-05	3	1	1				5		
6	OLD BLOCK LEVEL 4	PASSAGE				4	4	5	13		
7	OLD BLOCK LEVEL 4	DOCTORS REST ROOM	2						2		
8	OLD BLOCK LEVEL 4	OT BILLING	2	1		1	1		5		
9	OLD BLOCK LEVEL 1	INSURANCE	8	2					10		
10	OLD BLOCK LEVEL 1	CASH	3	2					5		
11	OLD BLOCK LEVEL 1	PRO	2	1					3		
12	OLD BLOCK LEVEL 1	CASUALTY SHARE DESK	2	2					4		
13	OLD BLOCK LEVEL 1	PHYSIOTHERAPPY	2	1					3		
14	OLD BLOCK LEVEL 1	GENERAL OP		2					2		
15	OLD BLOCK LEVEL 1	PASSAGE NEAR OP AND CASH			3				3		
16	OLD BLOCK LEVEL 1	OUTSIDE LAB(PUNCHING MACHINE)	2						2		
17	SSB LEVEL 1	MRI RECEPTION	2	2				1	5		
18	SSB LEVEL 1	CASUALTY FRONT			1				1		
19	OLD BLOCK LEVEL 2	IP PHARMACY FRONT			2				2		
20	OLD BLOCK LEVEL 2	DIALYSIS			4	1	1		6		
21	OLD BLOCK LEVEL 2	ANDROLOGY ROOM	2	1					3		
22	OLD BLOCK LEVEL 3	OUTPATENT SKIN OPD	1		1				2		
23	EB L9,EBL6,OB L5,OB L3	NCS EXTRA LOOP CABLING							16		
23	ALL AREAS	BUFFER POINTS							20		
			43	19	16	6	6	6			
			<b>TOTAL</b>							<b>132</b>	