

**OIL INDIA LIMITED**  
(A Government of India Enterprise)  
P.O. Duliajan, Pin – 786602  
Dist-Dibrugarh, Assam

**CORRIGENDUM NO. 3 DATED 23.06.2023 to Tender No. CDI3556P24 for ‘Revamp & Maintenance of Access Layer Data Network in FHQ Duliajan, Assam’.**

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This Corrigendum is issued to notify the following changes:

1. The following points have been amended/newly incorporated in Section-IV ‘Schedule of Work, Unit and Quantity (SOQ) Revised’ as highlighted below:

<b>Sl No.</b>	<b>Clause No.</b>	<b>Original Tender Clause</b>	<b>Modified/Newly incorporated Tender Clause</b>
1.	Item No. A SUPPLY, Line Item No. 60,  Supply of 12 core FOC (outdoor)  Point No. 5 iii.	1380-1386nm <= 0.26db/Km	1380-1386nm <= 0.31db/Km
2.	Item No. A SUPPLY, Line Item No. 100	Supply of IO Boxes (with faceplates and Backbox) including CAT6 I/O port to host RJ45 connectivity	Supply of IO Boxes (with faceplates and Backbox) including CAT6 I/O port to host RJ45 connectivity with the following specs:  i. Supporting 10BaseTx/100BaseTx/1000BaseTx (Gigabit) Ethernet communications. ii. Meeting industry Standard parameters for CAT6. iii. Compliant to EIA/TIA-568-A/B wiring standard for CAT-6 and UL Twisted pair qualification program iv. Qualified with TIA Certified Cable Tester. v. Universal (TIA 568A/B) Colour coded connecting blocks with horizontal crimp style for easy wiring.

All others terms and conditions of the Bid Document remain unchanged. Details can be viewed at [www.oil-india.com](http://www.oil-india.com).

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**SECTION-IV**

**Schedule of Work, Unit and Quantity (SOQ) Revised**

**Revamp & Maintenance of Access Layer Data Network in FHQ Duliajan, Assam.**

Item No.	Description of Services	UOM	Estimated Quantity
<b>A</b>	<b><u>SUPPLY</u></b>		
10	<p>Supply of 24 port network switch</p> <ol style="list-style-type: none"><li>1. Form factor: Height 1U (1.75 inch) max, mountable on wall, desk, rack with mounting kit. (Rack mounting kit to be supplied along with the device)</li><li>2. Ports:<ol style="list-style-type: none"><li>i) Min 4 x 10GbE SFP+</li><li>ii) 24 x 1G copper ports</li><li>iii) Switches should be populated with minimum 4 x 10G single mode optical transceivers from day-1, supporting minimum 2 KM distance from same OEM</li></ol></li><li>3. Switching Bandwidth (full-duplex capacity): Minimum 128 Gbps non-blocking switching capacity.</li><li>4. Power Supply: 230V 50HZ AC (Indian Standard), Power Cable must be supplied</li><li>5. Layer 2 feature: 802.1Q VLAN tagging with minimum number of VLAN supported: 1000 STP (802.1D), Rapid-Spanning Tree (802.1w), MSTP (802.1s) VTP/802.1ak or equivalent for registration/configuration of multiple VLANs LACP (IEEE 802.3ad) or equivalent for port-based redundancy LLDP (802.1AB), At least 1024 ARP entries.</li><li>6. Security features: IEEE 802.1x, RADIUS, TACACS+, Port-based (at least 256 ingress &amp; 256 egress) &amp; VLAN-based (at least 256 ingress &amp; 256 egress) ACLs for IPv4 as well as IPv6 MAC based security on per port.</li></ol>	Nos. (Numbers)	50

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	<ol style="list-style-type: none"><li>7. Management: SSHv2, as well as Web/HTTP/HTTPS (GUI) based management. SNMP v1, v2 and v3.</li><li>8. QoS: 802.1p QoS/CoS and Classification based on IP address, MAC address, VLAN, TCP/UDP port number.</li><li>9. Console Port: Required</li><li>10. Switch should be provided with NBD (Next Business Day) hardware replacement warranty and ongoing software upgrades for all major and minor releases for a period of 5 years.</li><li>11. The offered product must be EAL2/NDPP/NDcPP/FIPS 140-2 certified.</li></ol>		
20	<p>Supply of 48 port network switch</p> <ol style="list-style-type: none"><li>1. Form factor: Height 1U (1.75 inch) max, mountable on wall, desk, rack with mounting kit. (Rack mounting kit to be supplied along with the device)</li><li>2. Ports:<ol style="list-style-type: none"><li>i) Min 4 x 10GbE SFP+</li><li>ii) 48 x 1G copper ports</li><li>iii) Switches should be populated with minimum 4 x 10G single mode optical transceivers from day-1, supporting minimum 2 KM distance from same OEM</li></ol></li><li>3. Switching Bandwidth (full-duplex capacity): Minimum 176 Gbps non-blocking switching capacity.</li><li>4. Power Supply: 230V 50HZ AC (Indian Standard), Power Cable must be supplied.</li><li>5. Layer 2 feature: 802.1Q VLAN tagging with minimum number of VLAN supported: 1000 STP (802.1D), Rapid-Spanning Tree (802.1w), MSTP (802.1s) VTP/802.1ak or equivalent for registration/configuration of multiple VLANs LACP (IEEE 802.3ad) or equivalent for portbased redundancy LLDP (802.1AB), At least 1024 ARP entries.</li><li>6. Security features: IEEE 802.1x,</li></ol>	Nos. (Numbers)	90

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	<p>RADIUS, TACACS+, Port-based (at least 256 ingress &amp; 256 egress) &amp; VLAN-based (at least 256 ingress &amp; 256 egress) ACLs for IPv4 as well as IPv6 MAC based security on per port.</p> <p>7. Management: SSHv2, as well as Web/HTTP/HTTPS (GUI) based management. SNMP v1, v2 and v3.</p> <p>8. QoS: 802.1p QoS/CoS and Classification based on IP address, MAC address, VLAN, TCP/UDP port number.</p> <p>9. Console Port: Required</p> <p>10. Switch should be provided with NBD (Next Business Day) hardware replacement warranty and ongoing software upgrades for all major and minor releases for a period of 5 years.</p> <p>11. The offered product must be EAL2/NDPP/NDcPP/FIPS 140-2 certified.</p>		
30	<p>Supply of 12 port network switch</p> <p>1. Form factor: Height 1U (1.75 inch) max, mountable on wall, desk, rack with mounting kit. (Rack mounting kit to be supplied along with the device)</p> <p>2. Ports:</p> <p>i) Min 2 x 10GbE SFP+</p> <p>ii) 12 x 1G copper ports</p> <p>iii) Switches should be populated with 2 x 10G SFP single mode optical transceivers from day-1, supporting minimum 2 KM distance from same OEM.</p> <p>3. Switching Bandwidth (full-duplex capacity): Minimum 64 Gbps non-blocking switching capacity.</p> <p>4. Power Supply: 230V 50HZ AC (Indian Standard), Power Cable must be supplied.</p> <p>5. Layer 2 feature: 802.1Q VLAN tagging with minimum number of VLAN supported: 1000 STP (802.1D), Rapid-Spanning Tree (802.1w), MSTP (802.1s) VTP/802.1ak or equivalent for registration/configuration of multiple</p>	Nos. (Numbers)	30

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	<p>VLANs LACP (IEEE 802.3ad) or equivalent for port based redundancy LLDP (802.1AB), At least 1024 ARP entries.</p> <p>6. Security features: IEEE 802.1x, RADIUS, TACACS+, Port-based (at least 256 ingress &amp; 256 egress) &amp; VLAN-based (at least 256 ingress &amp; 256 egress) ACLs for IPv4 as well as IPv6 MAC based security on per port.</p> <p>7. Management: SSHv2, as well as Web/HTTP/HTTPS (GUI) based management. SNMP v1, v2 and v3.</p> <p>8. QoS: 802.1p QoS/CoS and Classification based on IP address, MAC address, VLAN, TCP/UDP port number.</p> <p>9. Console Port: Required</p> <p>10. Switch should be provided with NBD (Next Business Day) hardware replacement warranty and ongoing software upgrades for all major and minor releases for a period of 5 years.</p> <p>11. The offered product must be EAL2/NDPP/NDcPP/FIPS 140-2 certified.</p>		
40	<p>Distribution type 02 switch - 48 Port.</p> <p>1. Form factor: Height 1U (1.75 inch) max, mountable on wall, desk, rack with mounting kit. (Rack mounting kit to be supplied along with the device)</p> <p>2. Ports:</p> <p>i) Min 12 x 10GbE SFP+</p> <p>ii) 36 x 1G SFP ports</p> <p>iii) Switches should be populated with 12 x 10G LR and 36 x 1G LH/LX optical transceivers single mode optical transceivers from the same OEM from day-1.</p> <p>3. Switching Bandwidth (full-duplex capacity): Minimum 312 Gbps non-blocking switching capacity.</p> <p>4. Power Supply: 230V 50HZ AC (Indian Standard), Power Cable must be supplied.</p> <p>5. Layer 2 feature: 802.1Q VLAN tagging</p>	Nos. (Numbers)	7

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	<p>with minimum number of VLAN supported: 1000 STP (802.1D), Rapid-Spanning Tree (802.1w), MSTP (802.1s) VTP/802.1ak or equivalent for registration/configuration of multiple VLANs LACP (IEEE 802.3ad) or equivalent for port based redundancy LLDP (802.1AB), At least 1024 ARP entries.</p> <ol style="list-style-type: none"> <li>6. Security features: IEEE 802.1x, RADIUS, TACACS+, Port-based (at least 256 ingress &amp; 256 egress) &amp; VLAN-based (at least 256 ingress &amp; 256 egress) ACLs for IPv4 as well as IPv6 MAC based security on per port.</li> <li>7. Management: SSHv2, as well as Web/HTTP/HTTPS (GUI) based management. SNMP v1, v2 and v3.</li> <li>8. QoS: 802.1p QoS/CoS and Classification based on IP address, MAC address, VLAN, TCP/UDP port number.</li> <li>9. Console Port: Required</li> <li>10. Switch should be provided with NBD (Next Business Day) hardware replacement warranty and ongoing software upgrades for all major and minor releases for a period of 5 years.</li> <li>11. The offered product must be EAL2/NDPP/NDcPP/FIPS 140-2 certified.</li> </ol>		
50	<p>Supply of 12 core FOC (indoor)</p> <ol style="list-style-type: none"> <li>1. Cable Type: 12 core single mode fibre, non-armored complying to EIA/TIA 568 standards; suitable for use for indoor fibre cabling</li> <li>2. Color coding: All 12 fibres must be color coded as per TIA standard.</li> <li>3. Jacket material: Low Smoke Zero Halogen and Flame Retardant outer jacket with min jacket thickness of 2mm.</li> <li>4. Test Reports: OEM factory test reports must be provided against each drum/roll of fibre cable.</li> <li>5. Qualification: Qualification: Offered</li> </ol>	M (Metres)	10000

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	<p>product OEM shall be member of global TIA committee or a Member of BICSI. Latest membership Certificate to be submitted.</p> <p>6. a. Tensile Strength: 800N or better  b. Crush Resistance (short): 220N/cm or better  c. Crush Resistance (long): 110N/cm or betterd.  d. Operational temperature range: -20 deg C to +60 deg. C</p>		
60	<p>Supply of 12 core FOC (outdoor)</p> <ol style="list-style-type: none"> <li>1. Cable Type: 12 core single mode fibre, Armoured, Loose-tube, Gel filled cable complying to ISO/IEC 11801, EN50173, ANSI/TIA 568-C.3; suitable for use in direct burial, outdoor ducts and backbone cabling</li> <li>2. fibre Type: Single Mode, 9/125/250 micron primary coated buffers, OS2 (IEC 60793-1, IEC 60794-2 and ITU T G652.d)</li> <li>3. Color coding: All 12 fibres must be color coded as per TIA standard.</li> <li>4. Armour: Corrugated Steel Tape Armour of min. 0.15 mm thickness</li> <li>5. Attenuation: <ol style="list-style-type: none"> <li>i. 1310nm &lt;=0.36 db/Km MAX</li> <li>ii. 1550nm &lt;=0.24 db/Km MAX</li> <li>iii. 1380-1386nm &lt;= 0.31db/Km</li> </ol> </li> <li>6. Loose tube material: Single PBTP Loose tube filled with water blocking Thixotropic gel</li> <li>7. Jacket material: Low Smoke Zero Halogen and Flame Retardant outer jacket with min jacket thickness of 1.8mm.</li> <li>8. Peripheral Strength Member: Water Swellable Glass yarn strength members</li> <li>9. Tensile Strength: 1250N or better</li> <li>10. Crush Resistance: 3000N or better</li> <li>11. Cable Diameter: maximum 10 mm</li> <li>12. Operating temperature: -20 degree C to 70 Degree C</li> <li>13. Test Reports: OEM factory test reports must be provided against each drum/</li> </ol>	M (Metres)	40000

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	<p>roll of fibre cable.</p> <p>14. Qualification: Offered product OEM shall be member of global TIA committee or a Member of BICSI. Latest membership Certificate to be submitted.</p> <p>15. RoHS Compliant.</p>		
70	<p>Supply of UTP 6 Cable</p> <ol style="list-style-type: none"> <li>1. Category 6 Solid UTP Cable Box: ANSI/TIA-568-C.2 latest or ISO/IEC:11801 latest.</li> <li>2. Outer Diameter: Maximum 6mm</li> <li>3. Conductor diameter: Maximum 0.6mm</li> <li>4. Conductor type: 23 AWG bare solid copper</li> <li>5. Characteristic Impedence: Maximum 100+/-10 Ohm @300 Mhz</li> <li>6. DC Resistance: Maximum 75 Ohm/km</li> <li>7. Insulation Resistance: Minimum 500 MOhm/km</li> <li>8. Jacket Material: LSZH</li> <li>9. RoHS Compliant.</li> </ol>	M (Metres)	200000
80	Supply of overhead poles - 9m	Nos. (Metres)	400
90	Supply of HDPE pipes - 32mm	M (Metres)	25000
100	<p>Supply of IO Boxes (with faceplates and Backbox) including CAT6 I/O port to host RJ45 connectivity with the following specs:</p> <ol style="list-style-type: none"> <li>i. Supporting 10BaseTx/100BaseTx/1000BaseTx (Gigabit) Ethernet communications.</li> <li>ii. Meeting industry Standard parameters for CAT6.</li> <li>iii. Compliant to EIA/TIA-568-A/B wiring standard for CAT-6 and UL Twisted pair qualification program.</li> <li>iv. Qualified with TIA Certified Cable Tester.</li> </ol>	Nos. (Numbers)	4500

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	v. Universal (TIA 568A/B) Colour coded connecting blocks with horizontal crimp style for easy wiring.		
110	Supply of PVC conduits, channels (40 mm)	M (Metres)	40000
120	Supply of route markers	Nos. (Numbers)	500
130	Supply of fibre patch cords - 3 mtr 1. Connector: LC-LC 2. Length: 3 Mtr 3. Cable Jacket: LSZH, Metal Free 4. Insertion Loss: max 0.3 dB 5. Buffer: tightly buffered 6. Compliance: Must be ROHS/ELV compliant.	Nos. (Numbers)	500
140	Supply of UTP patch cords - 2 mtr (user) 1. Type: Category 6 Unshielded Twisted Pair 4 pair cable shall be compliant with ANSI/TIA/EIA-568-B.2-1 Additional Transmission Performance Specifications for 4-pair Category 6 Cabling. 2. Supports ultrahigh speed data networks such as Gigabit Ethernet (1000 Base-T and 1000 Base-TX) and beyond. 3. Cable Jacket: LSZH, Metal Free 4. Compliance: Must be ROHS/ELV compliant	Nos. (Numbers)	500
150	Supply of LIUs - fully-loaded (96F) 1. Ports: 96 Port rack mountable 2. Height: 2U 3. Material: min 16 gauge Steel 4. Cable Entry Points: Min 2 Nos. 5. Drawer Style Shelf i. Easy Access To Splicing Tray ii. Easy Access To Back Side Of Connector 6. Compliance: Must be ROHS/ELV compliant 7. Should be supplied and loaded with LC adapters, splice trays, LC SM Pigtails,	Nos. (Numbers)	30

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	<p>fiber management rings, etc.</p> <p>8. Should be fully loaded and factory fitted assembly with no assembling required during installation at site</p> <p>9. Accessories:</p> <p>i. Pre-Loaded with grounding kits</p> <p>ii. Sealed Cable Inlets For Dust And Rodent Protection</p>		
160	<p>Supply of LIUs - fully-loaded (48F)</p> <p>1. Ports: 48 Port rack mountable</p> <p>2. Height: 1U</p> <p>3. Material: min 16 gauge Steel</p> <p>4. Cable Entry Points: Min 2 Nos.</p> <p>5. Drawer Style Shelf</p> <p>i. Easy Access To Splicing Tray</p> <p>ii. Easy Access To Back Side Of Connector</p> <p>6. Compliance: Must be ROHS/ELV compliant</p> <p>7. Should be supplied and loaded with LC adapters, splice trays, LC SM Pigtails, fiber management rings, etc.</p> <p>8. Should be fully loaded and factory fitted assembly with no assembling required during installation at site</p> <p>9. Accessories:</p> <p>i. Pre-Loaded with grounding kits</p> <p>ii. Sealed Cable Inlets for Dust And Rodent Protection</p>	Nos. (Numbers)	40
170	<p>Supply of LIUs - fully-loaded (12F)</p> <p>1. Ports: 12 Port rack mountable</p> <p>2. Height: 1U</p> <p>3. Material: min 16-gauge Steel</p> <p>4. Cable Entry Points: Min 2 Nos.</p> <p>5. Drawer Style Shelf</p> <p>i. Easy Access to Splicing Tray</p> <p>ii. Easy Access to Back Side Of Connector</p> <p>6. Compliance: Must be ROHS/ELV compliant</p> <p>7. Should be supplied and loaded with LC adapters, splice trays, LC SM Pigtails, fiber management rings, etc.</p> <p>8. Should be fully loaded and factory fitted assembly with no assembling</p>	Nos. (Numbers)	60

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	<p>required during installation at site</p> <p>9. Accessories:</p> <p>i. Pre-Loaded with grounding kits</p> <p>ii. Sealed Cable Inlets for Dust And Rodent Protection</p>		
180	<p>Supply of SFPs, SM, 1G long range (same OEM as above switches)</p> <p>1. SFP, 1G, SMF 10km and MMF 550m, Operating Temperature 0° to 70° C, Duplex LC connector</p>	Nos. (Numbers)	180
190	<p>Supply of SFPs, SM, 10G long range compatible (same OEM as above switches)</p> <p>1. SFP+, 10GBASE-LR, SMF 10 km Long Range Duplex LC connector, Operating Temperature 0° to 70° C</p>	Nos. (Numbers)	30
200	<p>Supply of SFPs, SM, 10G long range for existing switches</p> <p>1. SFP+, 10GE, Operating Temperature 0° to 70° C</p> <p>Existing switches Make &amp; Model:</p> <p>1. Juniper - QFX5110-48S-AFO</p> <p>2. Dlink - DGS-1510-28X</p> <p>3. Digisol - DG-GS2628SE2 / DG-GS4652SE2</p>	Nos. (Numbers)	30
210	Supply of GI conduits (length to be defined) 50mm	M (Metres)	500
220	Supply of UTP patch cords - 1 mtr (rack)	Nos. (Numbers)	3500
230	Supply of UTP patch cords - 3 mtr (user)	Nos. (Numbers)	1000
240	<p>24 port patch panel 1U - fully loaded.</p> <p>1. Type: 19" 24-port unloaded - product used in both Category 6 link and channel gigabit Ethernet applications.</p> <p>Type: Each port could have a color coded jack, which is matching with</p>	Nos. (Numbers)	250

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	<p>patch cord. Offering both front and rear labelling options, the patch panel is constructed of cold-rolled steel for additional strength and durability.</p> <p>2. Ports: 24</p> <p>3. Plastic Housing Jack Connector: Polycarbonate, UL94V-0 rated or equivalent.</p> <p>4. Front Connector interface: RJ45</p> <p>5. Circuit Identification Scheme: Icons on each of 24-ports</p> <p>6. Port Identification: 9mm or 12mm Labels on each of 24-ports (to be included in supply)</p> <p>7. Height 1 U: 1.75 inches</p> <p>8. ROHS/ELV: Compliant</p>		
250	32 mm silicon HDPE coupler & jointer	Nos. (Numbers)	500
260	PVC box type trunking	M (Metres)	21000
270	9U rack	Nos. (Numbers)	65
280	15U rack	Nos. (Numbers)	30
290	27U rack	Nos. (Numbers)	10
300	1U PVC cable manager - 3" deep (hinged type)	Nos. (Numbers)	250
310	Miscellaneous hardware & accessories to set up the access layer network	LS (Lump sum)	1

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320	24 port network switch configuration & installation	Nos. (Numbers)	50
330	48 port network switch configuration & installation	Nos. (Numbers)	90
340	12 port network switch configuration & installation	Nos. (Numbers)	30
350	Distribution type 2 switch - 48 port configuration & installation	Nos. (Numbers)	7
<b>B</b>	<b><u>LAYING, INSTALLATION &amp; COMMISSIONING</u></b>		
360	Laying of outdoor FO cables	M (Metres)	18000
370	Laying of indoor FO cables	M (Metres)	10000
380	Laying of overhead FO cables	M (Metres)	22000
390	Laying of PVC conduits, channels, UTP/STP cables	M (Metres)	40000
400	Laying of cable route marker	Nos. (Numbers)	500
410	Laying of GI conduits	Nos. (Numbers)	500
420	Mounting of LIUs	Nos. (Numbers)	30
430	FO cable splicing	Nos. (Numbers)	3120
440	Crimping of RJ 45/fixing and connecting I/O boxes (with faceplate, gang box, ferruling, labeling, penta testing)	Nos. (Numbers)	3500

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450	Pole erection in Industrial Area	Nos. (Numbers)	400
460	Trenching/HDD other OIL locations (soft soil)	M (Metres)	2000
470	Road crossing (boring/road cutting/drain/culvert/river crossing) (hard soil)	M (Metres)	500
480	Laying of UTP cable (outdoor)	M (Metres)	200000
490	Installation & fixing of PVC cable trunking/channel	M (Metres)	21000
500	Laying & Fixing of HDPE Pipe	M (Metres)	25000
510	Installation of 24Port patch panel with termination	Nos. (Numbers)	250
520	Installation of PVC cable manager 1U	Nos. (Numbers)	250
530	Installation of 27U floor mount racks	Nos. (Numbers)	10
540	Installation of 9U/15U wall mount racks	Nos. (Numbers)	95
550	Installation, laying & patching of OFC patch cords - for UPLINKS & DOWNLINKS	Nos. (Numbers)	500
560	Misc civil work for during revamp of access layer	LS (Lump sum)	1
570	Implementation, integration, project management and documentation, penta scanning charges and dismantling of old OFC, CAT cable, rack, patch panel, I/O etc.	LS (Lump sum)	1
<b>C</b>	<b><u>MAINTENANCE</u></b>		

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580	Maintenance of access layer including NOC Monitoring	QTR (Quarter)	20.00
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**Notes:**

- i) The payment against supply of switches shall be made after successful delivery and acceptance of the switches.
- ii) Payment against the supply of passive items shall be released after actual delivery of the items.
- iii) All other remaining payments against cable laying, pole erecting, installation & configuration of switches etc. shall be released after successful completion of installation & commissioning of the access layer network.
- iv) Payments against routine maintenance of access layer including NOC monitoring shall be released on quarterly basis after completion of the quarter.

*End of SOQ*