

**Clarification No. – I dated 05.05.2023 to the Bidding Documents for Package- Implementation of Wi-Fi and LAN services inside Farakka Barrage Campus (ER2/NT/W-TELE/DOM/ZA4/23/01245)-Rfx No.5002002668**

Sr. No	Section No.	Clause No.	Page No.	Sub-clause /Heading	Tender Clause	Modification/ Clarification requested as per pre-bid query	Final Proposed Clarification
1	2	2.3.1	2	Stackable 12 Nos SFP Ethernet Port Distribution Switch	Non-Blocking architecture and Stackable	Kindly let us know the required stacking bandwidth. Since it's not a large network, n x 10G interface stacking is enough for the requirement.	Provisions of bidding document remains unchanged
2	2	2.3.1	2		Ports: 12 Nos – 01/10G SFP+ ports, 4 x 10G SFP	26 Nos – 01/10G SFP+ ports, 2 x 40G SFP	Please refer Amendment-1
3	2	2.3.1	2		Ports: 12 Nos – 01/10G SFP+ ports, 4 x 10G SFP	Request to change 24 x 1G SFP, 4 x 10G SFP	Provisions of bidding document remains unchanged
4	2	2.3.1	2		Switching Capacity: 320 Gbps without Stacking BW	Request to change to 128Gbps without stacking BW	Provisions of bidding document remains unchanged
5	2	2.3.1	2		Switching Capacity: 320 Gbps without Stacking BW	Switching Capacity: 1.1 Tbps without Stacking BW	Provisions of bidding document remains unchanged
6	2	2.3.1	3		Security features:, Port security, DHCP snooping, Dynamic ARP inspection (DAI), IP source guard, The Unicast Reverse Path Forwarding (uRPF), Bidirectional data support on a SPAN, User authentication, Private VLAN , Router and VLAN ACLs , complete identity and security, Multidomain authentication, MAC address notification, IGMP filtering, Cisco security VLAN ACL, Secure Shell (SSH) Protocol, Kerberos, and Simple Network Management Protocol Version 3 (SNMPv3), Port-based ACLs, IEEE 802.1ae, TACACS+ and RADIUS authentication, Bridge protocol data unit (BPDU) Guard, Spanning Tree Root Guard (STRG).	Request you to remove the following features: (i) Bidirectional data support on a SPAN (ii) Kerberos (iii) IEEE 802.1ae  Instead of the above, <u>please include PORT MIRRORING</u>	Please refer Amendment-2
7	2	2.3.1	3		Transceivers: have to be of same OEM as LAN Switch.	Clause to be removed	Please refer Amendment-3
8	2	2.3.1	3		Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/NDPP or better certification level.	Request to remove this Clause as EAL/NDPP is foreign Certification. <b>As per PPP MII order dated 4th June 2020 -any MII OEM cannot be disqualified for not having any foreign Certification.</b>	Please refer Amendment-4
9	2	2.3.1	3		Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/NDPP or better certification level.	Our product is MII we have not any foreign certifications	
10	2	2.3.1	3		Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/NDPP or better certification level.	Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/EAL2/NDPP or better certification level.	
11	2	2.3.2	3	24 Port 10/100/1000 Mbps with 4 Nos SFP Ports Access Switch	Non-Blocking architecture and Stackable (Along with Stacking Cable and Separate Ports)	Request to remove Stacking	Provisions of bidding document remains unchanged
12	2	2.3.2	3		Ports: 24x10/100/1000 Base-T + 4xGigabit SFP	Ports: 24x10/100/1000 Base-T + 4x10Gigabit SFP + 2x1/10g sfp	Provisions of bidding document remains unchanged
13	2	2.3.2	3		Switching Capacity: 56 Gbps without Stacking BW	168 Gbps without Stacking BW	Provisions of bidding document remains unchanged
14	2	2.3.2	4		Transceivers: have to be of same OEM as LAN Switch.	Clause to be removed	Please refer Amendment-5
15	2	2.3.2	4		Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/NDPP or better certification level.	Request to remove this Clause as EAL/NDPP is foreign Certification. <b>As per PPP MII order dated 4th June 2020 -any MII OEM cannot be disqualified for not having any foreign Certification.</b>	Please refer Amendment-6
16	2	2.3.2	4		Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/NDPP or better certification level.	Our product is MII we have not any foreign certifications	

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17	2	2.3.2	4		Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/NDPP or better certification level.	Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/EAL2/NDPP or better certification level.	
18	2	2.3.3	4	Next Generation Firewall	Interfaces: 16x GE RJ45 Ports, 8x GE SFP Slots, 4x 10GE/GE SFP+/-SFP Slots, 4x 10GE SFP+ ULL (ultra-low latency) Slots, 2x GE RJ45 Mgmt/HA Ports	Request to change to: Interfaces: 16x GE RJ45 Ports, 8xGE SFP Slots, 4x10G SFP+ & 2x GE RJ45 Mgmt/HA Ports	Please refer Amendment-7
19	2	2.3.3	4		Firewall Throughput: 80 Gbps	Firewall Throughput: 79.5 Gbps	Please refer Amendment-8
20	2	2.3.3	4		NGFW throughput: 8 Gbps	NGFW throughput: 20 Gbps	The mentioned specifications are 'mimumum' and bidder can offer a higher capacity model
21	2	2.3.3	4		Concurrent Sessions: 8000000	Concurrent Sessions: 20000000	Please refer Amendment-9
22	2	2.3.3	4		Concurrent Sessions: 8000000	Concurrent Sessions: 7800000	Please refer Amendment-9
23	2	2.3.3	4		<b>New Sessions Per Second: 500000</b>	Please amend to 350000	Please refer Amendment-10
24	2	2.3.3	4		New Sessions Per Second: 500000	New Sessions Per Second: 400000	Please refer Amendment-10
25	2	2.3.3	4		Log Storage: Min 400 GB local storage	Log Storage: Min 400 GB local storage in RAID	Provisions of bidding document remains unchanged
26	2	2.3.3	4		<b>Common Criteria Certificate:</b> Product series or its' operating system series must have Common Criteria certification with EAL4/NDPP or better certification level.	Request to remove this Clause as EAL/NDPP is foreign Certification. <b>As per PPP MII order dated 4th June 2020 -any MII OEM cannot be disqualified for not having any foreign Certification.</b>	Provisions of bidding document remains unchanged
27	2	2.3.4	5	Video Conferencing Solution (2 Sets) with total 3 nos. 65" Display	Video Protocols: <b>H.263, H.264 AVC, H.264 High Profile, H.264 SVC or better</b>	Video Protocols: H.264 AVC, H.264 High Profile, H.265 or better	Please refer Amendment-11
28	2	2.3.4	5		Video Protocols: H.263, H.264 AVC, H.264 High Profile, H.264 SVC or better	Video Protocols: H.264 AVC, H.264 High Profile	Please refer Amendment-11
29	2	2.3.4	5		Video Protocols: H.263, H.264 AVC, H.264 High Profile, H.264 SVC or better	No= H.264 SVC	Please refer Amendment-11
30	2	2.3.4	5		Microphone: Omnidirectional microphone with mute/unmute visual indication on microphone	Analog Microphone	Provisions of bidding document remains unchanged
31	2	2.3.4	5		Camera:The Camera should High end PTZ camera with following features: minimum 1920x1080 resolution, 65 Degree Field of View, Tilt Range: +/- 15 degree (Up/Down) or better, Pan Range: +/- 90 degree (Left/Right) or better, 1/4" or 1/3" or 1/2.86" CMOS or better Camera, Min Optical Zoom of 10X or better.	Elite FHD Pro 12x	Provisions of bidding document remains unchanged
32	2	2.3.4	5		The minimum free ports available on VC end point after connecting the OEM Camera and Microphones should be : 1 no Gigabit Ethernet Port (RJ45), 1 no. of input HDMI; 1 No of input USB Port, 2 no of output HDMI ports. For Audio it should have 1 no RCA/ 3.5 mm Audio Jack input port and One RCA/3.5mm Audio Jack output.	NO= 1 no. of input HDMI;	Provisions of bidding document remains unchanged
33	2	2.3.5	5		<b>Certification:</b> Wi-Fi Alliance Certified	Replace Wi-Fi Alliance with WPC Certification	Please refer Amendment-12
34	2	2.3.5	5		3X3 MiMo or higher Radios for high density area (admin Block) and 2x2 MiMo Radios for Low Density areas as per BoQ	Request to amend clause as: "2x2 MiMo or higher Radios for high density area (admin Block) and 2x2 MiMo Radios for Low Density areas as per BoQ"	Please refer Amendment-13
35					3X3 MiMo or higher Radios for high density area (admin Block) and 2x2 MiMo Radios for Low Density areas as per BoQ	4X4 MiMo Radios for high density area(admin Block) and 2x2 MiMo Radios for Low Density areas.	Please refer Amendment-13
36	2	2.3.5	5		Ethernet: at least 2 Gigabit Electrical ports	Request to amend clause as: "Ethernet: at least 1 Gigabit Electrical ports"	Please refer Amendment-14
37	2	2.3.5	5		Antenna Gain: 2.4GHz: 4 dBi, 5GHz: 4.29 dBi	Request to ammend clause as: "Antenna Gain: Minimum 4dBi for both bands	Please refer Amendment-15

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38	2	2.3.5	6	Wi-Fi Solution: Wi-Fi AP with POE Injector with (3X3 MiMo) Radios for high density area and (2x2 MiMo) Radios for Low Density areas, Wireless Controller	Wireless Controller should be a purpose-built Rack mountable hardware appliance.	Please clarify whether only 19-inch Rack Mount type is acceptable or any other physical form of server including floor / table mount would be acceptable	Please refer Amendment-16
39	2	2.3.5	6		Wireless Controller should be a purpose-built Rack mountable hardware appliance.	Wireless Controller should be a purpose built Rack mountable hardware appliance./Inbuilt-in Access Point. through External Hardware/inbuilt with AP	Please refer Amendment-16
40	2	2.3.5	6		Mobile OTP & Email based authentication for outsiders should be available with WiFi solution.	This feature is not an inherent function of Wireless Controller. This is a function of AAA Server, which has to be supplied separately. Only Mobile OTP based authentication to be offered for which SMS Gateway also has to be included  1) Please clarify whether bidders can offer external AAA Service? 2) If YES, whether cloud based will be acceptable or in-premise local hardware will be accepted? 3) Also clarify the number of Users to be considered for AAA based authentication and 4) Number of service years to be considered in offer	Bidder may offer these services either through an inbuilt feature in Controller or through an external onpremise Facility for 50 concurrent Guests
41	2	2.3.6	6	6 Core OFC Cable	Constructions: TIA Color Coded, Outdoor, Loose Tube type, Jelly Filled, Polyethylene UV protected jacket for harsh outdoor environment and waterproof, GFR wires strength member, Anti Rodent & Anti Termite.	Constructions: TIA Color Coded, Outdoor, Loose Tube type, Jelly Filled, Polyethylene UV protected jacket for harsh outdoor environment and waterproof, GFR/Steel wires strength member, Anti Rodent & Anti Termite.	Please refer Amendment-17
42	2	2.3.6	6		Constructions: TIA Color Coded, Outdoor, Loose Tube type, Jelly Filled, Polyethylene UV protected jacket for harsh outdoor environment and waterproof, GFR strength member, Anti Rodent & Anti Termite.	Constructions: TIA Color Coded, Outdoor, Loose Tube type, Jelly Filled, Polyethylene UV protected jacket, <b>min 2.0mm thickness</b> for harsh outdoor environment and waterproof, <b>GFR-Aramid / Glass yarns</b> strength member, Anti Rodent & Anti Termite.	Please refer Amendment-17
43	2	2.3.6	6		Crush Resistance: 3000N/10cm	Crush Resistance: 2000N/10cm	Please refer Amendment-18
44	2	2.3.6	6		Attenuation @ 1310 nm :- <= 0.39 dB/km, Attenuation @ 1550 nm :- <= 0.25dB/km	Attenuation @ 1310 nm :- <= 0.35dB/km, Attenuation @ 1550 nm :- <= 0.22dB/km	Provisions of bidding document remains unchanged
45	2	2.3.6	6		Attenuation @ 1310 nm :- <= 0.39 dB/km, Attenuation @ 1550 nm :- <= 0.25 dB/km	Attenuation @ 1310 nm :- <= <b>0.35 dB/km, @1386nm &lt;0.31dB/km</b> ; Attenuation @ 1550 nm :- <= <b>0.23 dB/km</b>	Provisions of bidding document remains unchanged
46	2	2.3.6	6		LSZH Outer Jacket	<del>LSZH</del> -HDPE Outer Jacket. <b>Corrugated steel tape armor of thickness &gt;0.15mm.</b>	Provisions of bidding document remains unchanged
47	2	2.3.6	6		OFC Certification: Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification	OFC Certification: Availability of complete and satisfactory type Factory test Report from OEM/Central Government / NABL/ ILAC/Intertek accredited laboratory to conformity of the Specification	Provisions of bidding document remains unchanged
48	2	2.3.6	6		OFC Certification: Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification	Kindly change to "OFC Certification: Availability of complete and satisfactory <b>RoHS</b> test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification"	Provisions of bidding document remains unchanged
49	2	2.3.6	6		OFC Certification: Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification	OFC Certification: Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC accredited laboratory <b>OR OEM Factory test report</b> : Available	Provisions of bidding document remains unchanged

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50	2	2.3.7	7	Single Mode OFC Patch Cords	OFC Certification: Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification	Kindly change to "OFC Certification: Availability of complete and satisfactory <b>RoHS</b> test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification"	Provisions of bidding document remains unchanged
51	2	2.3.7	7		OFC Certification: Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC/ETL accredited laboratory to conformity of the Specification	OFC Certification: Availability of complete and satisfactory type Factory test Report from OEM/Central Government / NABL/ ILAC/Intertek/ETL accredited laboratory to conformity of the Specification	Provisions of bidding document remains unchanged
52	2	2.3.8	7	OFC 12 port Loaded LIU	19" Rack Mountable	19" Rack Mountable, <b>Sliding and fully factory fitted LIU</b>	Provisions of bidding document remains unchanged
53	2	2.3.8	7		<b>Rugged steel construction in graphite finish</b>	<b>Rugged steel / CRCA construction in graphite finish</b>	Provisions of bidding document remains unchanged
54	2	2.3.8	7		Contains management rings to accommodate excess fibre cordage and maintain fibre bend radius	Contains management rings / <b>radius control guides</b> to accommodate excess fibre cordage and maintain fibre bend radius	Provisions of bidding document remains unchanged
55	2	2.3.8	7		Removable lid	<b>Shall be fully enclosed sliding shelf with protective locking mechanism.</b>	Provisions of bidding document remains unchanged
56	2	2.3.8	7		OFC Certification: Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification: Available	OFC Certification: Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC accredited laboratory <b>OR OEM Factory test report: Available</b>	Provisions of bidding document remains unchanged
57	2	2.3.8	7		OFC Certification: Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification: Available	Kindly change to "OFC Certification: Availability of complete and satisfactory <b>RoHS</b> test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification"	Provisions of bidding document remains unchanged
58	2	2.3.9	7	UTP Cat6 Cable	Conductor DC Resistance: 66.5Ω/km	Conductor DC Resistance: <7.610hm/100m	Provisions of bidding document remains unchanged
59	2	2.3.9	7		Cable jacket material type: LSZH	Cable jacket material type: LSZH as per IEC 60332-3-22, IEC 61034-2	Provisions of bidding document remains unchanged
60	2	2.3.9	7		UL Listed	UL Listed / ETL verified	Provisions of bidding document remains unchanged
61	2	2.3.9	7		RoHS compliant	RoHS and IEEE 802.3bt Type 4 compliant. Bandwidth upto 600MHz.	Provisions of bidding document remains unchanged
62	2	2.3.10	7	UTP Cat6 Patch Cord	ROHS Compliant	ROHS, UL1863 Compliant. Shall be certified for IEEE 802.3 zero BER transmission test for 1000GBase-T protocol.	Provisions of bidding document remains unchanged
63	2	2.3.10	7		Pre-terminated	Pre-terminated, LSZH Sheath	Provisions of bidding document remains unchanged
64	2	2.3.11 (B3)	8	UTP Cat6 Patch Panel 24 port	Contact Material: Copper Alloy	Contact Material: Copper Alloy; 1.5A current rating, 500 Mohm insulation resistance	Provisions of bidding document remains unchanged
65	2	2.3.11 (C1)	8		Material: CRS (cold rolled steel)	Material: CRS (cold rolled steel) / Powder coated steel. Shall have rear cable manager.	Provisions of bidding document remains unchanged
66	2	2.3.11 (C2)	8		Coating: Graphite Grey Powder coat	Coating: Graphite Grey / Black Powdercoat	Please refer Amendment-19
67	2	2.3.12 (B2)	8	UTP Cat6 Keystone Jacks and Face Plate	Operating Life: Minimum 20 re-terminations	Operating Life: Minimum 200 reterminations	Provisions of bidding document remains unchanged
68	2	2.3.12 (B3)	8		Contact Material: Copper Alloy	Contact Material: Copper Alloy; 1.5A current rating, 500 Mohm insulation resistance	Provisions of bidding document remains unchanged
69	2	2.3.12 (D)	9		Cat6 Certification: Valid verified certificate from ERTL/ETL /Intertek/3P /GHMT /Delta/UL as per CAT 6 standards ANSI/TIA/EIA-568 C.2 latest or ISO/IEC:11801 latest is available	Cat6 Certification: Valid verified certificate from ERTL/ETL /Intertek/3P /GHMT /Delta/UL as per CAT 6 standards ANSI/TIA/EIA-568 C.2 latest or ISO/IEC:11801 latest and 6 connector channel for 100m report is available	Provisions of bidding document remains unchanged
70	2	2.3.15 (A1)	9		Voltage Range: 110-220V	110-230 v	Please refer Amendment-20

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71	2	2.3.15 (A1)	9	UPS with Isolation transformer (2 KVA and 6KVA)	Voltage Range: 110-220V	160-270 v	Please refer Amendment-20
72	2	2.3.15 (B3)	10		Output Voltage: 220V/230V/240V AC	200VAC/208VAC/220VAC/230VAC/240VAC	Provisions of bidding document remains unchanged
73	2	2.3.15 (B1)	10		O/P Power Factor and Efficiency: 0.8 & 85%	>90%	Provisions of bidding document remains unchanged
74					Backup Time: at least 4 Hrs on full load	Please clarify full load as either capacity of the UPS or planned load with 20% headroom	Full Load to be considered as the "Capacity of the UPS".
75	2	2.3.15 (C4)	10		Charging Time: 90% capacity in 3 hrs	9-10 hrs to charge 90% battery capacity	Please refer Amendment-21
76	2	2.3.15 (C4)	10		Charging Time: 90% capacity in 3 hrs	Charging Time: 9-10 hrs	Please refer Amendment-21
77					Warranty on Battery	Warranty on Battery are always for 2 years. In order to extend support for 5 years as per the overall tender terms, bidder has to completely replace the batteries twice - one at the beginning of 3rd year and another at the beginning of 5th year. Please clarify on this or amend the warranty on UPS battery to 2 years only so that new batteries could be replaced at additional cost at the above periods	Bidder may replace battery without additional Cost to Employer
78	2	2.3.19	12	3 KVA Isolation Transformer	Automatic Bypass: activates in case of a fault condition	Kindly change to manual bypass switch in case of fault condition	Provisions of bidding document remains unchanged
79	2	2.4	12		Technical Specification for earthing	Please inform break-up of Pipe Type Earthing & Maintenance Free Earthing.	Bidders may conduct a site survey for estimation of no. of each type of earthing required.
80	2	2.4	12		<b>Pipe Type Earthing :</b> The Contractor shall provide the pipe type earthing along with the necessary hardware and accessories required. Minimum two earth pits shall be made at each location. However, if required resistivity is not met, then, sufficient nos. of pipe type earthing shall be provided by the Contractor. Two nos. of earth pits per location have been considered in BoQ, however, payment shall done for earth pits actually erected as per the requirements. The Contractor shall submit the earthing pit diagram for Employer's approval.	1. Connectivity from Earthing Pit to Rack is not mentioned. (Copper Strip or Cable), approximate length required 2. In Earth Pits Please confirm GI Strip, GI Plate will be used or Copper Strip, Copper Plate will be used. Also provide recommended dimension for Strip and Plate 3. In Single Earth Pit please confirm number of Strips required and dimension 4. Kindly confirm Depth of each Earth Pit	Please refer Amendment- 22  1. Bidders may conduct a site survey for estimation of length etc.  2,3,4. The contractor may propose suitable earthing to comply with earthing resistance requirement of not exceeding the two (2) ohms, as per Technical Specifications.
81	2	2.4	13	Technical Specification for earthing	<b>Earth Electrode:</b> One high tensile low carbon steel core electrode of minimum 3000mm long and minimum 17mm diameter complying BS 4360 Grade 43A or EN10025:2-004 S275JR, molecularly bonded by 99.99% pure high conductivity copper on outer surface with thickness 250 micron (minimum) shall be provided in each pit. The design of earth electrode should be such as to have more than 25 kA current carrying capacity for 1 second. Test certificate for current carrying capacity shall be provided from CPRI or other NABL accredited lab.  GI bus bar of size 250 mm x 50mm x 6 mm shall be exothermically welded to rod with 6 holes of 12 mm dia. (3 on each side) for connecting earthing conductor.  Offered Earth Electrode should be UL approved (UL-467).	1. Request to change GI Bus Bar to Copper Bus Bar as it is not a standard practice 2. Please accept Test certificate for current carrying capacity also from <b>UL/ IEC</b> 3. <b>Exothermical welding should be changed to Mechanical Clamp joint as it will be more economically viable considering lesser no of quantity.</b> 4. Connectivity from GI Bus Bar to Rack is not mentioned. (Copper Strip or Cable), and approximate length required. Please clarify & specify	1. Please refer Amendment- 23 2. Please refer Amendment- 23 3. Please refer Amendment- 23  4. Connectivity from GI/Copper Bus Bar can be extended through either through Copper strip or through cable as per site requirements. Bidders may conduct a site survey for estimation of length of same

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82	2	2.4	13		<p><b><u>Earth Enhancement Material :</u></b>  Earth Enhancement Material shall be provided in the earthing pit around the earth electrode to improve the earthing effectiveness, especially in areas of poor conductivity (rocky ground, areas of moisture variation, sandy soils etc.) .....</p> <p>Offered Earth Enhancement Material should conform to IEC 62561-7 and should be RoHS compliant. Test certificates from NABL accredited lab for resistivity, Sulphur content, leaching and non-corrosive property shall be furnished.</p>	Please also accept Test certificates from <b>IEC</b> accredited lab for resistivity, Sulphur content, leaching and non-corrosive property.	Please refer Amendment-24
83	Appendix-B	2	1	Appendix-B (Service BoQ)	Underground OFC laying Charges (including HDPE pipe installation, manholes, route markers, OFC blowing, <u>splicing &amp; termination as per specifications</u> )	Please confirm Route Marker Material Type (PCC or any other) & at how much distance it is required	Route Marker Material type:RCC
84	Appendix-B	2	1		Underground OFC laying Charges (including HDPE pipe installation, manholes, route markers, OFC blowing, <u>splicing &amp; termination as per specifications</u> )	Please confirm approx No. of Manholes or at how much distance we should consider	Bidders may conduct a site survey for estimation of same

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Sr. No.	Amendment Number	Vol. No.	Clause No.	Page No.	Sub-clause /Heading	Existing Clause	Amended Clause
1	1	2	2.3.1	2		Ports: 12 Nos – 01/10G SFP+ ports, 4 x 10G SFP	Minimum 12 Nos – 01/10G SFP+ ports, 4 x 10G SFP or 2 x 40G SFP
2	2	2	2.3.1	3	Stackable 12 Nos SFP Ethernet Port Distribution Switch	Security features: Port security, DHCP snooping, Dynamic ARP inspection (DAI), IP source guard, The Unicast Reverse Path Forwarding (uRPF), Bidirectional data support on a SPAN, User authentication, Private VLAN , Router and VLAN ACLs , complete identity and security, Multidomain authentication, MAC address notification, IGMP filtering, Cisco security VLAN ACL, Secure Shell (SSH) Protocol, Kerberos, and Simple Network Management Protocol Version 3 (SNMPv3), Port-based ACLs, IEEE 802.1ae, TACACS+ and RADIUS authentication, Bridge protocol data unit (BPDU) Guard, Spanning Tree Root Guard (STRG).	Security features: Port security, DHCP snooping, Dynamic ARP inspection (DAI), IP source guard, The Unicast Reverse Path Forwarding (uRPF), User authentication, Private VLAN , Router and VLAN ACLs , complete identity and security, Multidomain authentication, MAC address notification, IGMP filtering, Cisco security VLAN ACL, Secure Shell (SSH) Protocol, and Simple Network Management Protocol Version 3 (SNMPv3), Port-based ACLs, TACACS+ and RADIUS authentication, Bridge protocol data unit (BPDU) Guard, Spanning Tree Root Guard (STRG), Port Mirroring
3	3	2	2.3.1	3		Transceivers: have to be of same OEM as LAN Switch.	Transceivers: have to be of same OEM as LAN Switch OR the offered Transceiver should be MSA compliant and duly certified by Switch OEM for full functionality
4	4	2	2.3.1	3		Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/NDPP or better certification level.	Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL2/NDPP or better certification level.
5	5	2	2.3.2	4	24 Port 10/100/1000 Mbps with 4 Nos SFP Ports Access Switch	Transceivers: have to be of same OEM as LAN Switch.	Transceivers: have to be of same OEM as LAN Switch OR the offered Transceiver should be MSA compliant and duly certified by Switch OEM for full functionality
6	6	2	2.3.2	4		Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL3/NDPP or better certification level.	Common Criteria Certificate: Product series or its' operating system series must have Common Criteria certification with EAL2/NDPP or better certification level.
7	7	2	2.3.3	4	Next Generation Firewall	Interfaces: 16x GE RJ45 Ports, 8x GE SFP Slots, 4x 10GE/GE SFP+/SFP Slots, 4x 10GE SFP+ ULL (ultra-low latency) Slots, 2x GE RJ45 Mgmt/HA Ports	Interfaces: 16x GE RJ45 Ports, 8xGE SFP Slots, 4x10G SFP+ & 2x GE RJ45 Mgmt/HA Ports
8	8	2	2.3.3	4		Firewall Throughput: 80 Gbps	Firewall Throughput: 79.5 Gbps
9	9	2	2.3.3	4		Concurrent Sessions: 8000000	Concurrent Sessions: 7800000
10	10	2	2.3.3	4		<b>New Sessions Per Second: 500000</b>	<b>New Sessions Per Second: 300000 or above</b>
11	11	2	2.3.4	5	Video Conferencing Solution (2 Sets) with total 3 nos. 65" Display	Video Protocols: H.263, H.264 AVC, H.264 High Profile, H.264 SVC or better	Video Protocols: H.264 AVC, H.264 High Profile, H.265 or better
12	12	2	2.3.5	5		<b>Certification: Wi-Fi Alliance Certified</b>	<b>Certification: WPC Certified</b>
13	13	2	2.3.5	5	Wi-Fi Solution: Wi-Fi AP with POE Injector with (3X3 MiMo) Radios for high density area and (2x2 MiMo) Radios for Low Density areas, Wireless Controller	3X3 MiMo or higher Radios for high density area (admin Block) and 2x2 MiMo Radios for Low Density areas as per BoQ	3x3 or 4X4 MiMo Radios for high density area(admin Block) and 2x2 MiMo Radios for Low Density areas.
14	14	2	2.3.5	5		Ethernet: at least 2 Gigabit Electrical ports	Ethernet: at least 1 Gigabit Electrical ports
15	15	2	2.3.5	5		Antenna Gain: 2.4GHz: 4 dBi, 5GHz: 4.29 dBi	Antenna Gain: Minimum 4dBi for both bands
16	16	2	2.3.5	6		Wireless Controller should be a purpose-built Rack mountable hardware appliance.	Wireless Controller should be a purpose-built Rack mountable hardware appliance OR VM based Wireless controller with Virtualized Software and Application along with 19" Rack Mount Kit. Hardware for VM shall also be in the scope of bidder
17	17	2	2.3.6	6	6 Core OFC Cable	Constructions: TIA Color Coded, Outdoor, Loose Tube type, Jelly Filled, Polyethylene UV protected jacket for harsh outdoor environment and waterproof, GFR wires strength member, Anti Rodent & Anti Termite.	Constructions: TIA Color Coded, Outdoor, Loose Tube type, Jelly Filled, Polyethylene UV protected jacket for harsh outdoor environment and waterproof, GFR/Steel wires strength member, Anti Rodent & Anti Termite.
18	18	2	2.3.6	6		Crush Resistance: 3000N/10cm	Crush Resistance: 2000N/10cm
19	19	2	2.3.11 (C2)	8	UTP Cat6 Patch Panel 24 port	Coating: Graphite Grey Powder coat	Coating: Graphite Grey / Black Powdercoat
20	20	2	2.3.15 (A1)	9	UPS with Isolation transformer (2 KVA and 6KVA)	Voltage Range: 110-220V	Voltage Range: 110-230V
21	21	2	2.3.15 (C4)	10		Charging Time: 90% capacity in 3 hrs	Charging Time: 90% capacity in 9-10 hrs
22	22	2	2.4	12		<b>Pipe Type Earthing :</b> The Contractor shall provide the pipe type earthing along with the necessary hardware and accessories required. Minimum two earth pits shall be made at each location. However, if required resistivity is not met, then, sufficient nos. of pipe type earthing shall be provided by the Contractor. Two nos. of earth pits per location have been considered in BoQ, however, payment shall done for earth pits actually erected as per the requirements. The Contractor shall submit the earthing pit diagram for Employer's approval.	<b>Pipe Type Earthing :</b> The Contractor shall provide the pipe type earthing along with the necessary hardware and accessories required. Minimum one earth pits shall be made at each location. However, if required resistivity is not met, then, sufficient nos. of pipe type earthing shall be provided by the Contractor. One nos. of earth pits per location have been considered in BoQ, however, payment shall done for earth pits actually erected as per the requirements. The Contractor shall submit the earthing pit diagram for Employer's approval.

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23	23	2	2.4	13	Technical Specification for earthing	<p><b>Earth Electrode:</b> One high tensile low carbon steel core electrode of minimum 3000mm long and minimum 17mm diameter complying BS 4360 Grade 43A or EN10025:2-004 S275JR, molecularly bonded by 99.99% pure high conductivity copper on outer surface with thickness 250 micron (minimum) shall be provided in each pit. The design of earth electrode should be such as to have more than 25 kA current carrying capacity for 1 second. Test certificate for current carrying capacity shall be provided from CPRI or other NABL accredited lab.</p> <p>GI bus bar of size 250 mm x 50mm x 6 mm shall be exothermically welded to rod with 6 holes of 12 mm dia. (3 on each side) for connecting earthing conductor.</p> <p>Offered Earth Electrode should be UL approved (UL-467).</p>	<p><b>Earth Electrode:</b> One high tensile low carbon steel core electrode of minimum 3000mm long and minimum 17mm diameter complying BS 4360 Grade 43A or EN10025:2-004 S275JR, molecularly bonded by 99.99% pure high conductivity copper on outer surface with thickness 250 micron (minimum) shall be provided in each pit. The design of earth electrode should be such as to have more than 25 kA current carrying capacity for 1 second. Test certificate for current carrying capacity shall be provided from CPRI/ NABL/UL/IEC accredited lab.</p> <p>GI/Copper bus bar of size 250 mm x 50mm x 6 mm shall be exothermically welded or Mechanically clamped to rod with 6 holes of 12 mm dia. (3 on each side) for connecting earthing conductor.</p> <p>Offered Earth Electrode should be IEC/UL approved (UL-467)</p>
24	24	2	2.4	13		<p><b>Earth Enhancement Material :</b> Earth Enhancement Material shall be provided in the earthing pit around the earth electrode to improve the earthing effectiveness, especially in areas of poor conductivity (rocky ground, areas of moisture variation, sandy soils etc.) .....</p> <p>Offered Earth Enhancement Material should conform to IEC 62561-7 and should be RoHS compliant. Test certificates from NABL accredited lab for resistivity, Sulphur content, leaching and non-corrosive property shall be furnished.</p>	<p><b>Earth Enhancement Material :</b> Earth Enhancement Material shall be provided in the earthing pit around the earth electrode to improve the earthing effectiveness, especially in areas of poor conductivity (rocky ground, areas of moisture variation, sandy soils etc.).</p> <p>Offered Earth Enhancement Material should conform to IEC 62561-7 and should be RoHS compliant. Test certificates from NABL/IEC accredited lab for resistivity, Sulphur content, leaching and non-corrosive property shall be furnished.</p>
25	25	Section-3, Vol-I	3	1	BID DATA SHEETS (BDS)	<p>-----Any Bidder from a country which shares a land border with India will be eligible to bid only if the Bidder is registered with the Competent Authority as per order no. F.No.6/18/2019-PPD (Order Public Procurement no.1) dated 23/07/2020 and F.No.6/18/2019-PPD (Order Public Procurement no.2) dated 23/07/2020, issued by Public Procurement Division, Department of Expenditure, Ministry of Finance, Government of India (DoE Order). Registration should be valid at the time of submission of bids as per ITB 17 and at the time of Notification of Award as per ITB 33.-----</p>	<p>-----Any Bidder from a country which shares a land border with India will be eligible to bid only if the Bidder is registered with the Competent Authority as per order no. F.No.6/18/2019-PPD (Order Public Procurement no.1) dated 23/07/2020 and F.No.6/18/2019-PPD (Order Public Procurement no.2) dated 23/07/2020 and F.No.7/10/2021-PPD(1) (Order Public Procurement no.4) dated 23/02/2023 issued by Public Procurement Division, Department of Expenditure, Ministry of Finance, Government of India (DoE Order). Further any bidder (including bidder from India) having specified Transfer of Technology (ToT) arrangement with an entity from a country which shares land border with India, shall also require to be registered with same competent authority. Registration should be valid at the time of submission of bids as per ITB 17 and at the time of Notification of Award as per ITB 33.-----</p>
26	26	Vol-III	Attachment-23		First Envelope & Bid Form	Format is enclosed	Revised Format enclosed at Appendix-I.



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Appendix-I

Attachment-23

Implementation of Wi-Fi and LAN services inside Farakka Barrage Campus  
Spec. No.: ER2/NT/W-TELE/DOM/ZA4/23/01245

**Certification by the Bidder per order no. F.No.6/18/2019-PPD dated 23/07/2020 and F.No.7/10/2021-PPD(1) dated 23/02/2023 issued by Public Procurement Division, Department of Expenditure, Ministry of Finance, Government of India (DoE Order) in line with ITB 2.1**

*(In case of a Joint Venture bid, the declaration/ certification shall be given by all partners of the Joint Venture)*

Bidder's Name and Address:

To:

Name:.....

Contract Services

Address:.....

Power Grid Corporation of India Limited,

.....

CF-17, Eastern Region Telecom Control  
Centre, Kolkata, West Bengal

Dear Sir,

We have read and understood the provisions of Order no. F.No.6/18/2019-PPD (Order Public Procurement no.1) dated 23/07/2020 regarding "Restriction under Rule 144(xi) of General Financial Rules" and F.No.6/18/2019-PPD (Order Public Procurement no.2) dated 23/07/2020 regarding "Exclusions from Restriction under Rule 144(xi) of General Financial Rules", **and F.No.7/10/2021-PPD(1) (order Public Procurement no.4) dated 23/02/2023 regarding "Restriction under Rule 144(xi) of General Financial Rules"** issued by Public Procurement Division, Department of Expenditure, Ministry of Finance, Government of India [hereinafter collectively "DoE Order"] and any subsequent modifications/ Amendments, if any.

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Particularly, we, the Bidder, have read the clause regarding restrictions on procurement from a 'Bidder of a country which shares a land border with India' and on sub-contracting to contractors from such countries, **and on procurement from a bidder having Transfer of Technology (ToT) arrangement.**

We certify that we, the bidder [and our proposed Associates]\* is/are not from such a country or, if from such a country, has been registered **as per provisions of the Bidding Documents** with the Competent Authority and will not subcontract any work to a subcontractor/sub vendor from such countries unless such subcontractor/sub vendor fulfils all requirement in this regard and is eligible to be considered. [*Where applicable, evidence of valid registration by the Competent Authority shall be attached.*]

*\* Applicable in case of packages under GCB*

**We certify that we, the bidder does not have any ToT arrangement requiring registration with competent authority.**

**OR**

**We certify that we, the bidder has valid registration to participate in this procurement.**

We further declare that any misrepresentation or submission of false/forged document/information in this regard shall be dealt with as per the provisions of Integrity Pact and/or Bidding Documents and/or POWERGRID's policy and procedures.

Date:

Printed Name:

Place:

Designation: