

COVERING LETTER FOR RFQ JKD0000234 DTD 04.07.20.

Pl find attached soft copy of the RFQ JKD0000234 DTD 04.07.20.

Please note the following.

1. This RFQ is for supply of LAN for Maitree contract.
2. bidder shall comply to general terms & conditions of RFQ available at <http://edn.bhel.in>.
- 3.. Offer shall be submitted in two part i.e.
 - a. PQC & Technical bid with commercial terms.
 - b. price bid.

K S SHANKAR

Executive addl. engr

REQUEST FOR QUOTATION

	BHARAT HEAVY ELECTRICALS LIMITED Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: JKD0000234 RFQ DATE : 04.07.2020	Due Date/Day: 17.07.2020 FRI Time : 13:00 HRS Tender Box : Reception Area Opening Venue: NEW ENGG. BLDG
MMI:PU:RF:003			
(address for communication) :		(for all correspondence) Purchase Executive : Doraisingh J K Phone : 9972060315 Fax : E-mail: doraisingh@bhel.in	

SI No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	DA0659558383 Office LAN for BIFPCL Maitree * HSN/SAC : 7318 Test Certificate Office LAN for BIFPCL Maitree as per purchase specifications PS/404/2846.	1	ST	1	24.08.2020

Total Number of Items - 1

- 1.
- 2.

TWO PART BID - SUBMIT TECHNICAL AND PRICE BID IN SEPARATE SEALED COVERS

NOTES:

1. This RFQ is governed by:
 - a) INSTRUCTIONS TO BIDDERS/SELLERS and GENERAL CONDITIONS OF CONTRACT FOR PURCHASE available at <http://edn.bhel.com> (**RFQ-PO Terms & Conditions**)
 - b) Any other specific Terms and Conditions mentioned.
 2. Bidders / Representatives who would like to be present during opening of offers are required to furnish authorization letter for the same.
- * The HSN/SAC no mentioned against the line items in the RFQ are indicative only.

For and On behalf of BHEL.

Doraisingh J K
Control Equipment

1 OF 1

Dtd. 06-July-2020

Pre-Qualification Requirements (PQR) of Bidders for Office LAN system for BIFPCL-Maitree

The bidder must possess following credentials prescribed as Pre-Qualification Criteria. If any bidder fails to fulfil the Qualification Requirement (QR), his bid will be treated as incomplete.

Sl. No	PRQ clause	Documentary evidence	Vendor compliance (yes/no/remarks)
1	i.) For Network Switches: The vendor shall be an Original Equipment Manufacturer (OEM) or their authorized dealers in India. ii.) If an agent/vendor submits bid on behalf of the principal/OEM, the same agent/vendor shall not submit a bid on behalf of another principal/OEM in the same tender for the same item/product.	1. An authorization letter from OEM to be submitted in case of authorized dealer.	1. Authorization letter attached as part of PQC (Yes / No) Make Of Network Switches
2	The offer shall be only for Standard Catalog Items from the manufacturer and not custom-made .	Standard Catalogs and Datasheets of the manufacturer for all the items in line with specification to be provided as part of technical offer.	Documentary evidence provided as part of technical offer (Yes / No)
3	Offer shall be for new equipment and not for any refurbished / used equipment. All the parts used shall also be new and not used / refurbished.	A declaration to the this effect to be furnished.	
4	The bidder shall be a registered company in India under the Indian Companies Act-2013 with latest amendments. In case the bidder is foreign vendor, his authorized India dealer / subsidiary shall be registered in India under the Indian Companies Act-2013 with latest amendments.	Self-Declaration along with the following: Copy of Self-Attested Incorporation Certificate, MOA & AOA.	
5	Foreign OEM shall have Authorized India dealer(s) / representative(s) for service and support during commissioning / implementation and after sales.	The authorization letter for the dealer/representative shall be provided	Authorization letter attached as part of PQC (Yes / No)
6	The vendor or their authorized service representatives shall have trained engineers in India for commissioning and service for the offered items and shall be in a position to provide prompt after sales services and spares support for our installations. The vendor shall be able to depute their engineers to Bangladesh for commissioning.		Compliance to the PQC clause (Yes/ No)

7	The vendor shall be in a position to undertake AMC or provide service support for the items supplied, after the expiry of the warranty / guarantee period either directly or through a service representative.		Compliance to the PQC clause (Yes/ No)
8	Experience in last 5 years supplying / implementation of Office LAN/WAN system / Campus network) for min 2 projects in India in one of the following areas 1) Utility Power stations , (Thermal/Hydro/Gas) 2) Process industries like Oil & Gas 3) Engineering and construction/Maintenance company Total number of Office PCs in network-around 200 .	Submit reference list of Projects wherein offered system is supplied. Also copies of purchase order and dispatch documents should be mandatorily furnished for proof of the above.	a) Provided PO copies, dispatch documents OR commissioning/installation certificate/MOM as proof of commissioning. This to be as a part of PQC (Yes/ No)

Before submission of offer for Technical/commercial clarification, please contact/discuss with BHEL-Engg (080-26998691,26998946)/MM (080-2699 8057) Department for clarification if any.

Note:

Vendor has to submit **credentials** for onward submission to END USER for their review and approval. Offer shall be technically acceptable based on **Make** approval from End user(customer) and **technical scrutiny/evaluation** of the offer.


 ಅನುಪಮಾ ಸಿನ್ಹಾ, ಹಿರಿಯ ವ್ಯವಸ್ಥಾಪಕರು(ಡಿ)/ನಿ.ಉ.-ಎಂಪಿ.(ಕೆ.ಇ.ಎಂ.ಇ.)
 अनुपमा सिन्हा, वरि. प्रबंधक(डि)/सी.ई.-इंजी.(एच.एम.आई.)
 ANUPAMA SINHA, SR. MANAGER(D)/CE-ENGG.(HMI)
 BHEL-EDN, MYSURU ROAD, BENGALURU-560026



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**PURCHASE SPECIFICATION
OFFICE LAN SYSTEM**

PS/404/2846

REV No. : 00

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PURCHASE SPECIFICATION
OFFICE LAN SYSTEM
For
BIFPCL MAITREE 2 X 660 MW PROJECT

REVISION HISTORY SHEET

REV NO.	DATE	NATURE OF CHANGE	REASON
00	25/06/2020	FIRST ISSUE	----

TITLE

**PURCHASE SPECIFICATION
OFFICE LAN SYSTEM**

Dept Code

404

DRN.

NAME

SIGN

Date

PRPD.

A SINHA

25/06/20

CHKD.

K PAL

25/06/20

APPD.

K PAL

25/06/20

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1. General

There is a requirement for supply, Configuration and Installation of OFFICE LAN system for BIPCL MAITREE 2 X 660 MW Power Plant. The LAN shall interconnect various buildings together and shall facilitate the smooth exchange of Data from one building to other. Pre-selected data can be viewed on real time data basis at selected nodes from remote locations at various buildings. The LAN shall be redundant with 10 Gigabit Up link speed / 1 Gigabit Uplink speed and shall utilize standard IEEE 806.3 protocol such as Ethernet.

The network system shall be according to the Category 6 or better of the Standard ISI/IEC IS 11801 (EN50173) with RJ 45 Western type connectors. The design aspects of the Equipment room are specified in the TIA/EIA-569.

Indicative Network Architecture is attached as Annexure-I

2. Scope of supply

The scope of supply of equipment for **one set** is given below in Table 1.

Table 1 - Bill of Materials (Main supply)

Sl. No.	Description	Qty (SET)	Vendor compliance /Remarks
1.	<u>Type-1:</u> Commercial grade Layer-3 core switch Layer-3 switch with min. 12 Nos. of 10Gbps (SFP based) Cu ports + 12 Nos. 10 GBps (SFP based) Fiber ports + 2 x 10 Gbps SFP based FIBER uplinks with in built redundant power supply; Note- 6 Nos 1 GBps Cu SFP (compatible to above switch to be supplied loose. (REFER CLAUSE 3-A FOR detailed spec)	2	
2.	<u>Type-2:</u> Industrial grade Layer 2 access switch with 48 X 1GBps (Cu) + 2 x 10 Gbps SFP based Fiber UPLINKS and having in built redundant power supply-1 SET; (REFER CLAUSE 3-B FOR detailed spec)	14	
3.	<u>TYPE-3:</u> Industrial grade Layer 2 access switch with	34	



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	12 X 1GBps (Cu) + 2 x 10 Gbps SFP based Fiber UPLINKS and having in built redundant power supply-1 SET; (REFER CLAUSE 3-B FOR detailed spec)		
4.	CAT 6 Jack Panel 24 Port ; (REFER CLAUSE 3-C FOR detailed spec)	48	
5.	CAT 6 UTP Patch cord 3 Mtr; (REFER CLAUSE 3-D FOR detailed spec)	1160	
6.	12 Duplex Port LIU with SMF SC Adaptors Loaded ; (REFER CLAUSE 3-E FOR detailed spec)	40	
7.	CAT 6 STP Cable Roll (REFER CLAUSE 3-F FOR detailed spec)	80	
8.	Single Mode 10G Fiber Duplex Patch cord SMF 2 Mtr. (One end is SC type, other end is suitable to Switches mentioned in 1 ,2 and 3)	120	
9.	Wall Mount Enclosures 12U high wall-mountable communications cabinet complete with glass door, 6 way power distribution unit, force ventilation. All units are to be supplied with cage nuts and bolts to house LAN switches , LIUs, etc . The components / devices to be mounted in each network enclosure location wise are indicated in Annexure II. The network enclosures should be complete in fully assembled and wired condition. Test reports shall be submitted for wiring check, Insulation resistance and high voltage test. (Refer CLAUSE 3-G FOR detailed spec)	20	
10.	CAT-6 DUAL port Information Outlet with Box	550	
11.	Cable Managers	As reqd	
12.	AC- DC convertors	1 per	



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switch
if switches
for Sl.no. 2
& 3 are
with DC
input
power
supply

13.	Any other items required to complete the commissioning of entire network
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1 Lot

Note: Vendor to quote unit rate for all the above items indicated in BoM (Table-1)

Table 2 - Technical services

Sl. No.	Description	Qty (SET)	Vendor compliance /Remarks
1	Technical Services to be provided at Project location (BIFPCL MAITREE (2 x 660 MW), BANGLADESH) as per S.No 4 Each visit is considered as 15 working days Site visit expense scope break-up is as below: 1.) . "Conveyance from Kolkata to Bangladesh is in BHEL scope". Reaching Kolkata is in vendor's scope. This excludes warranty visit due to poor commissioning /poor quality of the items. For warranty visit tickets will be vendors scope. 2.) "Visa is in BHEL scope". 3.) "Local conveyance and accommodation at site in BHEL scope". 4.) Overseas Medical Insurance in vendors scope. Note : Separate Value to be quoted against commissioning is mandatory (non zero) and it should be minimum 5% of the supply price)	3 VISITS	
2	An optional quote for additional site visit. The same would be used based on site conditions		

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3. Technical Specifications

Sl. No.	Specifications	Vendor Compliance/Remarks
3(A). Commercial grade Layer-3 Core Switch Make: Avaya(Extreme) / Garret / Cisco / Juniper / Brocade / Enterasys / HP(3com,H3c) / Foundary / Netgear / Hirschman / ntron Layer-3 switch with min. 12 Nos. of 10Gbps (SFP based) Cu ports + 12 Nos. 10 GBps (SFP based) Fiber ports + 2 x 10 Gbps SFP based FIBER uplinks with in built redundant power supply; Note- 6 Nos 1 GBps Cu SFP (compatible to above switch to be supplied loose.)		
a.	high Performance, managed, scalable, high availability core switch for campus Backbones	
b.	switch to provide scalable bandwidth and increased network reach with support of layer 2/Layer 3 performance reach upto 210 Million packets per second	
c.	Hot swappable redundant power supplies	
d.	Stackable upto 4 devices in one stack (1 no. stack cable to be supplied with each switch)	
e.	Broadcast, multicast storm control, Support MAC-based VLANs, Dynamic VLAN Assignment, BPDU Guard, Root Guard, IGMP snooping (v1/v2/v3), port mirroring, ACLs, Broadcast storm protection, IGMP. Should have Integrated Standard Command Line Interface (CLI), Telnet, TFTP, HTTP access to switch for management / monitoring	
f.	Operating Temp: 0° C to 50° C Fan modules, if applicable , to be considered.	
g.	Should support broadcast, unicast and multicast storm control occurring on physical port	
h.	Should support loop detection mechanism	
i.	3 years comprehensive Support including Hardware replacement, TAC support and software updates & Upgrades directly from OEM. OEM should have direct support arrangement in Bangladesh. The quoted products (switches) under this set should be from single OEM.	
j.	19" Universal Rack Mountable with Necessary Accessories	

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COPYRIGHT AND CONFIDENTIAL The information contained in this document is the property of BHARAT HEAVY ELECTRICALS LIMITED This must not be used directly or indirectly, in any manner detrimental to the interest of the company			k. 3 years comprehensive Support including Hardware replacement, TAC support and software updates & Upgrades directly from OEM. OEM should have direct support arrangement in Bangladesh. The quoted products (switches) under this set should be from single OEM.	
			l. 19" Universal Rack Mountable with Necessary Accessories	
			3 (B). Industrial Grade- Layer-2 Switch (Type-2/Type-3) Make: Avaya(Extreme) / Garret / Cisco / Juniper / Brocade / Enterasys / HP(3com,H3c) / Foundary / Netgear / Hirschman / ntron	
			a. <u>Type-2:</u> Industrial grade Layer 2 access switch with 48 X 1GBps (Cu) + 2 x 10 Gbps SFP based Fiber UPLINKS and having in built redundant power supply-1 SET; <u>TYPE-3:</u> Industrial grade Layer 2 access switch with 12 X 1GBps (Cu) + 2 x 10 Gbps SFP based Fiber UPLINKS and having in built redundant power supply-1 SET;	
			b. The switch should have redundant power supply in-built. In the case of vendor offering redundant DC power supply, suitable AC- DC power supply convertor to be provided, 1 for each switch.	
			c. The Switch Should Support MAC-based VLANs, Dynamic VLAN Assignment, BPDU Guard, IGMP snooping (v1/v2/v3), port mirroring, ACLs, Broadcast storm protection, IGMP.	
			d. Should have Integrated Standard Command Line Interface (CLI), Telnet, TFTP, HTTP access to switch for management / monitoring	
			e. Operating Temp: 0° C to 50° C	
			f. OEM should have not announced the “End of Sale” and “End of Life” for the Proposed product.	
			g. A full set of associated cables and accessories as required to complete the solution must be provided with the switch	
			h. 3 years comprehensive Support including Hardware replacement, TAC support and software updates & Upgrades directly from OEM. OEM should have direct support arrangement in Bangladesh. The quoted products (switches) under this set should be from single OEM.	
			i. 19" Universal Rack Mountable / Din rail mountable with Necessary Accessories	

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3 ©. 24 Port CAT6 Jack Panel Make: Tyco/D-Link/Digi link/BELDEN

a.	Should have 24 Keystone jacks whose performance exceeds EIA/TIA 568-B.2-1 Category 6 specifications	
b.	Spring contact of keystone jacks should be 50 micron gold over 100 micron nickel	
c.	Current rating of keystone jacks should be 1.7amps	
d.	Contact resistance of keystone jacks should be 15 Ohms Max	
e.	Insulation resistance of keystone jacks should be 500M-Ohms min	

3(D). CAT 6 UTP Patch cord 3 Mtr

a.	Unshielded twisted pair 100ohms, stranded cable CAT6	
b.	Meets & Exceeds EIA/TIA 568-B.2-1 category 6 specifications	
c.	Individual cable pairs are separated by a PE former	
d.	Insertion Loss at 600Mhz should be 48.9 db	
e.	Should have Rubber boots	

3(E). 12/24 Port LIU Make: AMP/ CORNING/ DIGI-LINK/ D-LINK/ DIGISOL/ MOLEX / BELDEN

12 duplex port , 19" rack mount LIU/ patch panel with aluminium/MS/steel housing, 2 spools, rubber grommets at entry points, with connector/ adapter panel, integral cable management; fully loaded with 12 nos. SC-SC single mode duplex adapters/couplers with zirconia/phosphor bronze sleeves having insertion loss less than 0.3db and snap latch type mounting mechanism with holding screws.	

3(F). CAT 6 STP Cable Roll OF 305 m (Makes: AMP/AVAYA/BELDEN/DIGILINK/D-Link /DELTAFULL/PANDUIT/DIGISOL/TYCO/ R&M)

a.	Electrical characteristics meet or exceed TIA/EIA-568.C.2	
b.	Conductor – 24 AWG solid bare copper, Insulation- High Density Polyethylene, Pairs-Two insulated conductors twisted together	
c.	Shield-Aluminum /Polyester Foil Tinned copper Braiding Sheath-FR-PVC/ LSZH complies with ASTM D2863, IEC 60332-1, IEC 60754-1(applicable for LSZH)	
d.	Cable diameter-7.3 mm nominal	
e.		

3(G). Network Enclosure Specifications

a.	Enclosure shall be wall mounted with minimum 12U height.	
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- #### 4. Technical Services

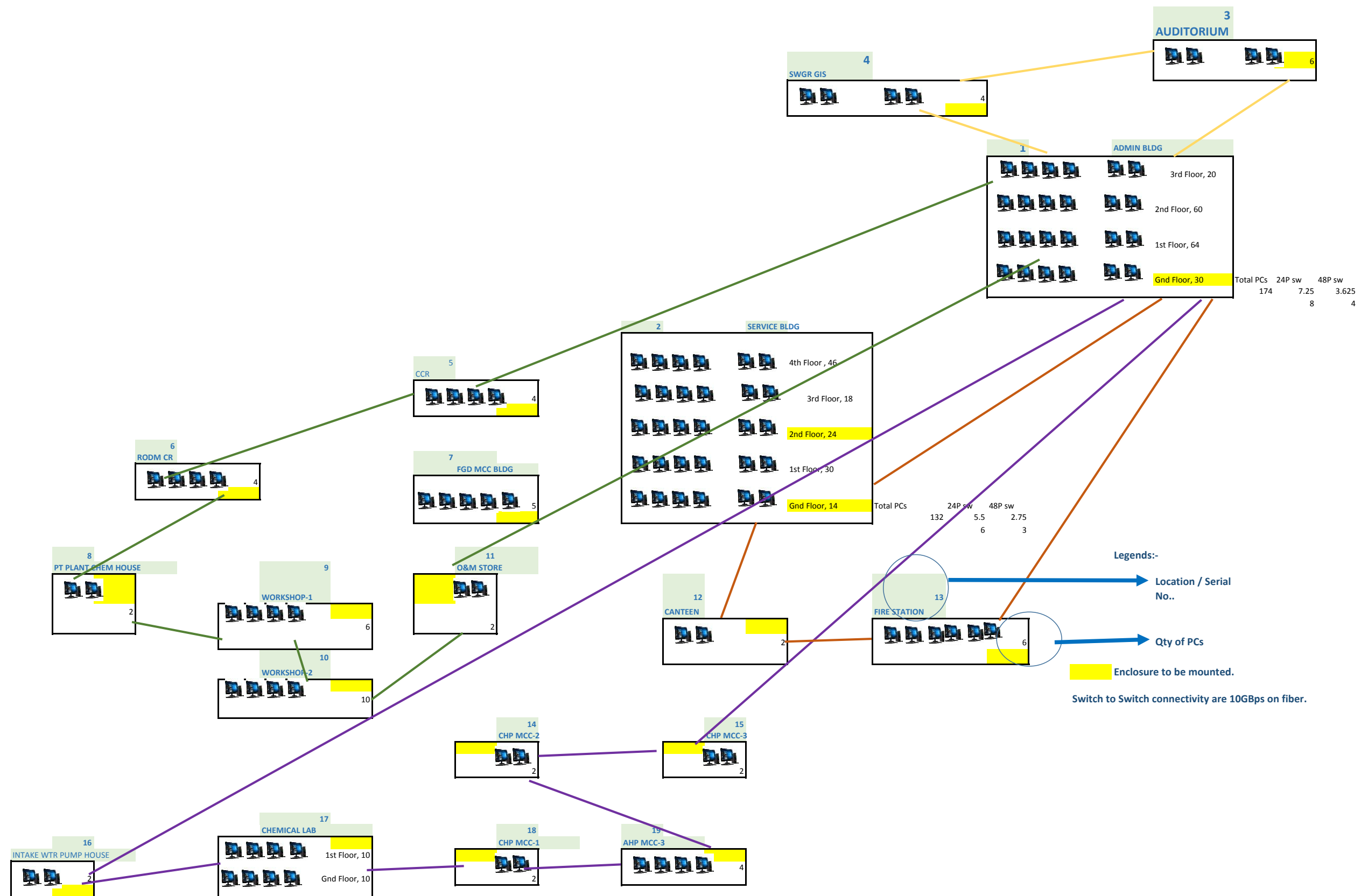
Sl. No.	Service Requirement	Vendor Compliance / Remarks
4A	Scope of work includes the following: 1. Connection of suitable patch cords from LIU to switches 2. Connection of suitable patch cords from jack panel to switches 3. Programming of switches as per the proposed network topology and customer requirement. 4. Demonstration of network redundancy by simulation of faults 5. Demonstration of entire network connectivity among all locations as per scheme (by pinging, rdp, etc), 6. Building the entire network topology through some software covering all switches in various locations 7. Any other configurations required to complete the setup and demonstrate working of entire Office network in totality. Network connectivity to be ensured on browsing Computers at individual network switches in each location/enclosure.	

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				8. Training to Customer Engineers.
	4B	Vendor has to depute their Engineer/Engineers to Project site located in Bangladesh. Project details will be indicated by BHEL/Purchase Dept. along with PO. Site visit expense break-up is as below : 1.) . "Conveyance from Kolkata to Bangladesh is in BHEL scope". Reaching Kolkata is in vendor's scope. This excludes warranty visit due to poor commissioning /poor quality of the items. For warranty visit tickets will be vendors scope. 2.) "Visa is in BHEL scope". 3.) "Local conveyance and accommodation at site in BHEL scope". 4.) Overseas Medical Insurance in vendors scope. Note : Separate Value to be quoted against commissioning is mandatory (non zero) and it should be minimum 5% of the supply price) Vendor has to complete the activity by demonstration , documentation and making MOM with Customer /BHEL site Engineers.		
NOTE: Cable laying and termination in LIU/ Jack Panel as per proposed scheme is in BHEL scope.				
5. Tender General Specifications I. Authorization from Reseller/System Integrator An authorization letter shall be provided by the Reseller/System Integrator for the following: a. Sales and post sales service by the reseller / system integrators. b. Quoted Bill of Material (BOM) should be brand new sourced from OEM. (Refurbished products either from OEM or from third party are not acceptable.) c. Any sub-modules considered for this tender like GBICs / SFP should be from same OEM. II. Documents to be provided along with offer a. Authorization letters from respective OEM for the switches. All the switches quoted should be of the same make. b. Proof for the technical compliance for all items in the form of data sheets/manuals with highlighting the relevant compliance.				

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COPYRIGHT AND CONFIDENTIAL The information contained in this document is the property of BHARAT HEAVY ELECTRICALS LIMITED This must not be used directly or indirectly, in any manner detrimental to the interest of the company	c. Bill of material including technical services in line with Table 1 & 2. d. Proposed Architecture drawing e. Signed copy of filled in compliance / remarks for section 1,2,3 & 4. III. Documents to be submitted for obtaining dispatch clearance a. Test certificate for all the finished Network enclosures b. Test Certificates for switches (Test certificates with serial numbers shall be provided from the respective OEMs/ Reseller/System Integrator) IV. 19” Rack mount hardware : 19” rack mounting hardware / din rail mounting hardware e.g. clamp, nut, screw etc has to be provided for all the applicable components. V. Set up /configuration software & user manuals: All set-up / configuration software should be compatible to windows 10/ windows Server 2016. All the products should be provided with installation, configuration and Error logs etc., either by hard copy or by DVD. VI. Warranty for the system : All the products / components quoted for this tender shall carry three years comprehensive (parts + labor) on-site warranty. Equipment will be at BHEL/EDN for a period of one/two month for configuration and project engineering/demonstration to end customer. Subsequently it will be sent to BIFPCL Maitree STPP 2 x 660 MW plant. *****		

ANNEXURE-I

Connectivity drawing for Maitree Office LAN



A

ANNEXURE-II

Location	Enclosure Qty	Switch type	Switch qty	Jack Panel	LIU	AC/DC Converters for Switches(if required)
Admin building	1	Type-2	2	4	2	2
Service building	2	Type-2	2,4	4,8	2	2,4
Canteen	1	TYPE-3	2	2	2	2
Fire Station	1	TYPE-3	2	2	2	2
SWGR GIS Bldg	1	TYPE-3	2	2	2	2
Auditorium	1	TYPE-3	2	2	2	2
CCR	1	TYPE-3	2	2	2	2
RODM CR	1	TYPE-3	2	2	2	2
PT plant Chemical house	1	TYPE-3	2	2	2	2
Workshop-1	1	TYPE-3	2	2	2	2
Workshop-2	1	TYPE-3	2	2	2	2
FGD MCC building	1	TYPE-3	2	2	2	2
o&M Store	1	TYPE-3	2	2	2	2
Intake Wtr Pump House	1	TYPE-3	2	2	2	2
Chemical LAB	1	TYPE-3	2	2	2	2
AHP MCC-III	1	TYPE-3	2	2	2	2
CHP MCC-I	1	TYPE-3	2	2	2	2
CHP MCC-II	1	TYPE-3	2	2	2	2
CHP MCC-III	1	TYPE-3	2	2	2	2

Note : There may be some changes , if required , at site.