

NEPAL ELECTRICITY AUTHORITY

(An Undertaking of Government of Nepal)

Project Management Directorate

Distribution Line and Substation Department



NEA DIGITAL NETWORK AND SCADA EXPANSION PROJECT

BIDDING DOCUMENT FOR

Procurement of Plant for
Design, Supply, Installation and Commissioning
of
NEA Digital Network and SCADA Expansion
(Procurement of Plant)

Single-Stage, Two-Envelope
Bidding Procedure

Issued on:	22 nd February 2026
Invitation for Bids No.:	PMD/ETDSP/NDNSEP-082/83-01
OCB No.:	PMD/ETDSP/NDNSEP-082/83-01
Employer:	Nepal Electricity Authority
Country:	Nepal

VOLUME –III OF III

NEA Digital Network & SCADA Expansion Project
Distribution Line and Substation Department
Project Management Directorate
Matatirtha, Kathmandu, Nepal
Telephone: 01 5164099

Table of Contents

PRICE SCHEDULE

Note:

- 1) Bidder is required to quote prices in this Schedule for all the individual items/sub-items.
- 2) The Prices of equipment are inclusive of type test charges.
- 3) BOQ given is indicative only based on the scope of work as given in Employer's Requirements. The quantities mentioned above may undergo change during detailed engineering to meet the functional requirement and scope of work defined in Employer's Requirements. The Contractor shall prepare and submit the final BOQ within 30 days of signing of Contract.
- 4) Bidder shall quote the rates excluding taxes and duties applicable in Nepal like Custom, VAT etc, but shall include all taxes, duties outside Nepal and any applicable business, income taxes in Nepal like TDS etc.

NEPAL ELECTRICITY AUTHORITY
 PROJECT MANAGEMENT DIRECTORATE
 Distribution Line and Substation Department
 NEA Digital Network and SCADA Expansion Project

FC: Foreign Currency

Schedule No.1: Equipment including Mandatory Spares to be supplied from abroad

LC: Local Currency

Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties) Remark
			Unit	Quantity	FC			FC
					Currency#	Unit Rate	Amount	
1	2	3	4	5	6	7	8 = (7) X (5)	9=8
Part -A	SCADA System							
A.	Software							
a)	DCC-Software							
1	SCADA including FEP software		Lot	1				
2	ISR Software		Lot	1				
3	Historian Software		Lot	1				
4	DTS software		Lot	1				
5	ICCP Software		Lot	1				
6	Configuration and Developmental software		Lot	1				
7	Network Management Software		Lot	1				
8	Software for web server		Lot	1				
9	Any other software to meet functional /performance requirement of MTS (Backup software, Antivirus, Virtualisation software, Syslog)		Lot	1				
	Sub-Total (DCC-Software)							
b)	DRC Software							
1	SCADA including FEP software		Lot	1				
2	ISR Software		Lot	1				
3	Historian Software		Lot	1				
4	DTS software		Lot	1				
5	ICCP Software		Lot	1				



NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

6	Configuration and Developmental software(C&DS)		Lot	1				
7	Network Management Software		Lot	1				
8	Software for web server		Lot	1				
9	Any other software to meet functional /performance requirement of MTS (Backup software, Antivirus, Virtualisation software, Syslog)		Lot	1				
Sub-Total (DRC-Software)								
B.	Hardware							
a)	DCC-Hardware							
1	SCADA Server		No.	2				
2	FEP server		No.	2				
3	ICCP server		No.	2				
4	ISR Server		No.	2				
5	Historian server		No.	2				
6	NMS server		No.	1				
7	DTS server		No.	1				
8	Web server with load balancing		No.	2				
9	Integration Server		No.	1				
10	PMS and AV server (Patch Management & Antivirus)		No.	1				
11	Other Active Devices							
a	Configuration and Developmental server(C&DS)		No.	1				
b	QAS server (Quality Assurance server) for patch testing		No.	1				
c	Active Directory server		No.	1				
d	SMS gateway		No.	1				
e	Developmental console with one TFT		No.	2				
f	DTS/Workstation Console with dual TFTs		No.	2				
12	Storage & Backup Devices							
a	Network Attached Storage (NAS) or SAN Storage Array with minimum 20TB usable capacity (configured in RAID 6 or RAID-TP) to ensure retention of 7 years of historical data and 2 years of online alarms/events for the Ultimate		No.	1				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

	system sizing. The system shall support Active-Active controllers and AI-driven management						
b	LTO Tape Drive or Disk-based Backup Solution.	No.	1				
13	Switches						
a	Layer II switch (SCADA LAN and ISR LAN)	No.	2				
b	Layer II switch (Configuration and Developmental system LAN and QAS LAN)	No.	2				
c	Layer II switch (FEP) - 24 ports	No.	2				
d	Layer II switch (ICCP) - 24 ports	No.	2				
14	Routers						
a	Router for interfacing IT systems, DRC and Transmission Control Centres	No.	2				
15	Security system (DMZ)						
a	Firewall including IDS/IPS, Web filtering, VPN	No.	4				
b	Layer II switch	No.	4				
c	Router cum firewall for ICCP	No.	2				
d	Router cum firewall for FEP	No.	2				
16	Other Active Devices						
a	GPS Time synchronisation system (DRC/ BCC) PS: Only for BCC	Set	2				
b	Time, day & date digital displays	Set	1				
17	Printers						
a	Colour laser printer	Set	1				
b	B/W Laser printer	Set	1				
	Sub-Total (DCC Hardware)						
b)	DRC-Hardware						
1	SCADA Server	No.	2				
2	FEP server	No.	2				
3	ICCP server	No.	2				
4	ISR Server	No.	2				
5	Historian server	No.	2				
6	NMS server	No.	1				
7	DTS server	No.	1				
8	Web server with load balancing	No.	2				
9	PMS and AV server (Patch Management & Antivirus)	No.	1				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

10	Other Active Devices						
a	Development Server (CDS server)		No.	1			
b	QAS server (Quality Assurance server) for patch testing		No.	1			
c	Web/Directory server		No.	1			
d	SMS gateway		No.	1			
e	Developmental console with one TFT		No.	2			
f	DTS/Workstation Console with dual TFTs		No.	2			
11	Storage & Backup Devices						
a	Network Attached Storage (NAS) or SAN Storage Array with minimum 20TB usable capacity (configured in RAID 6 or RAID-TP) to ensure retention of 7 years of historical data and 2 years of online alarms/events for the Ultimate system sizing. The system shall support Active-Active controllers and AI-driven management		No.	1			
b	LTO Tape Drive or Disk-based Backup Solution.		No.	1			
12	Switches						
a	Layer II switch (SCADA LAN)		No.	2			
b	Layer II switch (Planning & Development system LAN)		No.	2			
c	Layer II switch (FEP) - 24 ports		No.	2			
d	Layer II switch (ICCP) - 24 ports		No.	2			
13	Routers						
a	Router for interfacing IT system & SCADA DR centre		No.	2			
14	Security system (DMZ)						
a	Firewall including IDS/IPS, Web filtering, VPN		No.	4			
b	Layer II switch		No.	4			
c	Router cum firewall for ICCP		No.	2			
d	Router cum firewall for FEP		No.	2			
15	Other Active Devices						
a	GPS Time synchronisation system		Set	2			
b	Time, day & date digital displays		Set	1			
16	Printers						
a	Colour laser printer		Set	1			

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

b	B/W Laser printer		Set	1				
	Sub-Total (DRC Hardware)							
	SUB TOTAL PART A							
Part -B	SCADA System RTU							
1	RTU base equipment comprising panels, racks, sub-racks, Power Supply modules, CPU, interfacing equipment, required converters & all other required items/accessories including complete wiring for all modules for locations mentioned and earthing for each RTU's		Set	215				
2	GPRS based Modem for data connectivity from RTU to DCC to integrate with SCADA with (for RTU) including all accessories (canopy, cabling etc)		No.	215				
3	GPRS based Modem for data connectivity from DCC to RTU to integrate with SCADA (for DCC/DC and DRC/BCC) (1+1) for 215 Substations including all accessories (canopy, cabling etc)		No.	2				
4	SIM for Modem and GPRS Charges (connection in the name of NEA) for 7 years		No.	217				
5	Multifunction transducers (MFT)		No.	3225				
6	Contact Multiplying Relays (CMRs)		No.	68370				
7	Heavy duty relays for Control (HDRs)		No.	8170				
8	Dummy Breaker Latching Relays		No.	215				
9	Transformer Transducers		No.	430				
10	110 V DC to 48 V DC converter with all accessories, cable etc for RTU & Modem backup power		No.	215				
	LDMS solutions							
11	LDMS system along with antivirus for 5 years		No.	215				
11 (a)	Furniture for LDMS system (one table and one chair each Substation suitable for operation)		Set	215				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

11 (b)	Power Backup for LDMS		Set	215				
11 (c)	Workstation with 17" (inch) TFT & CPU with windows licenses		Set	215				
	Firewall							
12	Firewall (for substations where OTN is not provided)		No.	70				
	Converter/Gateway							
13	IEC-61850 to IEC-60870-5-104 Protocol Converter / Gateway – Industrial grade, redundant power supply, supports MMS/GOOSE mapping, time synchronization (NTP/GPS), secure IEC-104 link to DCC		No.	18				
	Switch							
14	Industrial Grade Optical Fiber Switch (8 port for 5/10/20 kms having Ethernet, VLAN, Supporting, Remote reset , Manageable L2 Switch) with all accessories - at substations with fibre connectivity		Nos	145				
	Test Equipment's for RTU							
15	RTU Database Configuration & Maintenance Software tool		No.	10				
16	Master Station cum RTU Simulator & Protocol analyser software tool		No.	10				
17	Laptop PC for above software tools along with interfacing hardware including Hub		No.	10				
	SUB TOTAL PART B							
Part -C	ADSS Cable							
1	48F ADSS Fiber optic cable		Kms	8000				
2	Termination/Tension Assembly including anchor/D-Shackle, Thimble, Turn Buckle, Extension Rods, Protective Helix, Termination Helix and any or all other associated accessories and fittings		Nos	16000				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

3	Suspension Assembly including twisted link, clevis thimble, suspension helix, protective helix and any or all other associated accessories and fittings		Nos	40000				
4	Pole Stay Clamps with all fittings		Nos	20000				
5	Adjustable Cable Storage Brackets with all associated accessories and fittings		Nos	6988				
6	Fiber Optic Splice Enclosure (Joint Box- IP68/Waterproof) for ADSS with associated pole mounting accessories		Nos	1300				
7	Spiral Vibration Damper (As per standard)		Nos	40000				
8	Fiber Distribution Management System (FDMS), 48F with all accessories		Nos	504				
9	Cable Tray		Mtr	2000				
10	Simplex Plug		Nos	464				
	SUB TOTAL PART C							

Part -D	OT Network							
A	OTN Device							
1	OTN Equipment (OTU4) with 2-degree OTU4 (1 working port + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	110				
2	OTN Equipment (OTU4) with 3-degree OTU4 (2 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	57				
3	OTN Equipment (OTU4) with 4-degree OTU4 (3 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access,		Set	15				

NEPAL ELECTRICITY AUTHORITY
 PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
 NEA Digital Network and SCADA Expansion Project

	including software license and installation material							
4	OTN Equipment (OTU4) with 5-degree OTU4 (4 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	4				
5	OTN Equipment (OTU4) with 6-degree OTU2 (5 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	20				
6	OTN Equipment (OTU4) with 7-degree OTU2 (6 working ports + 1 spare port), supporting 10G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	4				
7	OTN Equipment (OTU4) with 8-degree OTU2 (7 working ports + 1 spare port), supporting 10G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	4				
8	OTN Equipment (OTU2) with 9-degree OTU4 (8 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	2				



NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

9	OTN Equipment (OTU4) with 10-degree OTU4 (9 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material	Set	2				
10	OTN Equipment (OTU4) with 11-degree OTU4 (9 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material	Set	1				
11	OTN Equipment (OTU4) with 12 direction OTU4 (9 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material	Set	1				
12	OTN Equipment (OTU4) with 14 degree OTU4 (13 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material	Set	1				
13	OTN Equipment (OTU4) with 16 degree OTU4 (15 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material	Set	1				
14	OTN Equipment (OTU4) for Syuachtar with 7 degree OTU4 (6 working ports + 1 spare port), supporting 100G line, 20*GE, 210*E1, DDN, 210*FXS/FXO, 8*2M Optical service access, including software license and installation material	Set	1				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

15	OTN Equipment (OTU4) for Hetauda with 3 degree OTU4 (2 working ports + 1 spare port), supporting 100G line, 20*GE, 210*E1, DDN, 210*FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	1				
16	24U (1200x600x800 mm) Rack for OTN (including Rack frame with front/rear doors, 2x PDUs (15A), 1x Fan tray, Grounding kit, Cable manager, Mounting rails)		Nos	224				
B	Site Power Device							
1	110 V DC to 48 V DC converter with all accessories, cable etc for backup power to Router, OUT and DWDM devices.		Nos	224				
SUB TOTAL PART D								
Part -E	IT Network							
A	DWDM Device							
1	DWDM Device, Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 2-Degree OLA sites, including Installation Material and license		Set	15				
2	DWDM Device, Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 3-Degree OLA sites, including Installation Material and license		Set	1				
3	DWDM Device, Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 4-Degree OLA sites, including Installation Material and license		Set	1				
4	DWDM Device, Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 9-Degree ROADM with directionless & flexgrid architecture, 2*100GE access (with 2*100G QSFP28 0.1km), line side use 2*200G (200G/λ, with 2*200G CFP), including optical amplifier, Installation Material and license		Set	12				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

5	DWDM Device, New Butwal Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 9-Degree ROADM with directionless & flexgrid architecture, 16*100GE (with 16*100G QSFP28 0.1km) access, line side use 12*200G (200G/λ, with 12*200G CFP) and 1*400G(200G/λ, with 1*400G CFP), including optical amplifier, Installation Material and license	Set	1				
6	DWDM Device, Syuachtar Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 9-Degree ROADM with directionless & flexgrid architecture, 16*100GE (with 16*100G QSFP28 0.1km) access, line side use 12*200G (200G/λ, with 12*200G CFP) and 1*400G(200G/λ, with 1*400G CFP), including optical amplifier, Installation Material and license	Set	1				
7	Core Router Device, Redundancy on control-boards and AC power modules, with 28*100GE(16*QSFP28 0.1km, 4*QSFP28 10km, 4*QSFP28 40km), 10*10GE/GE(5*SFP+ 10km; 5*SFP 10km), 40G IPsec throughput & 500 IPsec tunnel and software license for necessary	Nos	2				
8	IGW Router Device, Redundancy on control-boards and AC power modules, with 6*100GE(3*QSFP28 0.1km, 1*QSFP28 40km), 10*10GE/GE(5*SFP+ 10km; 5*SFP 10km), and software license for necessary	Nos	4				
9	DC PE Router Device, Redundancy on control-boards and AC power modules, with 8*100GE(4*QSFP28 0.1km)+16*10GE/GE(8*SFP+ 10km; 8*SFP 10km) and software license for necessary	Nos	4				
10	AGG Router Device, Redundancy on control-boards and AC power modules, with 2*100GE(2*QSFP28 0.1km), 10*10GE/GE(5*SFP+ 10km; 5*SFP 10km),	Nos	14				

NEPAL ELECTRICITY AUTHORITY
 PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
 NEA Digital Network and SCADA Expansion Project

	200M IPsec throughput & 100 IPsec tunnel and software license for necessary							
11	ACC Router Device, Redundancy on AC power modules, with 4*10GE(2*SFP+ 80km, 2*SFP+ 10km) , 12*GE(at least 4 electric GE ports, 8*SFP 10km), 200M IPsec throughput & 100 IPsec tunnel and software license for necessary		Nos	129				
B	Site Power Device							
1	110 V DC to 48 V DC converter with all accessories, cable etc for backup power to Router, OUT and DWDM devices.		Nos	184				
	SUB TOTAL PART E							
Part -F	Online Management System							
A	Software							
1	Network Management System of IT Network		Lot	1				
1.1	Software for Network Management System of IT Network							
2	Network Management System of OT Network		Lot	1				
2.1	Software for Network Management System of OT Network							
	SUB TOTAL PART F							
	Total for Schedule 1 (Part-A+ Part-B+ PartC + Part D + Part E + Part F) (Total of column 9 to be carried forward to Schedule 5: Grand Summary)							

Note:

1. The bidder is required to quote prices in this schedule for all items listed in Schedule 1 that they intend to supply from abroad.
2. Bidder may quote quantities of line items based on their sizing and proposed solution.
3. All the data provided in the above table represents the bare minimum requirements. Any additional elements necessary to successfully implement the complete solution must be considered in the price bid and provided by the bidder.



NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Date:

Signature:

Printed Name:

Designation:

Common Seal:



NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

LC: Local Currency
(ALL Price in Local
Currency)

**Schedule No.2: Equipment including Mandatory Spares Parts
to be supplied within Nepal**

Item No.	Item description	Unit	Quantity	Ex-Factory Price (Excluding VAT) in LC		Inland transportation to site in LC		Total Amount (Excluding Taxes)	Custom, VAT and other taxes
				Unit Rate	Amount	Unit Rate	Amount		
1	2	3	4	5	6 = (4) x (5)	7	8 = (4)x(7)	9=6+8	10
	Total for Schedule 2 (Total of column 9 to be carried forward to Schedule 5: Grand Summary)								

Note:

1. The bidder is required to quote prices in this schedule for all items listed in Schedule 2 that they intend to supply from within Nepal.
2. Bidder may quote quantities of line items based on their sizing and proposed solution.
3. Strike-out whichever is not applicable.
4. Column 5 Price shall include all customs duties and sales and other taxes already paid or payable on the components and raw materials used in the manufacture or assembly of the item or the customs duties and sales and other taxes already paid on previously imported items.

Date:

Signature:
Printed Name:
Designation:
Common Seal:

NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Schedule - 3: Design Services

Item No.	Item Description	Estimated		Unit Prices		NPR	USD (\$)
				Local Currency Portion	Foreign Currency Portion		
		Quantity	Unit	NRs	Currency	LC	FC
1	2	3	4	5	6	7 = 3 x 5	8=3x6
1	Integration with control centres and applications						
1.1	Integration with Control Centres on ICCP -- 6 regional Grid MCC, LDC and between DCC and DRC/BCC	10	Lot				
1.2	Integration with upcoming GIS application (Future Project - Will not be paid if project doesn't come)	1	Lot				
1.3	Integration with existing DMS and OMS applications catering to 30 SS in KTM Valley	30	No.				
1.4	Integration with upcoming DMS and OMS applications for Entire Nepal (Future Project - Will not be paid if project doesn't come)	263	No.				
1.5	Integration with existing and upcoming FRTUs, RTUs (Existing FRTU, RTUs -50 Nos.)	50	No.				
2	Design For OTN Network	1	Lot				
3	Design For DWDM Network	1	Lot				
4	Design For Router Network	1	Lot				
5	ADSS Route Survey and Design	1	Lot				
	Total of Schedule 3 (Total of column 7 and 8 to be carried forward to Schedule No. 5: Grand Summary)						

- Note: 1. These line items to be discovered under this bid for NEA's upcoming solutions.
2. Bidder may quote additional Design Items based on their sizing and proposed solution.

Date:

Signature:
Printed Name:
Designation:
Common Seal:

NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Schedule No. 4: Installation and Other Services

(a): Installation and Construction Charges at NEA Digital Network & SCADA Expansion

Item No.	Item description			Estimated		Installation and construction Charges				
		Country of origin	Type & Designation	Unit	Quantity	Portion In Foreign Currency			Portion In Nepalese Currency (In NPR)	
						Currency	Unit Rate	Total Charge	Unit Rate	Total Charge
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	9 = (8) x (6)	(10)	11=10X6
	Erection and Commissioning including small items viz TBs. Lux . Ferrules. Channels, etc and Civil work viz. field excavation etc.			Set	215					
	Sub Total									
PART A	SCADA System									
A.	Software									
a)	DCC Software									
1	SCADA including FEP software			Lot	1					
2	ISR Software			Lot	1					
3	Historian Software			Lot	1					
4	DTS software			Lot	1					
5	ICCP Software			Lot	1					
6	Configuration and Developmental software			Lot	1					
7	Network Management Software			Lot	1					
8	Software for web server			Lot	1					
9	Any other software to meet functional /performance requirement of MTS (Backup software, Antivirus, Virtualisation software, Syslog)			Lot	1					
b)	DRC Software									
1	SCADA including FEP software			Lot	1					
2	ISR Software			Lot	1					
3	Historian Software			Lot	1					

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

4	DTS software			Lot	1				
5	ICCP Software			Lot	1				
6	Configuration and Developmental software(C&DS)			Lot	1				
7	Network Management Software			Lot	1				
8	Software for web server			Lot	1				
9	Any other software to meet functional /performance requirement of MTS (Backup software, Antivirus, Virtualisation software, Syslog)			Lot	1				
B.	Hardware								
a)	DCC-Hardware								
1	SCADA Server			No.	2				
2	FEP server			No.	2				
3	ICCP server			No.	2				
4	ISR Server			No.	2				
5	Historian server			No.	2				
6	NMS server			No.	1				
7	DTS server			No.	1				
8	Web server with load balancing			No.	2				
9	Integration Server			No.	1				
10	PMS and AV server (Patch Management & Antivirus)			No.	1				
11	Other Active Devices								
A	Configuration and Developmental server(C&DS)			No.	1				
B	QAS server (Quality Assurance server) for patch testing			No.	1				
c	Active Directory server			No.	1				
d	SMS gateway			No.	1				
e	Developmental console with one TFT			No.	2				
f	DTS/Workstation Console with dual TFTs			No.	2				
12	Storage & Backup Devices								
A	External RAID Mass storage device (for 24 months online backup)			No.	1				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

B	External DAT drive		No.	1					
13	Switches								
A	Layer II switch (SCADA LAN and ISR LAN)		No.	2					
B	Layer II switch (Configuration and Developmental system LAN and QAS LAN)		No.	2					
C	Layer II switch (FEP) - 24 ports		No.	2					
D	Layer II switch (ICCP) - 24 ports		No.	2					
14	Routers								
A	Router for interfacing IT systems, DRC and Transmission Control Centers		No.	2					
15	Security system (DMZ)								
A	Firewall including IDS/IPS, Web filtering, VPN		No.	4					
b	Layer II switch		No.	4					
c	Router cum firewall for ICCP		No.	2					
d	Router cum firewall for FEP		No.	2					
16	Other Active Devices								
a	GPS Time synchronisation system		Set	2					
b	Time, day & date digital displays		Set	1					
17	Printers								
a	Color laser printer		Set	1					
b	B/W Laser printer		Set	1					
b)	DRC-Hardware								
1	SCADA Server		No.	2					
2	FEP server		No.	2					
3	ICCP server		No.	2					
4	ISR Server		No.	2					
5	Historian server		No.	2					
6	NMS server		No.	1					
7	DTS server		No.	1					
8	Web server with load balancing		No.	2					
9	PMS and AV server (Patch Management & Antivirus)		No.	1					
10	Other Active Devices								

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

a	Development Server (CDS server)		No.	1					
b	QAS server (Quality Assurance server) for patch testing		No.	1					
c	Web/Directory server		No.	1					
d	SMS gateway		No.	1					
e	Developmental console with one TFT		No.	2					
f	DTS/Workstation Console with dual TFTs		No.	2					
11	Storage & Backup Devices								
a	External RAID 10 Mass storage device (for 24 months online backup)		No.	1					
b	External DAT drive		No.	1					
12	Switches								
a	Layer II switch (SCADA LAN)		No.	2					
b	Layer II switch (Planning & Development system LAN)		No.	2					
c	Layer II switch (FEP) - 24 ports		No.	2					
d	Layer II switch (ICCP) - 24 ports		No.	2					
13	Routers								
a	Router for interfacing IT system & SCADA DR centre		No.	2					
14	Security system (DMZ)								
a	Firewall including IDS/IPS, Web filtering, VPN		No.	4					
b	Layer II switch		No.	4					
c	Router cum firewall for ICCP		No.	2					
d	Router cum firewall for FEP		No.	2					
15	Other Active Devices								
a	GPS Time synchronisation system		Set	2					
b	Time, day & date digital displays		Set	1					
16	Printers								
a	Color laser printer		Set	1					
b	B/W Laser printer		Set	1					
Sub Total Part A									

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Part -B	SCADA System RTU (S/S)									
	RTU									
1	RTU base equipment comprising panels, racks, sub-racks, Power Supply modules, CPU, interfacing equipment, required converters & all other required items/accessories including complete wiring for all modules for locations mentioned and earthing for each RTU's			Set	215					
2	GPRS based Modem for data connectivity from RTU to DCC to integrate with SCADA with (for RTU) including all accessories (canopy, cabling etc)			No.	215					
3	GPRS based Modem for data connectivity from DCC to RTU to integrate with SCADA (for DCC) (1+1) for Substations including all accessories (canopy, cabling etc)			No.	2					
4	SIM for Modem and GPRS Charges (connection in the name of NEA) for 4 years			No.	217					
5	Multifunction transducers (MFT)			No.	3225					
6	Contact Multiplying Relays (CMRs)			No.	68370					
7	Heavy duty relays for Control (HDRs)			No.	8170					
8	Dummy Breaker Latching Relays			No.	215					
9	Transformer Transducers			No.	430					
10	110 V DC to 48 V DC converter with all accessories, cable etc for RTU & Modem backup power.			No.	215					
	LDMS solutions									
11	LDMS system along with antivirus for 5 years			No.	215					
11 (a)	Furniture for LDMS system (one table and one chair each Substation suitable for operation)			Set	215					
11 (b)	Power Backup for LDMS			Set	215					

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

11 (c)	Workstation with 17" (inch) TFT & CPU with windows licenses			Set	215				
	Firewall								
12	Firewall (for substations where OTN is not provided)			No.	70				
	Converter/Gateway								
13	IEC-61850 to IEC-60870-5-104 Protocol Converter / Gateway – Industrial grade, redundant power supply, supports MMS/GOOSE mapping, time synchronization (NTP/GPS), secure IEC-104 link to DCC			No.	18				
	Switch								
14	Industrial Grade Optical Fiber Switch (8 port for 5/10/20 kms having Ethernet, VLAN, Supporting, Remote reset, Manageable L2 Switch) with all accessories - at substations			Nos	145				
	Test Equipments for RTU								
15	RTU Database Configuration & Maintenance Software tool			No.	10				
16	Master Station cum RTU Simulator & Protocol analyser software tool			No.	10				
17	Laptop PC for above software tools along with interfacing hardware including Hub			No.	10				
	Sub Total Part B								
PART C	ADSS Cable								
1	48F ADSS fiber optic cable			Kms	8000				
2	Termination/Tension Assembly including anchor/D-Shackle, Thimble, Turn Buckle, Extension Rods, Protective Helix, Termination Helix and any or all other associated accessories and fittings			Nos	16000				
3	Suspension Assembly including twisted link, clevis thimble, suspension helix, protective helix			Nos	40000				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

	and any or all other associated accessories and fittings									
4	Pole Stay Clamps with all fittings		Nos	20000						
5	Adjustable Cable Storage Brackets with all associated accessories and fittings		Nos	6988						
6	Fiber Optic Splice Enclosure (Joint Box-IP68/Waterproof) for ADSS with associated pole mounting accessories		Nos	1300						
7	Spiral Vibration Damper (As per standard)		Nos	40000						
8	Fiber Distribution Management System (FDMS), 48F with all accessories		Nos	504						
9	Cable Tray		Mtr	2000						
10	Simplex Plug		Nos	464						
	Sub Total Part C									
PART D	OT Network									
A	OTN Device									
1	OTN Equipment (OTU4) with 2 degree OTU4 (1 working port + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	110						
2	OTN Equipment (OTU4) with 3 degree OTU4 (2 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material		Set	57						
3	OTN Equipment (OTU4) with 4 degree OTU4 (3 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service		Set	15						

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

	access, including software license and installation material									
4	OTN Equipment (OTU4) with 5 degree OTU4 (4 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	4					
5	OTN Equipment (OTU4) with 6 degree OTU2 (5 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	20					
6	OTN Equipment (OTU4) with 7 degree OTU2 (6 working ports + 1 spare port), supporting 10G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	4					
7	OTN Equipment (OTU4) with 8 degree OTU2 (7 working ports + 1 spare port), supporting 10G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	4					
8	OTN Equipment (OTU2) with 9 degree OTU4 (8 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	2					
9	OTN Equipment (OTU4) with 10 degree OTU4 (9 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	2					

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

10	OTN Equipment (OTU4) with 11 degree OTU4 (9 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	1					
11	OTN Equipment (OTU4) with 12 direction OTU4 (9 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	1					
12	OTN Equipment (OTU4) with 14 degree OTU4 (13 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	1					
13	OTN Equipment (OTU4) with 16 degree OTU4 (15 working ports + 1 spare port), supporting 100G line, 10*GE, 32*E1, DDN, FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	1					
14	OTN Equipment (OTU4) for Syuachtar with 7 degree OTU4 (6 working ports + 1 spare port), supporting 100G line, 20*GE, 210*E1, DDN, 210*FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	1					
15	OTN Equipment (OTU4) for Hetauda with 3 degree OTU4 (2 working ports + 1 spare port), supporting 100G line, 20*GE, 210*E1, DDN, 210*FXS/FXO, 8*2M Optical service access, including software license and installation material			Set	1					

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

16	24U (1200x600x800 mm) Rack for OTN (including Rack frame with front/rear doors, 2x PDUs (15A), 1x Fan tray, Grounding kit, Cable manager, Mounting rails)			Nos	224					
B	Site Power Device									
1	110 V DC to 48 V DC converter with all accessories, cable etc for backup power to Router, OUT and DWDM devices.			Nos	224					
	Sub Total Part D									
Part -E	IT Network									
A	DWDM Device									
1	DWDM Device, Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 2-Degree OLA sites, including Installation Material and license			Set	15					
2	DWDM Device, Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 3-Degree OLA sites, including Installation Material and license			Set	1					
3	DWDM Device, Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 4-Degree OLA sites, including Installation Material and license			Set	1					
4	DWDM Device, Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 9-Degree ROADM with directionless & flexgrid architecture, 2*100GE access (with 2*100G QSFP28 0.1km), line side use 2*200G (200G/λ, with 2*200G CFP), including optical amplifier, Installation Material and license			Set	12					

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

5	DWDM Device, New Butwal Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 9-Degree ROADM with directionless & flexgrid architecture, 16*100GE (with 16*100G QSFP28 0.1km) access, line side use 12*200G (200G/λ, with 12*200G CFP) and 1*400G(200G/λ, with 1*400G CFP), including optical amplifier, Installation Material and license			Set	1					
6	DWDM Device, Syuachtar Extended C-Band (Min 4.8THz usable width) OR Super C-band system, 9-Degree ROADM with directionless & flexgrid architecture, 16*100GE (with 16*100G QSFP28 0.1km) access, line side use 12*200G (200G/λ, with 12*200G CFP) and 1*400G(200G/λ, with 1*400G CFP), including optical amplifier, Installation Material and license			Set	1					
7	Core Router Device, Redundancy on control-boards and AC power modules, with 28*100GE(16*QSFP28 0.1km, 4*QSFP28 10km, 4*QSFP28 40km), 10*10GE/GE(5*SFP+ 10km; 5*SFP 10km), 40G IPsec throughput & 500 IPsec tunnel and software license for necessary			Nos	2					
8	IGW Router Device, Redundancy on control-boards and AC power modules, with 6*100GE(3*QSFP28 0.1km, 1*QSFP28 40km), 10*10GE/GE(5*SFP+ 10km; 5*SFP 10km), and software license for necessary			Nos	4					
9	DC PE Router Device, Redundancy on control-boards and AC power modules, with			Nos	4					

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

	8*100GE(4*QSFP28 0.1km)+16*10GE/GE(8*SFP+ 10km; 8*SFP 10km) and software license for necessary								
10	AGG Router Device, Redundancy on control-boards and AC power modules, with 2*100GE(2*QSFP28 0.1km), 10*10GE/GE(5*SFP+ 10km; 5*SFP 10km), 200M IPsec throughput & 100 IPsec tunnel and software license for necessary		Nos	14					
11	ACC Router Device, Redundancy on AC power modules, with 4*10GE(2*SFP+ 80km, 2*SFP+ 10km) , 12*GE(at least 4 electric GE ports, 8*SFP 10km), 200M IPsec throughput & 100 IPsec tunnel and software license for necessary		Nos	129					
B	Site Power Device								
1	110 V DC to 48 V DC converter with all accessories, cable etc for backup power to Router, OUT and DWDM devices.		Nos	184					
	Sub Total Part E								
Part -F	Online Management System								
A	Software								
1	Network Management System of IT Network		Lot	1					
1.1	Software for Network Management System of IT Network								
2	Network Management System of OT Network		Lot	1					
2.1	Software for Network Management System of OT Network								
B	Hardware								
1	Network Management System of IT Network								
1.1	Server & Ethernet Switch		Set	1					

NEPAL ELECTRICITY AUTHORITY
 PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
 NEA Digital Network and SCADA Expansion Project

2	Network Management System of OT Network									
2.1	Server & Ethernet Switch		Set	1						
Total for Schedule 4(a) (Part-A+ Part-B+ Part C + Part D + Part E + Part F) (Total of column 9 and 11 to be carried forward to Schedule No. 5: Grand Summary)										

Note: 1. Bidder may quote quantities of line items based on their sizing and proposed solution.
 2. The above-mentioned requirements are the minimum requirements. Any components or equipment not listed in the BOQ but required for the complete solution will be provided by the bidder at no additional cost.

Date:

Signature:
 Printed Name:
 Designation:
 Common Seal:



NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Schedule No. 4: Installation and Other Services (Common for all)

(b): Training Charges for training to be imparted abroad

Sl. No.	Description	Item for which training is to be imparted.	Country where training is to be imparted	Nos. of Trainee	Training duration in days	Total Training Charges		
						Currency	Unit rate	Total Training Charges
1	2		3	4	5	6	7	8 = 4x5x7
A	Training to Owners personnel on Design , testing and Maintenance aspect as per Section Project, Technical Specification at manufacturer's works	i) Training Services for RTU including operation and maintenance		25	10			
		ii) Training services for SCADA technology including operation and maintenance		25	10			
		iii) Training services for DWDM technology including operations and maintenance		25	10			
		iv) Training services for OTN technology including operations and maintenance		25	10			
		v) Out of Pocket Expenses (OPE including Air fare, local abroad travelling charges, per diem & other necessary expenses)		Ls	Ls			
Total for Training Charges (total of column 8 to be carried forward to Schedule 5: Grand summary)								

Note:

1. Training at Manufacturer's works: The Contractor shall include in the training charges payment including per Diem allowance to NEA trainees as per PSR.
2. To and Fro charges and Training material for the Trainees shall be included in the prices quoted by the bidder including arrangements for trainees for attending the training.

Date:

Signature:
 Printed Name:
 Designation:

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Schedule No. 4: Installation and Other Services (Common for all)

(c): Training Charges for training to be imparted to Employer's Personnel by Bidder's Instructor in Nepal

Sl. No.	Description of the Test	Item for which training is to be imparted.	Country where training is to be imparted	Nos. of Trainee	Training duration in days	Training Charges for Contractors Trainers		
						Currency	Unit rate	Total Training Charges
1	2		3	4	5	6	7	8 = 5x 7
a)	On Job training on operation, maintenance and testing & commissioning aspect at each substation as per section Project, Technical Specification	i) Training Services for RTU (100 person for 10 days)	Nepal		1000			
		ii) Training services for SCADA Operators (30 person for 30 days)			900			
		iii) On the job Training during Field Installation, Substation automation & LDMS (100 people for 3 days)			300			
		iv) Training services for DWDM technology including operations and maintenance (10 person for 5 days)			50			
		v) Training services for OTN technology including operations and maintenance (10 person for 5 days)			50			
Total for Training Charges (Total of column 8 to be carried forward to Schedule 5: Grand Summary)								

Note:

1. On Job Training in Nepal: The traveling and living expenses of Bidder's personnels for the training programme conducted in Nepal shall be borne by the Bidder/Contractor.
2. To and fro charges and accommodation for the instructor (Trainer) and Training material for the Trainees shall be included in the prices quoted by the bidder.

Date:

Signature:
Printed Name:
Designation:
Common Seal:

Schedule No. 4: Installation and Other Services (Common for all)

(d): Maintenance Charges - AMC, ATS, FMS

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Sl. No	Description	Unit	Qty.	Currency	Total Maintenance Charges
1	2	3	4	5	6
Part -A	SCADA System				
A.	Annual Technical services for SCADA System Software				
1	Annual Technical Support for Annual Maintenance contract for SCADA system during 1st year after operational acceptance	Lot	1		
2	Annual Technical Support for Annual Maintenance contract for SCADA system during 2nd year after operational acceptance	Lot	1		
3	Annual Technical Support for Annual Maintenance contract for SCADA system during 3rd year after operational acceptance	Lot	1		
4	Annual Technical Support for Annual Maintenance contract for SCADA system during 4th year after operational acceptance	Lot	1		
B	Annual Maintenance Contract services for SCADA System Hardware				
5	Annual Maintenance contract for hardware supplied for Part A - SCADA system during 1 year after operational acceptance with spares	Lot	1		
6	Annual Maintenance contract for hardware supplied for Part A - SCADA system during 2nd year after operational acceptance with spares	Lot	1		
7	Annual Maintenance contract for hardware supplied for Part A - SCADA system during 3rd year after operational acceptance with spares	Lot	1		
8	Annual Maintenance contract for hardware supplied for Part A - SCADA system during 4th year after operational acceptance with spares	Lot	1		
Part -B	SCADA System RTU (S/S)				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

	Annual Maintenance Contract services for RTU Hardware				
9	Annual Maintenance contract for Part B - SCADA system RTU , Switches, Converter etc under Part-B during 1 year after operational acceptance with spares	Lot	1		
10	Annual Maintenance contract for Part B - SCADA system RTU , Switches, Converter etc under Part-B during 2nd year after operational acceptance with spares	Lot	1		
11	Annual Maintenance contract for Part B - SCADA system RTU , Switches, Converter etc under Part-B during 3rd year after operational acceptance with spares	Lot	1		
12	Annual Maintenance contract for Part B - SCADA system RTU , Switches, Converter etc under Part-B during 4th year after operational acceptance with spares	Lot	1		
	Annual Technical services for LDMS Software				
13	Annual Maintenance contract for LDMS system RTU during 1 year after obtaining operational acceptance with spares	Lot	1		
14	Annual Maintenance contract for LDMS system RTU during 2nd year after obtaining operational acceptance with spares	Lot	1		
15	Annual Maintenance contract for LDMS system RTU during 3rd year after obtaining operational acceptance with spares	Lot	1		
16	Annual Maintenance contract for LDMS system RTU during 4th year after obtaining operational acceptance with spares	Lot	1		
Part -C	ADSS cable				
C	AMC for ADSS cable for 4 years				

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

17	Annual Maintenance contract for Part C - ADSS cable during 1st year after obtaining operational acceptance with spares	Lot	1		
18	Annual Maintenance contract for Part C - ADSS cable during 2nd year after obtaining operational acceptance with spares	Lot	1		
19	Annual Maintenance contract for Part C - ADSS cable during 3rd year after obtaining operational acceptance with spares	Lot	1		
20	Annual Maintenance contract for Part C - ADSS cable during 4th year after obtaining operational acceptance with spares	Lot	1		
Part -D	OT Network (OTN)				
	Annual Maintenance Contract for OT network (OTN)				
21	Annual maintenance Contract for Part D - OT Network during 1st year after obtaining operational acceptance with spares	Lot	1		
22	Annual maintenance Contract for Part D - OT Network during 2nd year after obtaining operational acceptance with spares	Lot	1		
23	Annual maintenance Contract for Part D - OT Network during 3rd year after obtaining operational acceptance with spares	Lot	1		
24	Annual maintenance Contract for Part D - OT Network during 4th year after obtaining operational acceptance with spares	Lot	1		
Part -E	IT Network				
	Annual Technical services for IT Network (DWDM)				
25	Annual maintenance Contract for Part E - IT Network during 1st year after obtaining operational acceptance with spares	Lot	1		

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

26	Annual maintenance Contract for Part E - IT Network during 2nd year after obtaining operational acceptance with spares	Lot	1		
27	Annual maintenance Contract for Part E - IT Network during 3rd year after obtaining operational acceptance with spares	Lot	1		
28	Annual maintenance Contract for Part E - IT Network during 4th year after obtaining operational acceptance with spares	Lot	1		
Part -F	Network Management System (NOC)				
	Annual Technical services and Annual maintenance Contract for NOC Software & Hardware				
29	1st year ATS & AMC of Software for Network Management System of IT Network & OT Network after obtaining operational acceptance with spares	Lot	1		
30	2nd year ATS & AMC of Software for Network Management System of IT Network & OT Network after obtaining operational acceptance with spares	Lot	1		
31	3rd year ATS & AMC of Software for Network Management System of IT Network & OT Network after obtaining operational acceptance with spares	Lot	1		
32	4th year ATS & AMC of Software for Network Management System of IT Network & OT Network after obtaining operational acceptance with spares	Lot	1		
	FMS (Facility Management Services)				
1	FMS for SCADA Control Centers: On-site manpower support for SCADA--Operators,	Lot	1		

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

	System Engineers, Database Admin etc. for 4 years after Operational Acceptance (Go-Live)				
2	FMS for Network Operations Center (NOC): Helpdesk, Monitoring, Ticketing, Remote Support for 4 years after Operational Acceptance (Go-Live)	Lot	1		
3	Field Support Services: On-call maintenance teams for ADSS/OTN/DWDM/RTU with SLA-based response for 4 years after Operational Acceptance (Go-Live)	Lot	1		
4	Field Support Services: On-call maintenance teams for RTU with SLA-based response for 4 years after Operational Acceptance (Go-Live)	Lot	1		
Total for Maintenance Charges (AMC,ATS & FMS): Schedule 4 (d) -(Total of column 6 to be carried forward to Schedule 5: Grand Summary)					

Date:

Signature:
 Printed Name:
 Designation:
 Common Seal:



NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Schedule No. 4: Installation and Other Services (Common for all)**(e) : Type Test Charges for Type Tests to be conducted abroad**

Sl. No	Description	Testing Location	Currency	Test charges
1	2	3	4	5
1	Quality Assurance Plan (QAP), Factory Acceptance Test (FAT) , Site Acceptance Test (SAT) SCADA IT and Field Hardware, Software and Field Devices Tests	Abroad		
2	Quality Assurance Plan (QAP), Factory Acceptance Test (FAT) , Site Acceptance Test (SAT) Fibre Cable end to end Testing	Abroad		
3	Quality Assurance Plan (QAP), Factory Acceptance Test (FAT) , Site Acceptance Test (SAT) OTN Equipment Tests	Abroad		
4	Quality Assurance Plan (QAP), Factory Acceptance Test (FAT) , Site Acceptance Test (SAT) DWDM Infrastructure , Routers, power backup and Online Management Sytem Tests	Abroad		
Total of Type Tests charges (Total of column 5 to be carried forward to Schedule 5: Grand Summary)				

Date:

Signature:

Printed Name:

Designation:

Common Seal:

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Schedule No. 4: Installation and Other Services (Common for all)

(f) Type Test Charges for Type Tests to be conducted in Nepal.

Sl. No	Description	Testing Location	Currency	Test charges
1	2	3	4	5
1	Quality Assurance (QA), Factory Acceptance Test (FAT) and Site Acceptance Test (SAT)- SCADA System, Fibre cable tests, OTN equipment tests and DWDM Infrastructure, power backup and online management system tests	Nepal		
	Total of Type Tests charges (Total of column 5 to be carried forward to Schedule 5: Grand Summary)			

Date:

Signature:
 Printed Name:
 Designation:
 Common Seal:

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Distribution Line and Substation Department
NEA Digital Network and SCADA Expansion Project

Schedule No. 5: Grand Summary

Sl. No.	Description	Total Price Foreign (USD)	Total Price Local (NPR)
		1	2
1	TOTAL SCHEDULE NO. 1 Plant and Equipment including Mandatory Spares to be supplied from abroad.		
2	TOTAL SCHEDULE NO. 2 Plant and Equipment including Mandatory Spares Parts to be supplied from within Nepal		
3	TOTAL SCHEDULE NO. 3 Design Services		
4	TOTAL SCHEDULE NO. 4 (a) Installation and construction charges (b) Training charges for training to be imparted Abroad (c) Training charges for training to be imparted in Nepal (d) AMC and FMS charges with Necessary Spares and Consumables (e) Type Tests charges for type Tests to be conducted abroad (f) Type Tests charges for type Tests to be conducted Nepal		
	SUB TOTAL [1+2+3+4]		
	GRAND TOTAL [1+2+3+4]		

Date:

Signature:
Printed Name:
Designation:
Common Seal:

