

**UBL-PROJECT-S AND T/SOUTH WESTERN RLY
TENDER DOCUMENT**

Tender No: SG-SWR-P-MPLS-VSS-EX-TCCS

Closing Date/Time: 15/11/2021 15:00

Dy.CSTE/Project/Hubli acting for and on behalf of The President of India invites E-Tenders against Tender No **SG-SWR-P-MPLS-VSS-EX-TCCS** Closing Date/Time 15/11/2021 15:00 Hrs. Bidders will be able to submit their original/revised bids upto closing date and time only. Manual offers are not allowed against this tender, and any such manual offer received shall be ignored.

Contractors are allowed to make payments against this tender towards tender document cost and earnest money only through only payment modes available on IREPS portal like net banking, debit card, credit card etc. Manual payments through Demand draft, Banker cheque, Deposit receipts, FDR etc. are not allowed.

1. NIT HEADER

Name of Work	Design, Planning, Supply, installation, configuration, integration and commissioning of a secure, reliable, scalable and converged communication system for 230+ stations over SWR consisting of IP based communication network with an IP- MPLS (Internet Protocol- MultiProtocol label Switching) backbone interconnecting required computing resources and integrating SIP (Session Initiation Protocol)/VoIP (Voice over Internet Protocol) based train control and exchange communication and VSS (video surveillance system) as per description and specifications enclosed.		
Bidding type	Normal Tender		
Tender Type	Open	Bidding System	Two Packet System
Tender Closing Date Time	15/11/2021 15:00	Date Time Of Uploading Tender	14/10/2021 21:56
Pre-Bid Conference Required	Yes	Pre-Bid Conference Date Time	27/10/2021 11:00
Advertised Value	805407068.35	Tendering Section	TENDER SEC
Bidding Style	[Decision at Schedule level]	Bidding Unit	
Earnest Money /Bid Security (Rs.)	0.00	Validity of Offer (Days)	60
Obtain Bid Security Declaration in lieu of Bid Security	Yes		
Tender Doc. Cost (Rs.)	0.00	Period of Completion	12 Months
Contract Type	Works	Contract Category	Expenditure
Bidding Start Date	01/11/2021	Are Joint Venture (JV) firms allowed to bid	Yes
Ranking Order For Bids	Lowest to Highest	Expenditure Type	Capital (Works)

2. SCHEDULE

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule A1-SOR ITEMS, Sub-Work A - IP MPLS							19300.40	Above/ Below/Par
1	Please see Item Breakup for details.				19300.40	AT Par	19300.40	
	Description:- Sub-Work A - IP MPLS(Multi Protocol Label Switching)							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule A2-NON SOR ITEMS Sub-Work A - IP MPLS , Routers, Manageable Switches and Accessories							189671241.04	Above/ Below/Par
1	Please see Item Breakup for details.				189671241.04	AT Par	189671241.04	
	Description:- Sub-Work A - IP MPLS , Routers,Manageable Switches and Accessories							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule A3-Non SOR Items, Sub-Work A IP MPLS- Servers, NMS and Work Stations							43024703.01	Above/ Below/Par
1	Please see Item Breakup for details.				43024703.01	AT Par	43024703.01	
	Description:- Non SOR Items, Sub-Work A IP MPLS- Servers, NMS and Work Stations							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule A4-NON SOR Items Sub-Work A IP MPLS- Switches							29096676.00	Above/ Below/Par
1	Please see Item Breakup for details.				29096676.00	AT Par	29096676.00	
	Description:- NON SOR Items Sub-Work A IP MPLS- Switches							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule A5-Non SOR Items, Sub-Work A IP MPLS -FDMS , Cables and U Rack							9391133.02	Above/ Below/Par

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1	Please see Item Breakup for details.	9391133.02	AT Par	9391133.02	
	Description:- Non SOR Items, Sub-Work A IP MPLS -FDMS , Cables and U Rack				

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule A6-Non SOR Items, Sub-Work A IP MPLS-Labour and Training							9111538.00	Above/ Below/Par
1	Please see Item Breakup for details.				9111538.00	AT Par	9111538.00	
	Description:- Non SOR Items, Sub-Work A IP MPLS-Labour and Training							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B1-SOR ITEMS: Sub-Work A, Video Surveillance System (VSS)							122913.00	Above/ Below/Par
1	Please see Item Breakup for details.				122913.00	AT Par	122913.00	
	Description:- SOR ITEMS: Sub-Work A, Video Surveillance System (VSS)							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B2-NON SOR Items Sub-Work B Video Surveillance System (VSS)- IP CAMERAS							73113744.00	Above/ Below/Par
1	Please see Item Breakup for details.				73113744.00	AT Par	73113744.00	
	Description:- NON SOR Items Sub-Work B Video Surveillance System (VSS)- IP CAMERAS							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B3-Non SOR Items, Sub-Work B VSS - Servers and Work Station							108799763.19	Above/ Below/Par
1	Please see Item Breakup for details.				108799763.19	AT Par	108799763.19	
	Description:- Non SOR Items, Sub-Work B VSS - Servers and Work Station							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B4-Non SOR Items, Sub-Work B VSS -Switches with accessories							37474523.98	Above/ Below/Par
1	Please see Item Breakup for details.				37474523.98	AT Par	37474523.98	
	Description:- Non SOR Items, Sub-Work B VSS - Switches with accessories							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B5-Non SOR Items, Sub-Work B , VSS - FDMS, U RACK, and CABLES							60709565.87	Above/ Below/Par
1	Please see Item Breakup for details.				60709565.87	AT Par	60709565.87	
	Description:- Non SOR Items, Sub-Work B , VSS - FDMS, U RACK, and CABLES							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B6-Non SOR Items, Sub-Work B VSS- Power Supply							26889460.06	Above/ Below/Par
1	Please see Item Breakup for details.				26889460.06	AT Par	26889460.06	
	Description:- Non SOR Items, Sub-Work B VSS- Power Supply							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B7-Non SOR Items, Sub-Work B, VSS - TOOLS							3431086.80	Above/ Below/Par
1	Please see Item Breakup for details.				3431086.80	AT Par	3431086.80	
	Description:- Non SOR Items, Sub-Work B, VSS - TOOLS							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule B8-Non SOR Items, Sub-Work B, VSS- Labour and Training							46240121.63	Above/ Below/Par
1	Please see Item Breakup for details.				46240121.63	AT Par	46240121.63	
	Description:- Non SOR Items, Sub-Work B, VSS- Labour and Training							

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S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C1-SOR ITEMS: VOIP Based TCCS & SIP							199298.40	Above/ Below/Par
1	Please see Item Breakup for details.				199298.40	AT Par	199298.40	
Description:- SOR ITEMS: VOIP Based TCCS & SIP								

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C2-NON SOR Item Sub-Work C, TCCS & SIP- IP Phones							27575620.00	Above/ Below/Par
1	Please see Item Breakup for details.				27575620.00	AT Par	27575620.00	
	Description:- NON SOR Item Sub-Work C, TCCS & SIP- IP Phones							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C3-Non SOR Items, Sub-Work C, TCCS&SIP - Servers, Consoles, and Licenses							61804948.08	Above/ Below/Par
1	Please see Item Breakup for details.				61804948.08	AT Par	61804948.08	
	Description:- Non SOR Items, Sub-Work C, TCCS&SIP - Servers, Consoles, and Licenses							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C4-NON SOR Items, Sub-Work C, TCCS & SIP- Gateways and Switches							40698595.00	Above/ Below/Par
1	Please see Item Breakup for details.				40698595.00	AT Par	40698595.00	
	Description:- NON SOR Items, Sub-Work C, TCCS&SIP- Gateways and Switches							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C5-NON SOR Items, Sub-Work C, TCCS&SIP - FDMS,U Rack , Cables , and Accessories							16538774.67	Above/ Below/Par
1	Please see Item Breakup for details.				16538774.67	AT Par	16538774.67	
	Description:- NON SOR Items, Sub-Work C, TCCS&SIP - FDMS,U Rack , Cables , and Accessories							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C6-NON SOR Items , Sub-Work C, TCCS&SIP - Power Supply							10030446.00	Above/ Below/Par
1	Please see Item Breakup for details.				10030446.00	AT Par	10030446.00	
	Description:- NON SOR Items , Sub-Work C, TCCS&SIP - Power Supply							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C7-NON SOR Items, Sub-Work C, TCCS&SIP - Tools							2176248.00	Above/ Below/Par
1	Please see Item Breakup for details.				2176248.00	AT Par	2176248.00	
	Description:- NON SOR Items, Sub-Work C, TCCS&SIP - Tools							

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
Schedule C8-NON SOR Items, Sub-Work C, TCCS & SIP - Labour and Training							9287368.20	Above/ Below/Par
1	Please see Item Breakup for details.				9287368.20	AT Par	9287368.20	
	Description:- NON SOR Items, Sub-Work C, TCCS&SIP - Labour and Training							

3. ITEM BREAKUP

Schedule	Schedule A1-SOR ITEMS, Sub-Work A - IP MPLS							
Item- 1	Sub-Work A - IP MPLS(Multi Protocol Label Switching)							
S No.	Item No	Description of Item			Unit	Qty	Rate	Amount

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1	10_521(a)	Transportation of S&T materials by road as per the instruction of railway representatives at site. The work also include loading and unloading of the materials upto 100KM	MT-Km	400.00	18.20	7280.00
2	10_521(b)	Transportation of S&T materials by Road as per the instruction of railway representatives at site. The work also include loading and unloading of the materials more than 100KM	MT-Km	1080.00	11.13	12020.40
					Total	19300.40
Schedule	Schedule A2-NON SOR ITEMS Sub-Work A - IP MPLS , Routers, Manageable Switches and Accessories					
Item- 1	Sub-Work A - IP MPLS , Routers,Manageable Switches and Accessories					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply of Standard 19" Rack Mountable LER(Label Edge Router) , IP- MPLS Router with Redundant -48V DC Power Supply, 2 x 10G SFP+ Ports along with 2 Nos of 40 Kms 10G SF P+ LC Modules, 4 x 1Gbe Optical interface Module along with 4 Nos of 1Gbe SM BX SFP(10KMs) Modules and 4 x 1Gbe Copper WAN based interfaces & Modules , with Minimum 1 or more Additional Slot to add any one of the following interfaces : 16 x E1, 32 x E1 , 2 x STM1 (Channelised). Non Blocking throughput Mounting kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020.Inspection RDSO	Numbers	291.00	369963.04	107659244.64
2	2	Supply of Standard 19" Rack Mountable Modular Chassis LSR (Label Switch Router) IP- MPLS Router with Redundant -48V DC Power Supply, Redundant Controller Card, 8 x 10G SFP+ Ports along with 8 Nos of 40 Kms 10G SFP+ Modules, 32 E1 card with Adapter and modules along with patch panels, 4x1G Optical SFP Ports with BX SM Modules and 4 x 1Gbe Copper WAN based interfaces & Modules, 2x STM-1(Channelised) along with 2 Nos of SFP(S.1.1) Modules Compatible with Existing STM-1.Non Blocking throughput .Mounting Kit with all necessary accessories & Software/Perpetual Licenses. As Per RDSO Document No. STT/TAN/IP-MPLS/2020. Inspection RDSO	Numbers	28.00	1676273.00	46935644.00
3	3	Installation, Commissioning & Testing of LER & LSR IP MPLS Routers including supply & Installation of all the accessories like Power cable, Earthing Cable,6 Nos for LER & 8 Nos for LSR Optical Patch Cords of 3 mtrs, 4 Nos Cat 6 Patch Cords of 1 mtrs, 6A MCBs, wiring etc required for Routers). Detailed Specification in Technical Document	Numbers	319.00	12161.00	3879359.00
4	4	Supply and installation and Commissioning of 16 port E1 Card along with Patch panel/Krone Module for above Routers with all accessories etc.Detailed Specification in Technical Document. Inspection RDSO.	Numbers	291.00	101480.00	29530680.00
5	5	2 x 10G Adapter Module with 2 Nos. of 10G SFP+ Modules for above Routers. Inspection RDSO	Numbers	3.00	56640.00	169920.00
6	6	8 x1G Adapter Module without SFP for above Routers. Inspection RDSO.	Numbers	6.00	59472.00	356832.00
7	7	2x STM 1 Adapter Module with 2 Nos. of STM-1, 15 km, SFP modules for above Routers. Inspection RDSO.	Numbers	3.00	261550.54	784651.62
8	8	10G SFP+ Module with 40 Km range for above Routers. Inspection RDSO	Numbers	3.00	97989.56	293968.68
9	9	1G SFP Module with 10 Km range for above Routers.Inspection RDSO	Numbers	15.00	1180.00	17700.00
10	10	Supply of STM-1 SFP Module with 15 Km range with all accessories for above Routers. Inspection RDSO.	Numbers	3.00	8832.30	26496.90

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11	11	Supply of 10/100/1000 Base-T Copper Ethernet Transceiver SFP Module with all accessories. Inspection RDSO	Numbers	3.00	5581.40	16744.20
					Total	189671241.04
Schedule	Schedule A3-Non SOR Items, Sub-Work A IP MPLS- Servers, NMS and Work Stations					
Item- 1	Non SOR Items, Sub-Work A IP MPLS- Servers, NMS and Work Stations					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply, installation, Testing and Commissioning of Network Management System(NMS) inclusive of Software and Perpetual Licenses for Minimum 4500 Network Elements including L3 switches, L2 Switches, UPS, Gateways and other Network Elements with SNMP Support.[Detailed Specification in Technical Document] Inspection RITES	Numbers	2.00	17700000.00	35400000.00
2	2	Supply and Installation of Server Based Network Management System inclusive of Hardware and Software for Network Elements including Switches , Servers, etc. of Multiple makes at Data Centre(DC & DR). Inspection RDSO. This item shall be operated along with item No.16 above. Detailed Specification in Technical Document enclosed.	Lot	3.00	2362709.27	7088127.81
3	3	Supply & installation of PC Workstation/Maintenance Console and it shall comply with Para no. G of RDSO Document No. STT/TAN/IP-MPLS/2020 Ver 1.0 or latest. [Detailed Specification in Technical Document]. Inspection RDSO	Numbers	3.00	69700.00	209100.00
4	4	Supply and Installation 55-inch full UHD Monitor 4K . [Detailed Specification in Technical Document]. Inspection:Consignee	Numbers	6.00	54579.20	327475.20
					Total	43024703.01
Schedule	Schedule A4-NON SOR Items Sub-Work A IP MPLS- Switches					
Item- 1	NON SOR Items Sub-Work A IP MPLS- Switches					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply and Installation of Standard 19-inch Rack Mountable Layer 3, 24 Port Managed Switch with 24 Nos of 10/100/1000 Ethernet Ports POE + Support with Redundant AC Power Supply, Dedicated Stacking Module 4 x 1 GE SFP Ports for uplink including 4 Nos of 1 GE BX SM SFP Modules loaded, as Per specification given. Mounting Kit with all necessary accessories. Inspection RDSO	Numbers	266.00	109386.00	29096676.00
					Total	29096676.00
Schedule	Schedule A5-Non SOR Items, Sub-Work A IP MPLS -FDMS , Cables and U Rack					
Item- 1	Non SOR Items, Sub-Work A IP MPLS -FDMS , Cables and U Rack					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply and Termination of 12 Fiber 12 SC Type Rack Mountable FDMS loaded with SC 'O' DB & Adaptor SC SM Pigtail 1.5 meters with all the accessories required for installation [Detailed Specification in Technical Document] Inspection: RITES	Numbers	692.00	9841.79	6810518.68
2	2	Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement [Detailed Specification in Technical Document] Inspection: Consignee	Numbers	1235.00	175.90	217236.50
3	3	Splicing /Dropping/Termination of each Fiber /Pigtail in the LIU/FDMS/IOBox/Termination Joints through fusion Splicing of the termination of OFC Cables. [Detailed Specification in Technical Document]	CORE	8024.00	45.44	364610.56
4	4	Supply of STP CAT- 6 Cable compliant with latest EIA/TIA-568-B-2-1 Standard for CAT 6 Cable 305 Meters Roll /Bundle. [Detailed Specification in Technical document] Inspection:RITES	Metre	22000.00	33.20	730400.00

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5	5	Supply of 12 Core Metal Strengthened Outdoor Unarmoured Optic Fibre Cable (ITUTG-652-D) and all the accessories required for installation, as per latest TEC/BSNL Specification.[Detailed Specification in Technical Document]Inspection: RITES.	Metre	18000.00	12.98	233640.00
6	6	Supply of PVC insulated 3 Core 6 Sqmm,12 AWG 12.1 KV Grade Outdoor Strengthen Copper Cable. [Detailed Specification in Technical Document]. Inspection Consignee	Metre	300.00	203.33	60999.00
7	7	Supply of CAT 6 UTP Patch Cord-2 Meters as defined in Specification .Inspection:Consignee	Numbers	300.00	75.99	22797.00
8	8	Supply and installation/fixing of Wall Mountable RJ45 Socket and Face Plate with shutter and network module as per details in Technical document. Inspection Consignee	Numbers	221.00	393.60	86985.60
9	9	Supply of RJ 45 connector suitable for STP/UTP cable [Detailed Specification inTechnical Document] Inspection: Consignee	Numbers	400.00	2.85	1140.00
10	10	Supply & Installation of 19" 42U 1200mm Depth Telecom Rack with StandardAccessories (Closed type) with front door Glass type, all doors should be removable type [DetailedSpecification in Technical Document] Inspection RITES.	Numbers	6.00	43979.78	263878.68
11	11	Supply and Installation of 19 inch 42U 600mm Depth Telecom Rack withStandard Accessories (Closed type)Front Door Glass type, all doors should be removable type[Detailed Specification in Technical Document]Inspection RITES	Numbers	17.00	35231.00	598927.00
					Total	9391133.02
Schedule	Schedule A6-Non SOR Items, Sub-Work A IP MPLS-Labour and Training					
Item- 1	Non SOR Items, Sub-Work A IP MPLS-Labour and Training					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply and Fixing of PVC Conduit Pipe minimum 35 mm Dia ISI Mark. Installation ofPVC Pipe, clamping of the same on Wall, Pole etc. including with required clamps & and all theinstallation materials required. [Detailed Specification in Technical Document] Inspection: RITES	Metre	18000.00	32.38	582840.00
2	2	Supply of PLB HDPE Duct of Size 40/33 mm Outer and with all Accessories,Installation on Wall or Structure HDD etc. along with all Accessories required for fixing, Clamping Cutting, as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest. Inspection: RDSO	Metre	23000.00	89.49	2058270.00
3	3	Trenching and laying of HDPE Duct in Normal Soil and blowing of OFC Cable[Detailed Specification in Technical Document]	Metre	23000.00	172.00	3956000.00
4	4	Supply and Laying of DWC Pipe 77/63 mm dia with couplers as per RDSO Spec NoRDSO/SPN/204/2011 Version 1.1 and as per the direction of site Engineer. [Detailed Specificationin Technical Document] Inspection RITES	Metre	300.00	118.00	35400.00
5	5	Supply and fixing of GI pipes - 50mm dia -3.65mm thick, along with clamps and allthe accessories required for installations as per Specification given. Inspection: RITES	Metre	300.00	269.28	80784.00
6	6	Opening of existing Joint enclosure and Splicing 2/4 additional fiber Inside already prepared jointing pit and Providing anti termites/ant Powder. Closing of Existing Joint and Back filling is included. This does not Include provision of joint chambers, top plates.	Numbers	289.00	3000.00	867000.00

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7	7	Breaking of Pucca/Concrete Road, PF Cutting/wall cutting ,Laying of OFC/STP/Power cable etc in Trenches and through all types of protection Viz HDPE/GI/RCC/DWC/PVC Pipes as the case may be. This includes restoration of surface and stone pavement/Pavers	Metre	2000.00	437.30	874600.00
8	8	Boring & Trenching cabling along with supply and insertion of HDPE Pipe PE 80 PNo of 40 mm dai with min 6.7 mm and Max 7.6 mm wall thickness as per IS 4984-95, in the bore forthe laying of Telecom/Power cable under the Track /road/HDPE Pipe is to be supplied by thecontractor.	Metre	300.00	148.20	44460.00
9	9	Blowing & Drawing of OFC 24F/12F/6F Power Cable, Switch Board Cable and CATCable (including crimping) through PVC Conduit/Duct/DWC/GI Pipe already installed	Metre	39700.00	4.72	187384.00
10	10	Training of personnel over and above the on-site/OEM premises training, during the installation, maintenance and supervision period as detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by the Railway.	Man-Week	18.00	23600.00	424800.00
					Total	9111538.00
Schedule	Schedule B1-SOR ITEMS: Sub-Work A, Video Surveillance System (VSS)					
Item- 1	SOR ITEMS: Sub-Work A, Video Surveillance System (VSS)					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	10_521(a)	Transportation of Signaling materials by road as per the instructions of the Railway representative at site. The work also includes loading and unloading of the materials. a)Transportation up to 100 kms.	MT-Km	1800.00	18.20	32760.00
2	10_521(b)	Transportation of Signaling materials by road as per the instructions of the Railway representative at site. The work also includes loading and unloading of the materials. b) Transportation more than 100 kms.	MT-Km	8100.00	11.13	90153.00
					Total	122913.00
Schedule	Schedule B2-NON SOR Items Sub-Work B Video Surveillance System (VSS)- IP CAMERAS					
Item- 1	NON SOR Items Sub-Work B Video Surveillance System (VSS)- IP CAMERAS					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply, Installation, Testing and Commissioning of Full HD Fixed Dome type IP Colour Camera along with 128 GB or Higher SD Card, Housing & Mount and all accessories required for installation purposes as per RDSO Spec No RDSO/SPN/TC/65/2021,Rev 6.0 or latest. Inspection RDSO	Numbers	744.00	17464.00	12993216.00
2	2	Supply, Installation, Testing and Commissioning of Full HD Fixed Bullet type IP Colour Camera along with 128 GB or Higher SD Card, housing and mount and all accessories required for installation purposes per RDSO Spec No RDSO/SPN/TC/65/2021,Rev 6.0 or latest.Inspection RDSO	Numbers	1708.00	18408.00	31440864.00
3	3	Supply, Installation, Testing and Commissioning of Full HD PTZ type IP Colour Camera along with 128 GB or Higher SD Card, housing and mount and all accessories required for installation purposes as per RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO	Numbers	274.00	68440.00	18752560.00
4	4	Supply, Installation, Testing and Commissioning of 4K UHD Bullet type IP Colour Camera along with 128 GB or Higher SD Card, housing and mount and all accessories required for installation purposes per RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0. Inspection RDSO	Numbers	56.00	82600.00	4625600.00
5	5	Spares @ 8% for Supply of Cameras. a) Dome. Inspection: RDSO	Numbers	59.00	17464.00	1030376.00

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6	6	Spares @ 8% for Supply of Cameras. b) BULLET. Inspection: RDSO	Numbers	136.00	18408.00	2503488.00
7	7	Spares @ 8% for Supply of Cameras. c) PTZ. Inspection: RDSO	Numbers	21.00	68440.00	1437240.00
8	8	Spares @ 8% for Supply of Cameras. d) UHD. Inspection: RDSO	Numbers	4.00	82600.00	330400.00
					Total	73113744.00
Schedule	Schedule B3-Non SOR Items, Sub-Work B VSS - Servers and Work Station					
Item- 1	Non SOR Items, Sub-Work B VSS - Servers and Work Station					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply, installation, Testing, Integration and Commissioning of Command & Control Center Software, Perpetual Licenses & Hardware and all accessories required for their Installations and Integration. It includes Video Management/GUI Software and Video Analytics/FRS licences of cameras required for integration) as per RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Detailed Specification in Technical Document. Inspection RDSO	Lot	3.00	1780327.37	5340982.11
2	2	Supply Installation, Testing and Commissioning of Software (License per camera basis means Video Management Viewing at multiple locations and by same license for VMS and Video Recording such as at Station, RPF Post, DC Server room and Security control) Detailed Specification in Technical Document. Inspection RDSO	Numbers	2782.00	2147.60	5974623.20
3	3	Supply, Installation, Testing and Commissioning of VMS Server with all the accessories required for the installation for VSS project, one 17 inch Monitor with Keyboard, Mouse, KVM Switch, as per Clause No. 10.1.1.3 of RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO	Numbers	25.00	437963.37	10949084.25
4	4	Supply, Installation, Testing & Commissioning of Video Recording Server cum Video Analytic Hardware and all accessories required for installation purpose as per Clause No. 10.1.1.3 Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO	Numbers	27.00	437963.37	11825010.99
5	5	Supply Installation, Testing and Commissioning of Server Hardware for Face Recognition Complete with all accessories as per Clause No. 10.1.1.3 Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO	Numbers	22.00	437963.37	9635194.14
6	6	Supply, Installation ,Testing and Commissioning of Video Analytic Server software complete with all accessories(License per camera means Video analytic at multiple locations such as Station, RPF Post& Security control by same license)as per Spec No RDSO/SPN/TC/65/2021 Rev.6 or latest. Inspection RDSO.	Per Unit	2452.00	2360.00	5786720.00
7	7	Supply, Installation, Testing and Commissioning of FRS software complete with all accessories(License per camera basis), By same license, Face Recognition can be possible at multiple locations such as Station, RPF Thane and security control room as per Clause No.19.0 Spec No RDSO/SPN/TC/65/2021, Rev6.0 or latest. Inspection RDSO	Per Unit	58.00	118000.00	6844000.00
8	8	Installation, Testing and Commissioning of Graphical User Interface based Client Software per Work Station Inspection RDSO	Numbers	54.00	6726.00	363204.00

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9	9	Supply, installation Testing & Commissioning of Storage System for 30 days recording at Station/RPF/GRP Thane/Post/Sites for recording of Cameras from cluster of station along with all accessories required for installation purposes .Note Bidders are required to quote price for complete storage as a LOT at each RPF Thana of Division for all types of Cameras mentioned in the Schedule. as per RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Detailed Specification in Technical Document. Inspection RDSO.	Lot	2782.00	5428.00	15100696.00
10	10	Supply, installation Testing & Commissioning of Storage System for 15 days recording at one Data Center each per Division for recording of Cameras from cluster of station along with all accessories required for installation purposes .Note Bidders are required to quote price for complete storage as a LOT for all types of Cameras mentioned in the Schedule as per RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Detailed Specification in Technical Document. Inspection RDSO.	Lot	1438.00	5428.00	7805464.00
11	11	Panic Switch (IK10 and IP 66 Rated) with Mushroom Cap Push-Button in Red Color, DPDT contacts 2 Amps , Stainless Steel FacePlate with GI Junction Box of suitable size and flasher cum strobe of min. 100dB including fixing arrangements and suitable protection and all accessories required for installation on each platform at stations or as per site requirement [Detailed Specification in Technical Document]. Inspection RDSO	Numbers	274.00	4130.00	1131620.00
12	12	Supply, Survey and installation of Wireless Transmitter and Receiver for Video Cameras along with all accessories. As per RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO	Numbers	14.00	28040.90	392572.60
13	13	Supply Installation Testing and Commissioning of Next Generation Firewall (NGFW) in 1+1 High Availability (HA) along with Management software Hardware Perpetual licence and all accessories required their installation in the Data Center. it includes Network Security appliance 4x10G SFP Ports and 4x1G SFP Ports loaded Rack Mountable UTM Firewall with features like Next Generation Firewall, Intrusion Prevention System ,Gateway Anti-Spam Prevention ,Bandwidth Management ,Traffic Discovery, Application Visibility and Control Hardware etc should have 1 Console port ,2 USB Management Port for Explorer. The product should have licensed for 3 years for above features including warranty for UTM Hardware and all accessories required for their installation in the Data Centre.[Detailed Specification in Technical Document]. Inspection RITES.	Numbers	3.00	1355448.30	4066344.90
14	14	Supply and Installation of Digital Key Board (Joystick) and all accessories compatible with PTZ cameras. RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO	Numbers	20.00	21240.00	424800.00
15	15	Supply Installation Testing and Commissioning of PC WorkStation for Viewing, Monitoring and System Management [Detailed Specification in Technical Document]. RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest. Inspection RDSO	Numbers	54.00	153400.00	8283600.00
16	16	Supply Installation of Full HD Large Format Display Monitor (55 inch) as per RDSO Spec No RDSO/SPN/TC/65/2021, Rev 6.0 or latest with HDMI and DVI Ports complete with all accessories [Detailed Specification in Technical Document] Inspection by RDSO	Numbers	108.00	64531.25	6969375.00

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17	17	Supply, Calibration, Testing and Installation of 55" LED Display as per specification enclosed (QTY-4 numbers). It includes supply and installation of Matrix switch/Controller, Cables, Softwares e t c and LED wall Mount/ stand and all accessories required for installation as perspecification enclosed. Inspection: RITES	Numbers	4.00	1976618.00	7906472.00
					Total	108799763.19
Schedule	Schedule B4-Non SOR Items, Sub-Work B VSS -Switches with accessories					
Item- 1	Non SOR Items, Sub-Work B VSS -Switches with accessories					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply and installation of Layer 2 Switch as per RDSO/SPN/TC/65/2021, Rev.6.0 or latest. Minimum 8+2 Port Manageable with 8 Nos 10/100/1000 Mbps Ethernet port, POE+ & Single Fiber 2 Nos 1G SFP Port with BX SM SFP Optical Modules loaded. with all accessories etc. As per RDSO/SPN/TC/65/2021, Rev.6.0 or latest. Inspection RDSO	Numbers	842.00	23922.14	20142441.88
2	2	Supply Installation & Commissioning of Layer 2 Manageable, 24 Port POE, 24 GE10/100/1000 BaseX Ethernet port with POE+ support and 4x1GE SFP Port for uplink with 4 no of1GE BX SM SFP modules loaded, with all accessories per RDSO/SPN/TC/65/2021, Rev.6.0 or latest (Inspection Clause- RDSO)	Numbers	249.00	31486.88	7840233.12
3	3	Supply, installation and Commissioning of Layer 2 Core Aggregator Switch 24 Port Managed switch with 24 Nos GE(Optical) 1G SFP BX SM based Port and 4 Nos of 10 G SFP+ Port with SFP optical Modules loaded, including Mounting Kit with all accessories. As perRDSO/SPN/TC/65/2021, Rev.6.0 or latest. Inspection RDSO	Numbers	41.00	156596.91	6420473.31
4	4	Supply of Single Mode 1 G SFP-BX (10 Kms) Single fiber for above Switches. [Detailed Specification in Technical Document] Inspection : RDSO	Numbers	212.00	1180.00	250160.00
5	5	Supply of Single Mode 10G SFP+ Fiber for above Switches. Inspection : RDSO	Numbers	100.00	2984.22	298422.00
6	6	Supply of Single Mode Single fiber Managed Media Converter (Ethernet and E1 to Optical and vice versa) Pair and all the accessories required for their installation. As per RDSO Spec No RDSO/SPN/TC/103/2013 Rev.2 or latest Inspection : RDSO	Pair	62.00	11210.00	695020.00
7	7	Spares @ 8% for Supply of Switches. a) FIELD SWITCH 8 PORT. Inspection: RDSO	Numbers	67.00	13548.76	907766.92
8	8	Spares @ 8% for Supply of Switches. b) FIELD SWITCH 24 PORT. Inspection: RDSO	Numbers	19.00	23695.58	450216.02
9	9	Spares @ 8% for Supply of Switches. c) AGGREGATOR SWITCH 24 PORT.Inspection: RDSO	Numbers	3.00	156596.91	469790.73
					Total	37474523.98
Schedule	Schedule B5-Non SOR Items, Sub-Work B , VSS - FDMS, U RACK, and CABLES					
Item- 1	Non SOR Items, Sub-Work B , VSS - FDMS, U RACK, and CABLES					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply and Termination at Wall/Rack Mountable of 12 Fiber FDMS 12 SC Type FDMS loaded with SC '0' DB & Adaptor SC SM Pigtail 1.5 meters all accessories required for installation suitable for splicing and front patching of 12 fibre cable with all accessories and terminating the optical fibre with splicing and front patching in the equipment room orplaces asrequired by the Railwayrepresentative (OFC patch cord fo and all other materials required for thesplicing are to be supplied by the Contractor.[Detailed Specification in Technical Document]Inspection : RITES	Numbers	1322.00	9841.79	13010846.38

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2	2	Supply, fixing and termination of 24F FDMS 19" Rack Mount with Telescopic type loaded with SC '0' DB & Adaptor SC SM Pigtail 1.5 meters all accessories required for installation [Detailed Specification in Technical Document] Inspection : RITES	Numbers	280.00	14280.00	3998400.00
3	3	Splicing/Dropping/Termination of each fiber /Pigtail in the LIU/FDMS/IO Box/Termination Joints through fusion Splicing of the termination of OFC Cables. The Fiber termination shall be tested and the test Report (Hard Copy & Soft Copy) shall be submitted to the site Engineer for records. Each fiber shall be properly marked with necessary ferules/tags	CORE	15864.00	45.44	720860.16
4	4	Supply, Installation, Splicing/Termination of 24 Fiber OFC in FDMS/Mid section joint. (Splicing of 2 nos. of 12 Fiber/4 nos of 6 Fiber). This includes supply and installation of FDMS jointing Kit.	Numbers	280.00	6088.88	1704886.40
5	5	Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) as per site requirement . [Detailed Specification in Technical Document]. Inspection : Consignee	Numbers	1470.00	175.90	258573.00
6	6	Supply and Installation of 19 inch 42U 600mm Depth Telecom Rack with Standard Accessories (Closed type)Front Door Glass type, all doors should be removable type[Detailed Specification in Technical Document]Inspection RITES	Numbers	40.00	43979.78	1759191.20
7	7	Supply and Installation of 19" 9U Rack Wall/Pole Mount ,with all accessories Like Electrical fitting, Fan Tray, Patch Panel, Cable Manager, PDU . [Detailed Specification in Technical Document] Inspection : RITES	Numbers	249.00	9255.23	2304552.27
8	8	Supply and Installation of 19", 6 U Rack Wall/Pole Mount with all accessories required for installation purpose of switches Like Electrical fitting, Fan Tray, Patch Panel, Cable Manager, PDU .[Detailed Specification in Technical Document] Inspection : RITES	Numbers	836.00	7262.16	6071165.76
9	9	Supply and Installation of Server and Network Smart Rack (Server Rack-3 Nos) with accessories and 2 Nos PDU along with Zero U Cooling Unit (2 Nos) with Piping and Low Sideworks, CMC Monitoring system, cooling unit accessories, related electrical work and Rack based Fire detection, Extinguishing System, Rodent repellent system and other accessories as per specification enclosed.[Detailed Specification in Technical Document] Inspection: RITES	Numbers	3.00	3611154.00	10833462.00
10	10	Supply of STP CAT- 6 Cable compliant with latest EIA/TIA-568-B-2-1 Standard for CAT 6 Cable 305 Mtrs Roll /Bundle.[Detailed Specification in Technical Document]Inspection :RITES	Metre	155700.00	33.20	5169240.00
11	11	Supply of 12 Core Metal Strengthened Outdoor Unarmoured Optic Fiber Cable (ITU-TG-652-D) and all the accessories required for installation.[Detailed Specification in Technical Document] Specification. Inspection : RITES	Metre	171500.00	12.98	2226070.00
12	12	Supply of PVC insulated armored 3 Core 4 Sqmm,12 AWG,1.1 KV Grade OutdoorStrengthen Copper for UPS Power Supply Distributions per BIS/ISI Standards and all accessories required for installation.[Detailed Specification in Technical Document]Confirming to IS:1554 Part-1.Inspection : RITES	Metre	128600.00	88.50	11381100.00
13	13	Supply of 6 Core Armoured Single Mode OFC cable as per latest TEC/BSNL Specification. [Detailed Specification in Technical Document]Inspection : Consignee	Metre	3000.00	27.09	81270.00

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14	14	Supply of CAT 6 UTP Patch Cord-2 meters [Detailed Specification in Technical Document] Inspection : Consignee	Numbers	2870.00	75.99	218091.30
15	15	Supply of CAT-6 Patch Cord-5mtrs length [Detailed Specification in Technical Document] Inspection : Consignee	Numbers	2870.00	333.82	958063.40
16	16	Supply of RJ 45 connector suitable for STP/UTP Cable (D-Link) [Detailed Specification in Technical Document] Inspection : Consignee	Numbers	4840.00	2.85	13794.00
					Total	60709565.87
Schedule	Schedule B6-Non SOR Items, Sub-Work B VSS- Power Supply					
Item- 1	Non SOR Items, Sub-Work B VSS- Power Supply					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply, Installation and Commissioning of 2x10 KVA UPS at least 2 Hour Back up in full load condition ,connected in parallel redundant mode in separate chassis. Complete with all accessories as per specification attached for VSS/Data Centre/Exchange at various Railway stations of Indian Railways .This also includes supply of two set MF battery of suitable AH capacity,rack, one set compatible MCBs complete with cover & fixing materials, one earth leakage circuit breaker arrangement .[Detailed Specification in Technical Document] Inspection : RITES	Set	21.00	424682.00	8918322.00
2	2	Supply, Installation and Commissioning of 3 KVA Online UPS with 2 Hrs SMF Battery Backup. This also includes supply of one set MF battery of suitable AH capacity Rack and one set compatible MCBs complete with cover & fixing materials, one earth leakage circuit breaker arrangement [Detailed Specification in Technical Document] Inspection : RITES	Numbers	214.00	73626.33	15756034.62
3	3	Supply and installation 2 KVA online UPS (Single Phase) 19 inch Rack mountable type with 1 Hour Backup along with suitable AH capacity battery and all the accessories required for installations.[Detailed Specification in Technical Document] Inspection : RITES	Numbers	13.00	44840.00	582920.00
4	4	Supply, Installation, Testing and Commissioning of Surge Protection Device Class B(10/350 s) and Class C(8/20s) type Metal and Capsulated Spark gap for Fire safe and fireproof operation based, single phase coordinated. It shall have mechanical failure indicators on L-N and N-E pluggable devices as per IEC 61643 test standards. latest. Supply of surge protection with Potential free contacts .All miscellaneous materials required for the work shall be supplied by the contractor.[Detailed Specification in Technical Document] Inspection: RITES	Numbers	24.00	40140.00	963360.00
5	5	Supply of Ethernet Surge Protector [Detailed Specification in Technical Document] Inspection : Consignee	Numbers	41.00	2743.40	112479.40
6	6	Supply of ACDB for AC Distribution Box along with required MCBs, Lock and Key arrangement and ISI Mark MCBs of Various Rating as per site requirement. Inspection : RITES	Numbers	238.00	2337.58	556344.04
					Total	26889460.06
Schedule	Schedule B7-Non SOR Items, Sub-Work B, VSS - TOOLS					
Item- 1	Non SOR Items, Sub-Work B, VSS - TOOLS					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount

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1	1	Single fiber fusion splicer similar to fujikura 80C with standard accessories : ACADAPTER /BATTERY Charger ADC-18 1PC, AC Power Cord ACC-XX: 1PC spare electrode Elect2-20:1 pair carrying case CC-30:1PC USB cable USB-01: 1PC Sleeve loader SL01:1 PC dispenserAP-01: 1 PC screwdriver SC-01 1PC, Instruction Manual: 1 PC Quick reference Guide 1PC warning& cautions: 1 PC ; BATTERY RACK BRT-09, Battery charger cord DCC-18: 1 PC High precisionFiber cleaver CT-06: 1 PC, 3 in-1 Stripper : 1PC & Protection sleeves: 25nos. (A demo shall bearranged along with supply) as per TEC Specification g/osm/01-03 April2005 Model S-177A.MakeFURUKAWA ELECTRIC CO Japan. Type approved or Similar. [Detailed Specification in Technical Document].Inspection: RITES	Numbers	6.00	300389.20	1802335.20
2	2	Supply of Optical Time Domain Reflectometer for 1310/1550nm fiber with resolutionof 60 Cms,dynamic Range of 314/29 dB with all accessories confirming to TEC Specification NoTEC Specification No G/OTD/02-03 March 2009.Make EXFO Model MAX 720C , AQ-7270+735022.Make Yokogawa Electric Co Ltd Japan or Similar . Detailed Specification in TechnicalDocument. Inspection: RITES	Numbers	6.00	165200.00	991200.00
3	3	Supply of Network Cable Tester Similar to Fluke Networks - MS2-100 - MICROSCANNER2 CABLE VERIFIER [Detailed Specification in Technical Document].Inspection: Consignee	Numbers	6.00	33637.00	201822.00
4	4	Tool Kit consisting of Optical power meter(Fibershot9990V),Multimeter(Fluke101),Ethernet Crimping Tool(Standard Make)Console cable(Cisco=RJ45-DB9),Wristripper(Standard Make),Universal Spanner Set (Taparia),Screw Driver Set(Taparia-7Piecesset),Cutting plier(Taparia), Wire Stripper, Industrial grade USB to Serial cable with all accessories or Similar.[Detailed Specification in Technical Document]. Inspection: Consignee	Numbers	18.00	24207.20	435729.60
					Total	3431086.80
Schedule	Schedule B8-Non SOR Items, Sub-Work B, VSS- Labour and Training					
Item- 1	Non SOR Items, Sub-Work B, VSS- Labour and Training					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply, Installation, testing and commissioning of UL/FM/VDS/LPCB approvedMicroprocessor based networkable analogue addressable and modular type of fire alarm controlpanel with display inbuilt charging facility and provision of GSM/VoLTE module suitable to sendSMS to configured mobile numbers. The panel should be equipped with sufficient nos of loops andprovision of expendability as per RDSO specification RDSO/SPN/217/2016 ver 2.0 or latest. Thecontrol panel shall be the central processing unit of the system receiving and analyzing signals fromprobe type bimetallic heat detectors, UV & IR flame detectors, Heat and smoke multi sensors, LHSinterface and manual call points, providing audible and visual information to the user. The panelshall have provision of connectivity of TCP-IP suitable for programming and remote monitoring. Thepanel shall have a dedicated RS232 (or latest) serial port for direct PC or MODEM connection, forinterfacing with existing data logger/NMS and optional remote printer (as per RDSO specification no.RDSO/SPN/217/2016/Ver.2.0 or latest. [Detailed Specification in Technical Document].InspectionRDSO	Numbers	3.00	229530.73	688592.19

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2	2	Supply, Installation, testing and commissioning of Resettable, addressable Multisensor () Heat & Smoke) which is fully compatible with analogue addressable protocol Electronically addressed as per RDSO /Specification No. RDSO/SPN/217/2016 ver 2.0 or latest [Detailed Specification in Technical Document].Inspection RDSO.	Numbers	30.00	3294.36	98830.80
3	3	Supply, Installation, testing and commissioning of addressable Resettable, manualCall Point having status LED for alarming and standby mode electronically addressed as per RDSO Specification No. RDSO/SPN/217/2016 ver 2.0 or latest [Detailed Specification in Technical Document].Inspection RDSO.	Numbers	3.00	4494.98	13484.94
4	4	Supply, Installation, testing and commissioning of addressable loop powered wall sounder beacon/ alarm as per RDSO Specification No. RDSO/SPN/217/2016 ver 2.0 or latest[Detailed Specification in Technical Document].Inspection RDSO	Numbers	3.00	7999.50	23998.50
5	5	Supply, Installation, testing and commissioning of FRLS/ Fire Survival circuit integritycables i.e. armored cable with all accessories for connection of all fire alarm devices (as per RDSO Specification No. RDSO/SPN/217/2016 ver 2.0 or latest) (per station wiring)[Detailed Specification in Technical Document]. Inspection RDSO	Numbers	3.00	31702.09	95106.27
6	6	Supply of Portable light weight CO2 type Fire Extinguisher Capacity 4.5 Kg ISI Mark15683,Operating Temperature -30 to +50 for class 13 C for electrical Type of fire with 1 mtrs House Pipe with PVC been Horn complete in all respects. [Detailed Specification in Technical Document].Inspection: Consignee	Numbers	6.00	4425.45	26552.70
7	7	Supply & installation of Maintenance Free Single Earth as per RDSO Specification No RDSO/SPN/197/2014 with latest amendment.[Detailed Specification in Technical Document]Inspection RDSO.	Numbers	71.00	23156.63	1644120.73
8	8	Supply and Fixing of GI Pipe (50 mm dia 3.65mm thick) as per IS-1239, Pt, MediumGrade along with the clamps and couplers for laying of Cable to the Platform shelter from groundlevel and as per site requirement. Entry of cables will be advised by the site in charge of theRailway and extended by suitable dia HDPE/Flexible PVC Pipe on either side as required as per site requirement. Along with supply of all accessories.[Detailed Specification in Technical Document]Inspection : RITES	Metre	3380.00	742.35	2509143.00
9	9	Supply and installation of Desk Cubical work station furniture along-with Chairs andall the accessories. [Detailed Specification in Technical Document] Inspection: Consignee	Numbers	50.00	13439.10	671955.00
10	10	Supply and Fixing of 35 mm Flexible steel wire reinforced PVC Green Pipe (This includes all materials, clamps etc. required for laying, fixing and clamping). Inspection: Consignee	Metre	2990.00	23.99	71730.10
11	11	Supply and Fixing of PVC Conduit pipe minimum 35 mm dia ISI Mark. Installation of PVC Pipe, Clamping of the same on wall, Pole etc. including with required clamps & and all the installation materials required.. [Detailed Specification in Technical Document] Inspection: RITES	Metre	293500.00	32.38	9503530.00
12	12	Supply of PLB HDPE Duct of Size 40/33 mm Outer and with all Accessories.Installation on Wall or Structure/HDD etc. along with all Accessories required for fixing, Clamping Cutting, as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest.[Detailed Specification in Technical Document] Inspection: RDSO	Metre	22600.00	89.49	2022474.00

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13	13	Trenching and Laying of HDPE Duct in Normal Soil and blowing of OFC Cable. [Detailed Specification in Technical Document].	Metre	22600.00	172.00	3887200.00
14	14	Supply and installation of Bracket/Fixture/Angle for fixing of Cameras at Stations along with all accessories required.[Detailed Specification in Technical Document].Inspection:Consignee	Numbers	2782.00	4720.00	13131040.00
15	15	Cost of Design, survey & submission of drawings for permissions from Authorities(including hand made diagram of the network)[Detailed Specification in Technical Document].	Lumpsum	228.00	15453.00	3523284.00
16	16	Blowing & Drawing of OFC 24F/12F/6F Power Cable and CAT Cable (including crimping) through PVC Conduit already installed.[Detailed Specification in Technical Document].	Metre	454700.00	4.72	2146184.00
17	17	Supply of Non flammable, anti-rodent DWC Pipes(OD/ID 90/76 mm minimum)as specification IS 16205 with T Joints, sockets/couplers at both ends as per requirements. Supply of non-coupler for 6m of DWC pipe and couplers for 30mm of length free of cost. Inspection- Consignee	Metre	636.00	118.00	75048.00
18	18	Supply and Fixing of PVC Trunking of 50X50mm with cover of 2mm thick and 2mtrlength each.(This includes all materials like clamps, bends, couplers, fixing required forlaying).Inspection Consignee	Metre	150.00	369.10	55365.00
19	19	Supply of PVC Casing Capping(2"x2")with cover fixing/laying materials with all accessories as per requirement.(This includes all materials like bends, couplers, clamps etc. required for laying, fixing and clamping). Inspection Consignee	Metre	2570.00	22.80	58596.00
20	20	Fixing of PVC Tray/Casing Capping (2 inch) with cover and all accessories .All fixing clamping materials to be supplied by contractor	Metre	2570.00	2.44	6270.80
21	21	Supply and installation of RCC Route Markers including Painting inspectionConsignee	Numbers	440.00	541.79	238387.60
22	22	Breaking of Pucca/Concrete Road, PF Cutting Laying of OFC/Power Cable/STP/Switch Board Cable in Trenches and through all types of protection Viz HDPE/GI/RCC Pipes as the case may be .This includes restoration of surface and stone paved/pavers	Metre	7500.00	437.30	3279750.00
23	23	Boring & Trenching cabling along with supply and insertion of HDPE Pipe PE 80 PNoF 90 mm dai with min 6.7 mm and Max 7.6 mm wall thickness as per IS 4984-95,in the bore for the laying of Signalling/Telecom/Power cable under the Track /road//HDPE Pipe is to be supplied by the contractor.	Metre	300.00	148.20	44460.00
24	24	Supply and Erection of 15 Feet GI pipe of 100 mm dia 4.5m thickness of mediumquality ISI no: 1230(Part 1) 1990. Having an iron base plate 10 mm thick x 30 cmx 30cm welded atthe bottom of the pipe with four supports of iron bars of sizes 10 mm dia. The 3 feet pipe shall beburied in the ground and 12 feet shall be above the ground. The work includes digging of the pit onPlatform, laying of cable in between poles in suitable underground GI pipes, erection of pole andfilling the pit with 1:3:4 cement, concrete and sand. Final plastering should be done on the surface.The iron bracket on the top of the pole shall be provided to fix the CCTV camera, Protection cover and junction box. The work includes supply of all the materials required in this item. [Detailed Specification in Technical Document].Inspection RITES	Numbers	228.00	3192.00	727776.00
25	25	Supply of Compact Aluminium Step Ladder of 12 Feet. [Detailed Specification inTechnical Document].Inspection Consignee	Numbers	26.00	10817.00	281242.00

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26	26	Training of personnel over and above the on-site/OEM training, during the installation, maintenance and supervision period as detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by the Railway	Man-Week	60.00	23600.00	1416000.00
					Total	46240121.63
Schedule	Schedule C1-SOR ITEMS: VOIP Based TCCS & SIP					
Item- 1	SOR ITEMS: VOIP Based TCCS & SIP					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	10_107	Excavation of trench to a depth of 1 Mtr. for Road Crossing of Cables, laying of DWC/ RCC pipes with collar/ coupling, refilling of trench by ramming and consolidating it and resurfacing it to the original position. Laying of cables is not included in this schedule. (Supply of DWC/RCC pipes with couplers/ collars is not included in this schedule).	Metre	1260.00	129.99	163787.40
2	10_521(a)	Transportation of Signalling Materials by Road as Per the Instructions of Railway Representative at Site. The Work also includes Loading and Unloading of the Materials. a)Transportation up to 100 kms	MT-Km	300.00	18.20	5460.00
3	10_521(b)	Transportation of Signalling Materials by Road as Per the Instructions of Railway Representative at Site. The Work also includes Loading and Unloading of the Materials. b)Transportation more than 100 kms	MT-Km	2700.00	11.13	30051.00
					Total	199298.40
Schedule	Schedule C2-NON SOR Item Sub-Work C, TCCS & SIP- IP Phones					
Item- 1	NON SOR Item Sub-Work C, TCCS & SIP- IP Phones					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply and Installation of Control IP Telephones with Hands Free and Gooseneck Operation for Way Side Station as Per Clause 11 of RDSO/SPN/TC/99/2012 Rev.2 or latest(Detailed Spec in Tender Document). Inspection RDSO	Numbers	347.00	23500.00	8154500.00
2	2	Supply and installation of SIP Based Basic IP Phone 132 X 64 Pixel Graphical LCD as per Specification. Inspection RITES	Numbers	370.00	5500.00	2035000.00
3	3	Supply of SIP Based Medium IP Phone with 240X120 Pixel or better Graphical LCDwith Backlight, Minimum 8 No of One Touch line key as per Specification. Inspection RITES	Numbers	620.00	13314.00	8254680.00
4	4	Supply of SIP Based Video Phones 7 " Capacitive Adjustable Touch Screen,LCD screen, 720p 30 HD video should run on latest Android along with POE injector or better as per specification. Inspection RITES	Numbers	164.00	54460.00	8931440.00
5	5	Wiring and Termination for IP Phones up to last point (includes configuring, fixing of/O box, Drawing of UTP/OF Cable, Fixing of PVC Pipe /Casing capping. All miscellaneous materials required for fixing to be supplied by Contractor as per site requirement)	Lumpsum	4.00	50000.00	200000.00
					Total	27575620.00
Schedule	Schedule C3-Non SOR Items, Sub-Work C, TCCS&SIP - Servers, Consoles, and Licenses					
Item- 1	Non SOR Items, Sub-Work C, TCCS&SIP - Servers, Consoles, and Licenses					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply, Installation and Commissioning of Communication Server as per Clause 5and 6 RDSO/SPN/TC/99/2012 Rev.2 or latest. Communication Server Block shall be provided 1+2or 1:2 Redundancy. Total 3 servers, 2 numbers at main location and one at remote location. (Detailed Spec in Tender Document). Inspection RDSO	Set	2.00	2615000.00	5230000.00

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2	2	Supply, Installation and Commissioning of Communication Server as per Clause 5 and 6 RDSO/SPN/TC/99/2012 Rev.2 or latest.1 Number Communication Server for Remote Location. Redundancy Compatible with the existing server. (Detailed Spec in Tender Document). Inspection RDSO	Numbers	1.00	1260000.00	1260000.00
3	3	Supply, Installation and Commissioning of Network Management Server as per Clause 5 and 8 RDSO/SPN/TC/99/2012 Rev.2 or latest (Detailed Spec in Tender Document). Inspection RDSO	Numbers	5.00	490000.00	2450000.00
4	4	Supply, Installation and Commissioning of Voice Recording Server as per Clause 5 and 7 RDSO/SPN/TC/99/2012 Rev.2 or latest (Detailed Spec in Tender Document). Inspection RDSO.	Numbers	5.00	525000.00	2625000.00
5	5	Supply, Installation and Commissioning of Client PC for Voice Record Server as per Clause 8 RDSO/SPN/TC/99/2012 Rev.2 along with 600VA UPS. Inspection RDSO	Numbers	5.00	69700.00	348500.00
6	6	Supply, Installation and Commissioning Event Notification Gateway as per Clause 12.3 of RDSO/SPN/TC/99/2012 Rev.2 or latest (Detailed Spec in Tender Document). Inspection RDSO	Numbers	5.00	310000.00	1550000.00
7	7	Supply, Installation and Commissioning of Desktop Client PC As per clause 8.7 and 8.8 of RDSO/SPN/TC/99/2012 Rev.2 or latest along with 600VA UPS (Detailed Spec in Tender Document). Inspection RDSO	Numbers	5.00	69700.00	348500.00
8	8	Supply of (Similar to Laptop) Portable Maintenance Terminal (Similar to Laptop) as Per Clause No 8.7 and 8.9 RDSO/SPN/TC/99/2012 Rev.2. (Detailed Spec in Tender Document). Inspection RDSO	Numbers	6.00	80900.00	485400.00
9	9	Supply and installation 55-inch full HD Monitor (with 3 Years Warranty). [Detailed Specification in Technical Document] Inspection Consignee	Numbers	6.00	54579.20	327475.20
10	10	Supply, Installation and Commissioning of Controller Console as Per Clause 9 of RDSO/SPN/TC/99/2012 Rev.2 or latest. (Detailed Spec in Tender Document). Inspection RDSO	Numbers	24.00	420906.00	10101744.00
11	11	Supply, Installation and Commissioning of Test Room Console as Per Clause 10 of RDSO/SPN/TC/99/2012 Rev.2 or latest. (Detailed Spec in Tender Document). Inspection RDSO	Numbers	5.00	469286.00	2346430.00
12	12	Supply, Installation and Commissioning for 4 Port Gateway to support 4 Port Concurrent Emergency Communication at HQ/Way station to support 4 wire ports/ 4 Port Gateway with built in 2 wires to 4 wire Hybrid convertor to support 4 wire output as Per Clause 13 of RDSO/SPN/TC/99/2012 Rev.2 or latest. (Detailed Spec in Tender Document). Inspection RDSO	Numbers	317.00	19470.00	6171990.00
13	13	Supply and Installation of Station License of TCCS Communication Server of 1+2 Configuration as per RDSO/SPN/TC/99/2012 Rev.2. Inspection RDSO	Numbers	332.00	18290.00	6072280.00
14	14	Supply and Installation of Port License of TCCS Communication Server in 1+2 Configuration as per RDSO/SPN/TC/99/2012 Rev.2. Inspection RDSO	Numbers	332.00	2360.00	783520.00
15	15	Supply and Installation of Conference Room License of TCCS Cum Server of 1:4 Room in 1+2 Configuration as per RDSO/SPN/TC/99/2012 Rev.2. Inspection RDSO	Numbers	12.00	41300.00	495600.00
16	16	Supply and Installation of TCCS VoIP Voice Logger Board License as per RDSO/SPN/TC/99/2012 Rev.2. Inspection RDSO	Numbers	12.00	102660.00	1231920.00

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17	17	Supply and Installation of NMS Device License of TCCS VoIP NMS Server 100Device Pack as per RDSO/SPN/TC/99/2012 Rev.2. Inspection RDSO	Numbers	11.00	116820.00	1285020.00
18	18	Supply and Installation of Event Notification Gateway License of TCCS VoIP NMS Server of 100 Device Pack as per RDSO/SPN/TC/99/2012 Rev.2.Inspection RDSO	Numbers	11.00	59000.00	649000.00
19	19	Supply and Installation of Mobile Application along with 06 Nos of Tablets for Event Notification Gateway and NMS as per scope of work with Apps loaded, as Per RDSO/SPN/TC/99/2012 Rev.2.(Detailed Spec in Tender Document). Inspection RDSO	Numbers	25.00	13700.98	342524.50
20	20	Supply of Fully Non-Blocking 19"Rack Mountable IP Based Server ArchitectureSupporting Virtualization and should be able to Integrate both Analog/ISDN Gateways. Unified Communication Server Solution in Active-Active Cluster Mode. Perpetual license for MAIN Server. Inspection RITES.	Numbers	1.00	55569.15	55569.15
21	21	Supply of Perpetual license for STAND BY server of above MAIN server. InspectionRITES	Numbers	1.00	48321.00	48321.00
22	22	Supply of IP Endpoint Perpetual Licenses(any SIP Phone)for above Server. Inspection RITES	Numbers	620.00	5556.91	3445284.20
23	23	Supply of Gateway User Perpetual Licenses(Analog Users)for above Server. Inspection RITES	Numbers	3750.00	1932.84	7248150.00
24	24	Supply of SIP Trunk Perpetual Licenses(for PRI Gateways & SIP Trunk)for above Server. Inspection RITES	Numbers	270.00	1691.23	456632.10
25	25	Supply of Mobility Perpetual License for above Server. Inspection Consignee	Numbers	254.00	2258.52	573664.08
26	26	Supply of Softphone Perpetual License, PC based and Android Based for above server. Inspection Consignee	Numbers	60.00	1758.00	105480.00
27	27	Supply of Call/Communication Server dual AC and DC power supply[Detailed Specification in Technical Document]Inspection RITES	Numbers	2.00	512356.00	1024712.00
28	28	Supply of fully non-Blocking 19"Rack Mountable IP based Server ArchitectureSupporting Virtualization and should be able to Integrate both Analog/ISDN Gateways for GM, DRMUBL, DRM MYS Intercom. Unified Communication Server Solution in Active-Active Cluster Mode MAIN SERVER Perpetual License. Inspection RITES	Numbers	3.00	55569.15	166707.45
29	29	Supply of Perpetual license for STAND BY server of above MAIN server. InspectionRITES	Numbers	3.00	48321.00	144963.00
30	30	Intercom Server and Perpetual License Supply of fully non-Blocking Supply of IPendpoint Licenses (any SIP phone) for above intercom server. Inspection RITES	Numbers	350.00	5557.00	1944950.00
31	31	Supply of Perpetual license for STAND BY server of above MAIN server. Inspection: RITES	Numbers	10.00	1932.84	19328.40
32	32	Supply of SIP Trunk Perpetual Licenses for above intercom server.Inspection: RITES	Numbers	70.00	1691.23	118386.10
33	33	Upgrading of Existing Bengaluru Aeonix Server with Additional SIP Licenses- 80,DRM Intercom to cater for Bengaluru Cant CAO Office. IP Endpoint Licenses to Existing Server including Technical Support Charges. Inspection Consignee	Numbers	80.00	5557.00	444560.00
34	34	Upgrading of Existing Bengaluru Aeonix Server with Additional SIP Trunk License- 30for DRM Intercom to cater for Bengaluru Cant CAO Office. Inspection Consignee	Numbers	30.00	1691.23	50736.90
35	35	of call/Communication (SIP) Server For HQ, UBL and MYS. Inspection RITES	Numbers	6.00	206500.00	1239000.00
36	36	Installation and Commissioning Charges as per Site Requirement at HQ, UBL and MYS	Job	6.00	82600.00	495600.00

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37	37	Installation and Commissioning Charges as per Site requirement at Bengaluru and Bengaluru Cant(Upgrading the existing server)	Job	2.00	59000.00	118000.00
					Total	61804948.08
Schedule	Schedule C4-NON SOR Items, Sub-Work C, TCCS & SIP- Gateways and Switches					
Item- 1	NON SOR Items, Sub-Work C, TCCS&SIP- Gateways and Switches					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply of 96 Port Rack Mountable FXS Gateway Chassis or higher with 4*24 FXSGateway cards or any combination along with patch panel/krone module for termination . (Redundant Dual DC power supply) and Dual input ports(Fiber/Ethernet)including mounting kit and all the accessories. [Detailed Specification in Technical Document] Inspection RITES.	Numbers	58.00	236647.00	13725526.00
2	2	Supply, installation and Commissioning of Standard 19-inch Rack Mountable Layer 2Core Aggregator Switch 24 Port Managed switch with 24 Nos GE(Optical) 1G SFP based Port and4 Nos of 10 G SFP+ Port with SFP optical BX SM Modules loaded, including Mounting Kit with allaccessories as per RDSO/SPN/TC/65/2021, Rev.6.0 or latest. Inspection RDSO	Numbers	6.00	156596.91	939581.46
3	3	Supply Installation & Commissioning of Standard 19-inch Rack Mountable 24 Portmanaged POE switch , 24 GE 10/100/1000 BaseX Ethernet port with POE+ support and 4x1GESFP Port for uplink with 4 nos of 1GE SFP BX SM modules loaded, including mounting kit and all the accessories as per RDSO SPECIFICATION NO. RDSO/SPN/TC/83/2020 Rev 2 or Latest.(Inspection Clause- RDSO)	Numbers	47.00	31486.88	1479883.36
4	4	Supply of 96 Port Rack Mountable FXS Gateway Chassis or higher with 2*24 FXSGateway cards or any combination along with patch panel/krone module for termination. (Redundant Dual DC power supply) and Dual input ports(Fiber/Ethernet)including mounting kit and all the accessories [Detailed Specification in Technical Document] Inspection RITES.	Numbers	39.00	178840.00	6974760.00
5	5	Supply of 24 Port FXS Gateway 19" Rack Mountable along with Patch Panel/krone module for termination (DC or AC based as per site requirement) and Dual input ports(Fiber/Ethernet) including mounting kit and all the accessories. [Detailed Specification inTechnical Document] Inspection RITES.	Numbers	22.00	52455.00	1154010.00
6	6	Supply of 8 Port FXS Gateway (AC based) including mounting kit and all the accessories. [Detailed Specification in Technical Document] Inspection RITES.	Numbers	45.00	16392.00	737640.00
7	7	Supply of 24 Port FXO Gateway 19" Rack mountable suitable for 96/48 FXSGateway chassis along with patch panel/krone module. (AC or DC based) including mounting kitand all the accessories. [Detailed Specification in Technical Document]Inspection Consignee	Numbers	8.00	42217.00	337736.00
8	8	Supply of 2 port E1 Gateway (Dual DC based). Inspection Consignee	Numbers	2.00	155490.00	310980.00
9	9	Supply of Single Mode 1 G SFP-BX (10 Kms) Single Fiber for above Switches supplied in this schedule. [Detailed Specification in Technical Document] Inspection: Consignee	Numbers	90.00	1180.00	106200.00
10	10	Supply, installations and commissioning of NMS(Network Monitoring Server) and Emergency Room Communication Console detail specification enclosed. Model Reputed make Inspection RITES.	Numbers	3.00	472000.00	1416000.00

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11	11	Supply, installations and commissioning of NMS(Network Monitoring Server) and Emergency Room Communication Console detail specification enclosed. Model Reputed make Inspection RITES	Numbers	4.00	69700.00	278800.00
12	12	Programming of Servers, Switches, Installation of all Gateways (96,48,24,8 Port) asPer site requirement, installation of Soft Phones, Mobility Phones, Shifting of Materials to Site, withnecessary Supply and Termination of 24 Port Jack Panel, Cat-6 Patch Cords, OFC Patch Cord,Extension of DC/AC Power Supply from Charger/UPS to Gateways and Extension of Earth to all Equipments, Termination of PVC Cable in Existing IDF. Testing of lines in all locations. And all the supply and installation of accessories required for installation	Lot	3.00	1162300.00	3486900.00
13	13	Supply and Installation of Layer 3,24 Port Managed Switch with 24 Nos of10/100/1000 Ethernet Ports SFP + Support with Redundant AC Power Supply, Dedicated Stacking Module 4 x 1 GE SFP Ports for uplink including 4 Nos of 1 GE SFP BX SM Modules loaded, as per Specification given. Mounting Kit with all necessary accessories. Inspection RDSO	Numbers	5.00	109386.00	546930.00
14	14	Supply and installation of Layer 2 Switch as per RDSO/SPN/TC/65/2021, Rev.6.0 orlatest. Minimum 8+2 Port Manageable with 8 Nos 10/100/1000 Mbps Ethernet port, POE+ & Single Fiber 2 Nos 1G SFP Port with BX SM SFP Optical Modules loaded including mounting kit and all the accessories. Inspection RDSO	Numbers	317.00	23922.14	7583318.38
15	15	Supply of CAT-6 Patch Cord-5mtrs length [Detailed Specification in Technical Document] Inspection: Consignee	Numbers	620.00	333.82	206968.40
16	16	Supply and Installation of Wall Mountable RJ 45 Socket with FacePlate. [Detailed Specification in Technical Document] Inspection Consignee	Numbers	1544.00	393.60	607718.40
17	17	Supply of Crimping Tool for RJ 45 (Cadyce CA-CT568 or better). Inspection Consignee	Numbers	30.00	1174.10	35223.00
18	18	Supply of RJ 45 connector suitable for STP cable [Detailed Specification in Technical Document] Inspection Consignee	Numbers	1200.00	2.85	3420.00
19	19	Supply of Single Mode 1 G SFP-BX (10 Kms) Single fiber for above Switches. [Detailed Specification in Technical Document] Inspection Consignee	Numbers	650.00	1180.00	767000.00
					Total	40698595.00
Schedule	Schedule C5-NON SOR Items, Sub-Work C, TCCS&SIP - FDMS,U Rack , Cables , and Accessories					
Item- 1	NON SOR Items, Sub-Work C, TCCS&SIP - FDMS,U Rack , Cables , and Accessories					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply and Termination at Wall/Rack Mountable of 12 Fiber FDMS 12 SC TypeFDMS loaded with SC 'O' DB & Adaptor SC SM Pigtail 1.5 meters all accessories required forinstallation suitable for splicing and front patching of 12 fiber cable with all accessories andterminating the optical fiber with splicing and front patching in the equipment room or places as required by the Railway representative (OFC patch cord for and all other materials required for the splicing are to be supplied by the contractor.[Detailed Specification in Technical Document]Inspection : RITES	Numbers	329.00	9841.79	3237948.91
2	2	Supply of Single Mode Patch Cord length 3 meters (LC-SC/SC-SC/LC-LC/FC-LC) asper site requirement. [Detailed Specification in Technical Document] Inspection Consignee	Numbers	650.00	175.90	114335.00

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3	3	Supply & Installation of 19"42U 1200mm Depth Telecom Rack with Standard Accessories (Closed type) with front door Glass type, all doors should be removable type [Detailed Specification in Technical Document] Inspection RITES	Numbers	5.00	43979.78	219898.90
4	4	Supply and installation of covered 19" 42 U racks of size 600mm depth Telecom Rack with Standard Accessories (Closed type Telecom Rack) with front door Glass type, all Doors [Detailed Specification in Technical Document] Inspection RITES	Numbers	187.00	35231.00	6588197.00
5	5	Supply, installation of 19"27U 600 mm depth rack with standard accessories (closed type telecom rack) with front Door Glass Door Type, all Doors should be Removable Type, Two Exhaust Fans, One Horizontal Tray, One AC Multiple (6 Nos of 5 Amps Socket) Earthing Strip Copper, with Fastener -2PAC Rack Mountable DCDB Panel with one Copper Strip and 4 MCB 06Amps +02 MCB 16 Amps. [Detailed Specification in Technical Document] Inspection: RITES	Numbers	9.00	34220.00	307980.00
6	6	Supply, installation of 19"12 U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray, Patch Panel, Cable Manager, Spike Buster/PDU. [Detailed Specification in Technical Document] Inspection: RITES	Numbers	25.00	12600.00	315000.00
7	7	Supply and Installation of 19" 9U Rack Wall/Pole Mount, with front Door Glass Door Type, all Doors should be Removable Type with all accessories Like Electrical fitting, Fan Tray, Patch Panel, Cable Manager, Spike Buster/PDU. [Detailed Specification in Technical Document] Inspection: RITES	Numbers	42.00	9255.23	388719.66
8	8	Supply of Single Mode Single fiber Managed Media Converter (Ethernet & E1 to Optical vice versa) Pair and all the accessories required for their installation as per RDSO Spec No RDSO/SPN/TC/103/2013 Rev.2 or latest Inspection: RDSO	Pair	83.00	11210.00	930430.00
9	9	Supply of LAN Extender as per RDSO Specifications RDSO/SPN/TC/82/2020 Rev.2.0. Inspection RDSO	Pair	38.00	24860.00	944680.00
10	10	Supply of STP CAT- 6 Cable compliant with latest EIA/TIA-568-B-2-1 Standard for CAT 6 Cable 305 Mtrs Roll /Bundle. [Detailed Specification in Technical Document] Inspection RITES	Metre	43895.00	33.20	1457314.00
11	11	Supply of 12 Core Metal Strengthened Outdoor Unarmored Optic Fiber Cable (ITU-TG-652-D) and all the accessories required for installation as per latest TEC/BSNL [Detailed Specification in Technical Document] Inspection RITES	Metre	13000.00	12.98	168740.00
12	12	Supply of PVC insulated 3 Core 6 Sqmm, 12 AWG, 12.1 KV Grade Outdoor Strengthen Copper Cable. [Detailed Specification in Technical Document] Inspection RITES	Metre	3000.00	203.33	609990.00
13	13	Supply of 6 Fiber Armored OFC Cable Single Mode OFC for laying over the Platform Shed as per latest TEC/BSNL Specification. Inspection Consignee	Metre	300.00	27.12	8136.00
14	14	Blowing & drawing of OFC 24F/12F/6F, Power Cable, Switch Board Cable and CAT Cable (including crimping) through PVC Conduit/Duct/DWC/GI Pipe already installed	Metre	24800.00	4.72	117056.00
15	15	Surge Protection Device for 6 LAN Networks. Inspection: Consignee	Numbers	15.00	2743.40	41151.00
16	16	Supply of CAT 6 UTP Patch Cord-2 Mtrs Inspection: Consignee	Numbers	780.00	75.99	59272.20
17	17	Supply of 24 Fiber OFC Armored (Metal free) for laying over the Platform shed as per latest RDSO/TEC/BSNL Specification. Inspection Consignee	Metre	3000.00	89.77	269310.00

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18	18	Supply of PVC insulated armored 3 Core 4 Sqmm,12 AWG,1.1 KV Grade OutdoorStrengthen Copper for UPS Power Supply Distributions per BIS/ISI Standards and all accessoriesrequired for installation. Confirming to IS:1554 Part-1. Inspection Consignee.	Metre	1900.00	88.50	168150.00
19	19	Supply of Switch Board Cable 50 Pair, 0.5mm annealed tinned copper as perspecification. Inspection: Consignee	Metre	1400.00	251.91	352674.00
20	20	Supply of Switch Board Cable 25 Pair as per Specification. Inspection Consignee	Metre	1000.00	118.00	118000.00
21	21	Supply of 10 Pair Annealed Tinned Copper Conductor PVC insulated Color Coded Twisted Pair Switchboard Telephone Cable PVC Sheathed with Nylon Ripped Conductor dia of size0.5mm (inspection clause RITES)	Metre	3200.00	38.06	121792.00
					Total	16538774.67
Schedule	Schedule C6-NON SOR Items , Sub-Work C, TCCS&SIP - Power Supply					
Item- 1	NON SOR Items , Sub-Work C, TCCS&SIP - Power Supply					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply and Installation Testing and Commissioning of on line 6 KVA UPS Inspection:RITES	Numbers	5.00	150218.00	751090.00
2	2	Supply, Installation and Commissioning of 2x10 KVA UPS at least 1 Hour Back up in full load condition, connected in parallel redundant mode in separate chassis. Complete with all accessories as per specification attached [Detailed Specification in Technical Document] Inspection RITES	Set	3.00	424682.00	1274046.00
3	3	Supply and Installation Testing and Commissioning of Isolated DC-AC Inverter 1+1HA input 48 V DC, Output:220V AC 1000VA or higher, with all required Protection Circuits.Inspection: RITES	Numbers	279.00	23010.00	6419790.00
4	4	Supply and Installation 2 KVA online UPS (Single Phase) 19-inch Rack MountableType with 1 Hour Backup along with suitable AH capacity battery and all the accessories requiredfor installations. [Detailed Specification in Technical Document]Inspection: RITES	Numbers	18.00	44840.00	807120.00
5	5	Supply and installation 1 KVA/168VAH on line UPS (Single Phase) with 1 Hour Backup and all the accessories required for installations. [Detailed Specification in TechnicalDocument]Inspection: RITES	Numbers	140.00	5560.00	778400.00
					Total	10030446.00
Schedule	Schedule C7-NON SOR Items, Sub-Work C, TCCS&SIP - Tools					
Item- 1	NON SOR Items, Sub-Work C, TCCS&SIP - Tools					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply of Ethernet Tester of Stanley Make NETCATPRO2 or Similar. [Detailed Specification in Technical Document] Inspection RITES	Numbers	6.00	57088.00	342528.00
2	2	Supply of OTDR Suitable for 1310/1550nm fibre with Resolution of 60 cm, Dynamic range of 314/29 dB as per tec specification no. g/otd/02-03 march -2009 with additional features and standard accessories as enclosed. firms offer: make: EXFO, model: max 720c[DetailedSpecification in Technical Document] Inspection RITES	Numbers	6.00	165200.00	991200.00

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3	3	Single Fiber Fusion Splicer Similar to Fujikura 80C with Standard Accessories : ACADAPTER /BATTERY Charger ADC-18 1PC, AC Power Cord ACC-XX: 1PC spare electrode Elect2-20:1 pair carrying case CC-30:1PC USB cable USB-01: 1PC Sleeve loader SL01:1 PC dispenserAP-01: 1 PC screwdriver SC-01 1PC, Instruction manual: 1 PC Quick reference Guide 1PC warning& cautions: 1 PC ; BATTERY RACK BRT-09, Battery charger cord DCC-18: 1 PC High precisionFiber cleaner CT-06: 1 PC, 3 in-1 Stripper : 1PC & Protection sleeves: 25nos. (A demo shall be arranged along with supply)[Detailed Specification in Technical Document] Inspection RITES	Numbers	3.00	280840.00	842520.00
Total						2176248.00
Schedule	Schedule C8-NON SOR Items, Sub-Work C, TCCS & SIP - Labour and Training					
Item- 1	NON SOR Items, Sub-Work C, TCCS&SIP - Labour and Training					
S No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Supply of PVC Conduit Pipe Minimum 35 mm dia ISI Mark with suitable couplers,bends. And fixing on the wall/pole, clamping with all required accessories. [Detailed Specification inTechnical Document] Inspection RITES	Metre	27200.00	32.38	880736.00
2	2	Supply and fixing of PVC Trough/Trunking of 50X50 mm with cover of 2 mm thick 2meach. (This includes all materials, clamps etc required for laying, fixing and clamping). [Detailed Specification in Technical Document] Inspection Consignee	Metre	5000.00	369.10	1845500.00
3	3	Supply of PLB HDPE Duct of Size 40/33 mm Outer and with allAccessories. Installation on Wall or Structure/HDD etc. along with all Accessories required for fixing, Clamping Cutting, as per RDSO Spec No RDSO/SPN/TC/45/2013 Rev 2 or latest. Inspection: RDSO	Metre	14600.00	89.49	1306554.00
4	4	Trenching & laying of HDPE Duct in Normal Soil and Blowing of OFC Cable. [Detailed Specification in Technical Document]	Metre	17800.00	172.66	3073348.00
5	5	Breaking of Pucca/Concrete Road, PF Cutting/Wall Cutting, Laying of OFC/Powercable/UTP etc, in Trenches and through all types of protection Viz HDPE/GI/RCC Pipes as the casemay be. This includes restoration of the surface and stone paved.	Metre	2860.00	437.33	1250763.80
6	6	Supply of Desk work station furniture, 2 table & 4 Chairs [Detailed Specification inTechnical Document] Inspection Consignee	Set	6.00	14760.00	88560.00
7	7	Supply of Non-Flammable, Anti Rodent DWC Pipes (OD/ID 90/76 mm minimum) as specification IS 16205 with T Joints, sockets/couplers at both ends as per requirements. Supply ofnon-coupler for 6m of DWC pipe and couplers for 30mm of length free of cost. Inspection-RITES	Metre	150.00	118.00	17700.00
8	8	Blowing & drawing of OFC 24F/12F/6F Power Cable, Switch Board Cable and CAT Cable (including crimping) through Duct, DWC, PVC Conduit/Casing Caping, Trough already installed.	Metre	36495.00	4.72	172256.40
9	9	Supply of 10 Way Krone Modules as per specification. Inspection Consignee	Numbers	100.00	147.50	14750.00
10	10	Training of Staff as per RDSO/SPN/TC/ 99/2012 Rev.2 or Latest	Man-Week	15.00	23600.00	354000.00
11	11	Training of Personnel over and above the On-Site Training, During the Installation, Maintenance and Supervision period as Detailed in the tender document. Defined in Man-Week i.e. One week training for one personnel or as desired by Railways	Man-Week	12.00	23600.00	283200.00
Total						9287368.20

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4. ELIGIBILITY CONDITIONS

Important : All documents uploaded and remarks / confirmation entered by the bidders against any eligibility condition shall be opened as part of technical bid only

Special Technical Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	For composite works (e.g. works involving more than one distinct component, tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited: Three similar works each costing not less than the amount equal to 30% of advertised value of each component of tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of each component of tender, or One similar work each costing not less than the amount equal to 60% of advertised value of each component of tender. Note: This work involves 3 distinct Components i.e IP MPLS Network (Rs 28,03,14,591.47/-), Video Surveillance System (Rs 35,67,81,178.5/-), VOIP Based TCCS / SIP Exchange (Rs16,83,11,298.54/-) . The Similar nature of work is as below For IP-MPLS network- Design, supply, configuration, installation and commissioning of a network with IP based Technology having IP-MPLS backbone spread over geographically dispersed ,remote point of Presence site/locations spanning multiple Cities/Towns along with provision of Network Management System for the entire network For Video Surveillance System Design, supply, configuration, installation and commissioning of IP enabled video surveillance system with video management servers, in Federated and multi-tenant Architecture ,spread over geographically dispersed , remote sites /locations spanning multiple towns/cities For VOIP TCCS /SIP Exchanges Design, supply, configuration, installation and commissioning of IP based telephony by Provision of IP server based IP- PBX /SIP exchanges	No	No	Allowed (Mandatory)

Special Financial Criteria

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	The tenderer must have received contractual payments in the previous three financial years and the current financial year up to the date of inviting of tender, at least 150% of the advertised value of the tender. The tenderers shall submit Certificates to this effect which may be an attested Certificate from the concerned department / client or Audited Balance Sheet duly certified by the Chartered Accountant/Certificate from Chartered Accountant duly supported by Audited Balance Sheet. Note for 10.2: Client certificate from other than Govt Organization should be duly supported by Form 16A/26AS generated through TRACES of Income Tax Department of India.	No	No	Allowed (Mandatory)

Submission of Document Verification Certificate

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Please submit a certificate in the prescribed format (please download the format from the link given below) for verification / confirmation of the documents submitted for compliance of eligibility / qualifying criteria. Non submission of the certificate, or submission of certificate either not properly filled in, or in a format other than the prescribed format shall lead to summary rejection of your offer. (Click here to download the Format of Self Certificatio)	No	No	Allowed (Mandatory)

5. COMPLIANCE

Important : All documents uploaded and remarks / confirmation entered by the bidders against any compliance condition shall be opened as part of technical bid only.

Commercial-Compliance

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Please enter the percentage of local content in the material being offered. Please enter 0 for fully imported items, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in the tender conditions.	No	Yes	Allowed (Optional)

6. Documents attached with tender

S.No.	Document Name	Document Description
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1	DetailedTechnicalSpec.pdf	Detailed Technical Specifications
2	GCC_July_20201.pdf	GCC 2020
3	Correctionslipsublettingofcontract08072021.pdf	Correction slip 1
4	BidsecurityEMDdeposit301220201.pdf	Bid security Deposit
5	PBG3RBLr.pdf	PBG 3 percent
6	SpecialConditions.docx_1.pdf	Special Conditions of Contract

This tender complies with Public Procurement Policy (Make in India) Order 2017, dated 15/06/2017, issued by Department of Industrial Promotion and Policy, Ministry of Commerce, circulated vide Railway Board letter no. 2015/RS(G)/779/5 dated 03/08/2017 and 27/12/2017 and amendments/ revisions thereof.

As a Tender Inviting Authority, the undersigned has ensured that the issue of this tender does not violate provisions of GFR regarding procurement through GeM.

Signed By: KULDEEP .

Designation : Dy.CSTE/Proj/UBL