NEPAL ELECTRICITY AUTHORITY

(An Undertaking of Government of Nepal)
Project Management Directorate

ARUNKHOLA (DUMKIBAS) 132/33 kV SUBSTATION PROJECT

(A Component of Electricity Grid Modernization Project-Additional Financing)

BIDDING DOCUMENT
FOR

Procurement of Plant for
Design, Supply, Installation, Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Single-Stage, Two-Envelope
Bidding Procedure

Issued on:	**6 February, 2022**
Invitation for Bids No.:	**PMD/EGMPAF/ADSP–078/79 – 01**
OCB No.:	**PMD/EGMPAF/ADSP–078/79 – 01**
Employer:	**Nepal Electricity Authority**
Country:	**Nepal**

VOLUME – III OF III
February 2022

Arunkhola (Dumkibas) 132/33 kV Substation Project
Project Management Directorate
NEA Project Management Directorate
Matatirtha, Kathmandu, Nepal
Telephone: +977-9851155752

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SECTION IV 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's 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 90 days of signing of Contract.
4) The bidders are require to quote their price including all taxes and duties applicable in their county/ Country of origin, & all business taxes, income taxes (TDS etc.) applicable in Nepal. The quoted price shall be exclusive of taxes and duties applicable in Nepal like Custom, VAT etc.

Letter of Price Bid

[*Bidder's Letterhead*]

Date: .....
ICB No.: .....
Invitation for Bid No.: .....

To: .....

We, the undersigned, declare that:

(a) We have examined and have no reservations to the Bidding Document, including Addenda issued in accordance with Instructions to Bidders (ITB) 8;

(b) We offer to design, manufacture, test, deliver, install, pre-commission and commission in conformity with the Bidding Document the following Plant and Services: . . . . . ;

(c) The total price of our Bid, excluding any discount offered in item (d) below is: ……..or, when left blank, is the Bid Price indicated in the Summary of Bill of Quantities

(d) Our bid shall be valid for a period of ..... days from the date fixed for the submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(e) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Document;

(f) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: **

Name of Recipient	Address	Reason	Amount
.....	.....	.....	.....
.....	.....	.....	.....

(g) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and

(h) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive;

(i) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.

Note: The Failure to specify the total price of the bid in (c) above or the Bid Price in the Summary of Bill of Quantities shall be ground for declaring the bid nonresponsive.

Name.....

In the capacity of.....

Signed.....

Duly authorized to sign the Bid for and on behalf of.....

Date.....

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Arunkhola Dumkibas 132/33 kV Substation Project

Schedule of Rates and Prices

Electricity Grid Modernization Project - Additional Financing

OCB No. : PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 1: Plant and Equipment including Mandatory Spares to be supplied from Abroad

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)	Custom, VAT and other taxes
					FC			FC	LC
			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
Part I: 132/33/11 kV Dumkibas Substation (AIS)									
1	**Materials for Electrical, SAS and Communication Works**								
	PART - A : EMPLOYER ASSESSED QUANTITIES								
1.1	**Transformers**								
1.1.1	**Power Transformer**								
1.1.1.1	132/33 kV, Three phase, 24/27/30 MVA, ONAN/ONAF1/ONAF2 Power Transformer complete with On Load Tap Changer (OLTC) & RTCC facility, Tank Mounted LA at LV side and Bushing CT on both sides, Oil filled, star/star connected complete with all accessories as specified in technical Specification.		Set	2					
1.1.1.2	33/11 kV, Three phase, 10/13.33/16.66 MVA, ONAN/ONAF1/ONAF2 Power Transformer complete with On Load Tap Changer (OLTC) & RTCC facility, Tank Mounted LA at LV side and Bushing CT on both sides, Oil filled, delta/star connected complete with all accessories as specified in technical Specification.		Set	2					
1.1.2	**Station Supply Transformer**								
1.1.2	200 kVA, 33/0.4 kV, Three phase, ONAN, delta/star connected, Off load Tap Changer, Distribution Transformer with all other accessories as specified in technical Specification.		Set	2					

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1.2	**Circuit Breakers and Switchgears with support structures**								
1.2.1	145 kV, 1250 A, 3 phase, SF6 Circuit Breaker (individual pole operation type) complete with all accessories and support structures as per specification for incoming/outgoing 132 kV lines		Set	4					
1.2.2	145 kV, 1250 A, 3 phase, SF6 Circuit Breaker (three pole operation type) complete with all accessories and support structures as per specification for 2 nos. of 132/33 kV Power Transformers		Set	2					
1.2.3	145 kV, 2000 A, 3 phase, SF6 Circuit Breaker (three pole operation type) complete with all accessories and support structures as per specification for 132 kV Bus Coupler		Set	1					
1.2.4	36 kV, 1250 A, 3 phase, Vaccum Circuit Breaker (three pole operation type) complete with all accessories and support structures as per specification for 2 incomer 33 kV Lines.		Set	2					
1.2.5	36 kV, 800 A, 3 phase, Vaccum Circuit Breaker (three pole operation type) complete with all accessories and support structures as per specification for 4 outgoing 33 kV feeder and 2 Power Transformer.		Set	6					
1.3	**Disconnector Switches/Isolators**								
1.3.1	145 kV, 2000 A, 3 phase, Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification for Bus Coupler		Set	2					
1.3.2	145 kV, 1250 A, 3 phase Double Break Disconnector Switch with one Grounding Switch complete with all accessories as per specification for 132 kV incoming/outgoing Lines		Set	4					
1.3.3	145 kV, 1250 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification		Set	16					
1.3.4	145 kV, 1250 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification for using as By-pass isolator for 132 kV Lines		Set	4					
1.3.5	36 kV, 1600 A, 3 phase Bus-Sectionalizer Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification		Set	1					

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1.3.6	36 kV, 1250 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification		Set	4					
1.3.7	36 kV, 800 A, 3 phase Double Break Disconnector Switch with one Grounding Switch complete with all accessories as per specification for 4 nos. of 33 kV outgoing lines		Set	4					
1.3.8	36 kV, 800 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification for 4 nos. of 33 kV outgoing lines and 2 nos. of transformers		Set	6					
1.3.9	36 kV, 400 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification for 2 nos. of station transformers		Set	2					
1.4	**Instrument Transformers**								
1.4.1	145 kV, 50 VA, 132/√3 /110/√3/ 110/√3 kV, Class 0.2/3P, Capacitor Voltage Transformer (1-phase) complete with all accessories as per specification		Nos.	18					
1.4.2	145 kV, 30 VA, 5 core, Class 0.2, 900-600-300/1 A, Current Transformer (1-phase) complete with all accessories as per specification for 132 kV Line bays		Nos.	12					
1.4.3	145 kV, 30 VA, 5 core, Class 0.2, 1600-1000/1 A, Current Transformer (1-phase) complete with all accessories as per specification for 132 kV Bus coupler		Nos.	3					
1.4.4	145 kV, 30 VA, 4 core, Class 0.2, 600-300-150/1 A, Current Transformer (1-phase) complete with all accessories as per specification for 132/33 kV Power Transformers		Nos.	6					
1.4.5	36 kV, 30 VA, 33/√3/ 110/√3/ 110/√3 kV, Class 0.2/3P, Voltage Transformer (1-phase) complete with all accessories as per specification		Nos.	24					
1.4.6	36 kV, 30 VA, 3 core, Class 0.2, Multi ratio, Current Transformer (1-phase) complete with all accessories as per specification		Nos.	24					
1.5	**Lightening Arrestor**								
1.5.1	120 kV, 10 kA Lightening Arrestor (1-phase) including Discharge Counter complete with all accessories as per specification		Nos.	18					

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
1.5.2	30 kV, 10 kA Lightening Arrestor (1-phase) complete with all accessories as per specification		Nos.	30					
1.5.3	9 kV, 10 kA Lightening Arrestor complete (1-phase) with all accessories as per specification		Nos.	24					
1.6	**Control and Relay Panel with Automation**								
1.6.1	132 kV Transmission Line Control and Relay Panel complete with all accessories as per specification for incoming/outgoing 132 kV Line		Set	4					
1.6.2	132/33 kV Transformer Control and Relay Panel complete set for HV and LV side with all accessories as per specification		Set	2					
1.6.3	132 kV bus coupler cum bus bar protection control and relay panel complete with all accessories as per specification		Set	1					
1.6.4	33/11 kV Transformer Control and Relay Panel complete set for HV and LV side with all accessories as per specification		Set	2					
1.6.5	33 kV Sub-transmision Line Control and Relay Panel complete with all accessories as per specification for 4 nos. of outgoing 33 kV Line		Set	4					
1.6.6	Time Synchronisation Equipment as per specification pertaining to C & R System		No.	1					
1.7	**12 KV, 25kA, 3 sec, 3-phase Indoor Switchgear Panel**								
1.7.1	12 kV Transformer Incomer Module (2000A) with VCB, CRP, CT and all accessories as per technical specification		Set	2					
1.7.2	12 kV Line Outgoing Module (800A) with VCB, CRP, CT and all accessories as per technical specification		Set	6					
1.7.3	12 kV Bus Coupler Module (2500A) with all accessories as per technical specification		Set	1					
1.7.4	12 kV PT module with all accessories as per technical specification		Set	2					
1.8	**Substation Automation System (SAS)**								

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
1.8.1	Complete Substation Automation System (SAS) including hardware and software for the substation & remote control stations alongwith associated equipments for the followings as per Technical Specification.								
i.	132 kV System		Bay Nos.	7					
ii.	33 kV System		Bay Nos.	8					
iii.	11 kV System (Indoor Switchgear)		Bay Nos.	9					
iv.	BCU for controlling & monitoring of auxiliary system		Set	1					
1.9	**Teleprotection & Communication Equipments**								
1.9.1	Digital Protection Coupler with sub Rack as per technical specification		Nos.	8				4 nos. for other end	
1.9.2	SDH Equipment with MPLS - TP facility (STM -4 upto 4 MSP Protected directions as well as 10 G upto 4 MSP Protected directions)								
(i)	Base Equipment (Common cards, Cross Connect/control cards, optical base cards, power supply cards, power cabling, other hardware and accessories including sub racks (Additional Sub Rack if required to accomodate all facilities including SDH and MPLS - TP mentioned above) , patch cord, DDF etc. fully equiped excluding (ii) & (iii) below		Nos.	1					
(ii)	Optical Interface Cards/SFP								
(a)	L4.1 SFP		Nos.	4					
(b)	10 G SFP		Nos.	4					
(iii)	Tributary cards								
(a)	E1 Interface card (Min. 8 Interfaces per card)		Set	2					
(b)	Fast -Ethernet Interface 10/100 Mbps Base T with Layer-2 switching (Min. 8 Interfaces per card)		Nos.	3					

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1.9.3	Equipment Cabinet		No.	1					
1.9.4	VOIP telephone instrument with one common POE+ switch (min. 8 port)		Nos.	2					
1.10	**Station Supply, LV Switchgear (As per Technical specification)**								
1.10.1	400V AC Main Switch Control Panel including MCB, Cable and accessories for the specified scope of the work.		Set	1					
1.10.2	400V AC Distribution Board (ACDB) including Cable and accessories for the specified scope of the work.		Set	2					
1.10.3	400V AC Main Lighting Distribution Board (MLDB) including Cable and accessories for the specified scope of the work.		Set	1					
1.10.4	400V AC Emergency Distribution Board including Cable and accessories for the specified scope of the work.		Set	1					
1.10.5	110 V DC Distribution Board including cable and accessories to complete the specified scope of work.		Set	1					
1.10.6	48 V DC Distribution Board including cable and accessories to complete the specified scope of work.		Set	1					
1.11	**Power Cables with clamps, glands, lugs and straight joints etc.**								
1.11.1	12 kV, 400 sq. mm, Single core, XLPE insulated Copper conductor armoured Power Cable including Straight Joints and termination joints for both ends with other required accessories complete as per Drawing and specification for Two cables per phase from LV sides of both 33/11 kV, 3 phase, Power Transformers upto 2 nos. of Indoor 11 kV Switchgear Module Panels in the switchgear room. (2*2*3=12 nos. of single core power cable)		m	1100					
1.11.2	12 kV, 240 sq.mm, 3 core, XLPE insulated Copper conductor armoured Power Cable including cable termination joints at both ends with other required accessories complete as per Drawing and specification for 6 nos. of Outgoing 11 kV Distribution Feeders .		m	1000					

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1.12	**Battery / Battery Charger**								
1.12.1	Dual Mode Float Cum Boost Battery charger for 110 V battery complete with all accessories to complete the specified scope of work (One for 132kV & One for 33kV).		Set	2					
1.12.2	110 V, 600 AH maintenance free lead acid sealed type battery complete with all accessories to complete the specified scope of work (One for 132kV & One for 33kV).		Set	2					
1.12.3	Dual Mode Float Cum Boost Battery charger for 48 V battery complete with all accessories to complete the specified scope of work.		Set	1					
1.12.4	48 V, 300 AH maintenance free lead acid sealed type battery complete with all accessories to complete the specified scope of work.		Set	1					
1.13	**Fire Detection & Alarm System**								
1.13.1	50 litre foam type, Portable/Trolley/Wheel mounted fire extinguishers		Nos.	4					
1.13.2	4.5 kg CO_2 type, Fire Extinguisher		Nos.	10					
1.13.3	22.5 kg Dry Chemical Power (DCP) type, Trolley/Wheel mounted fire extinguishers		Nos.	3					
1.13.4	Smoke detection system in Control Room cum administrative Building		Set	1					
1.13.5	Fire detection and Alarm System in Control Room cum administrative Building		Set	1					

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1.14	**Monitoring and Analyzing Equipment**								
1.14.1	Online monitoring Equipment of fault gases, air components and moisture in transformer insulating fluids (Dissolved gas Analyzer) of 132/33 kV Power Transformer with Inside View (Analysis Software) as per specification		Set	2					
1.15	**Air Conditioning system as per technical specification**								
1.15.1	Ceiling cassette type split AC unit of 3 TR capacities includung Ceiling cassette for 132 kV control room		Nos.	4					
1.15.2	High wall type split AC unit of 2 TR capacities for switchgear room		Nos.	2					
1.15.3	High wall type split AC unit of 1.5 TR capacities for Office room, communication room, battery room and Township (Staff Quarters) buildings		Nos.	10					
1.16	**Bus Post/Support Insulators including all other accessories required to complete the specified scope of work for**								
1.16.1	132 kV Bus		Nos.	78					
1.16.2	33 kV Bus		Nos.	42					
1.17	**Diesel Generator with control Panel**								
1.17.1	50 kVA Silent type Diesel Generator (400/230 V, 50 Hz) with control Panel & AMF panel as per technical specification for fire fighting system		Set	1					
	Sub-total of Part - A of Electrical, SAS and Communication Works								

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	PART - B : CONTRACTOR ASSESSED QUANTITIES								
1.18	**Power & Control cables with fitting accessories**								
1.18.1	1.1 kV grade PVC/XLPE insulated Power and lighting cable (Copper) for proper connection of electrical works in Control room building, Staff quarters, Security (Guard) room, Store buliding, Pump house, Fire fighting system, Switchyard lighting, Road & Street lighting and other necessary places and circuits to complete the specified scope of work as per Technical specification and approved drawing.		Lot	1					
1.18.2	1.1 kV grade PVC insulated Control cable (Copper) to complete the specified scope of works including that for communication and networking system works as per Technical specification and approved drawing.		Lot	1					
1.18.3	Cable glands, lugs & straight through joints for Power & Control cables		Lot	1					
1.19	**Communication / SCADA (Based on IEC 61850)**								
1.19.1	Optical Distribution Frame complete in all respects as per technical specification		Lot	1					
1.19.2	Optical Approach Cable -24 pair Fibre (DWSM -G.652D) along with Installation hardware set including outdoor enclosure for above 24 Fibre, Fibre Optic Approach Cable complete in all respects as per technical specification		Lot	1					
1.20	**Visual Monitoring System**								
1.20.1	Visual Monitoring System for watch & ward as per technical specification and approved drawing		Lot	1					

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
1.21	**Fire Protection System as per technical Specification**								
1.21.1	Pumping arrangement for HVW system & hydrant system complete with all piping, valves, fittings etc. inside pump house.		Lot	1					
1.21.2	Hydrant system, complete U/G piping and accessories etc. outside the Pump House for all transformers and equipment.		Lot	1					
1.21.3	HVW spray system, Hydrant system and complete U/G & O/G piping and accessories etc. out side the pump house for :								
1.21.3.1	30 MVA, 132/33 kV Three Phase Power Transformer and equipment		Sets	2					
1.21.3.2	16.66 MVA, 33/11 kV Three Phase Power Transformer and equipment		Sets	2					
1.22	**Earthing and lightning protection**								
1.22.1	Galvanized E.H.S. steel wires of size 7/3.35 for lightning shield wire in take off and internal structures, with accessories to complete the specified scope of works as per technical Specification and approved drawing.		Lot	1					
1.22.2	Earthing system of substation with 100 sq.mm. Copper conductors, copper clad steel Earth Rod with necesaary connectors/connections, risers etc. complete in all respect as per technical Specification and approved drawing.		Lot	1					
1.22.3	Equipment for lightning protection of substation including necesaary connectors/connections, risers etc. complete in all respect (but excluding LM structures for Lightning protection) as per technical Specification and approved drawing.		Lot	1					

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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)	Custom, VAT and other taxes
					FC			FC	LC
			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
1.23	**Erection Hardwares and Miscellaneous material as per technical Specification and approved drawing**								
1.23.1	145 kV Insulator Strings, Disc Insulators, necessary hardwares, Clamps, spacers, connectors for Transformer, Substation Works and connection between Line Tower, Take Off Gantry and Internal Gantry structure etc. all complete as per the specification to complete the specified scope of works for 7 bays.		Lot	1					
1.23.2	36 kV Insulator Strings, Disc Insulators, necessary hardwares, Clamps, spacers, connectors for Transformer, Substation Works and connection between Line Tower, Take Off Gantry and Internal Gantry structure etc. all complete as per the specification to complete the specified scope of works for 6 bays and 2 station transformers.		Lot	1					
1.23.3	132 kV Tubular Bus (Outer Dia 100 mm and thickness 10 mm), expansion joint including all other Accessories required to complete 132 kV double bus-bar configuration as per the specified scope of work		Lot	1					
1.23.4	ACSR "CARDINAL" Conductors for 132kV switchyard and substation works with necessary hardwares and accessories to complete the specified scope of works for Line Tower to Take Off and Internal Gantry Structure (including stringing of conductor between tower to gantry for 132kV)		Lot	1					
1.23.5	33 kV Tubular Bus (Dia 75 mm, thickness 8 mm) including branch bus -bars for 33 kV and other accessories required to complete the specified scope of work		Lot	1					
1.23.6	ACSR "CARDINAL" conductors for 33 kV switchyard with necessary hardwares and accessories for substation works and for overhead connections to the 33 kV lines at the gantry as required to complete the specified scope of works		Lot	1					

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
1.23.7	36 kV Horn Gap Fuse along with support insulator (1-phase) and other accessories as required to complete the specified scope of work for primary connection of 33/0.4 kV station service Transformer.		Nos.	6					
1.23.8	H-pole Dead End double arm Steel Tubular Pole (Fully Galvanized, 11 Meter, equivalent strength or more than 540 SP-54, 194 Kg weight per pole) Structure as per drawing and technical specification for 11 kV outgoing Feeders		Set	6					
1.24	**Illumination System**								
1.24.1	Lighting system (Outdoor and Peripheral) for Switchyards, Substation area, Entrance & Internal Roads, outdoor area of Control Room, Township (Staff Quarters), Security room, store and fire fighting pump house buildings, Boundary wall periphery & along main approach roads (with support whereever necessary), occupancy sensor and Street lights etc. to complete the specified scope of works as per technical specification and approved drawing.		Lot	1					
1.24.2	Emergency DC lighting system with necessary accessories all complete for control room, switchyard and substation gate area as per technical specification		Set	15					
	Sub-total of Part - B of Electrical, SAS and Communication works								
	Total of Electrical, SAS and Communication Works of AIS Dumkibas Substation								

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			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
2	**CIVIL AND ARCHITECTURAL WORKS (Design and Supply)**								
	PART - C : CONTRACTOR ASSESSED QUANTITIES								
2.1	**STEEL STRUCTURES (Tower, Gantry structures & Equipment support structures)**								
	Design, Fabrication, galvanising & supply of Lattice/Pipe Structure for towers, Lightning/Earth Mast, post, beams and equipments including peak plates/pack washers and guest paltes including foundation bolts (nuts, washers, MS plate welded at the bottom) as per approved drawings and technical specifications.								
2.1.1	Lattice structure including Foundation bolts		MT	70					
2.1.2	Pipe Structure including Foundation Bolts		MT	25					
2.1.3	Fastners for towers, beams and equipment support structures		MT	5					
	Total of Part - C of Civil and Architectural Works of Dumkibas Substation								
3	**PART - D : Mandatory SPARE PARTS**								
3.1	**For 132/33 kV Power Transformer**								
3.1.1	132 kV and 33 kV Bushing (one of each type) with metal parts, gaskets and lifting tools		Set	1					
3.1.2	Local & Remote WTI and OTI with sensing device & contact (each type)		Set	1					
3.1.3	Oil Level Gauges		Set	1					
3.1.4	Insulating Oil (10% of total supply) to be handed over to NEA after commissioning for O&M requirement including tank separately		Lot	1					
3.1.5	Indicating Lamps (25% of used)		Lot	1					
3.1.6	All types of Fuses (25% of used)		Lot	1					

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.1.7	Complete set of Gaskets of each type		Set	1					
3.1.8	Complete set of Pressure Relief Device		Set	1					
3.1.9	All type of Auxiliary, Current, Voltage and Thermal Relays, Contactors and Timers for electrical control, protection and cooling circuit (one of each type)		Set	1					
3.1.10	OLTC Motor with Contactor		Set	1					
3.1.11	Complete set of Buchholz relay with contacts		Set	1					
3.1.12	Cooler Fan with motor		No.	1					
3.1.13	Remote tap position Indicator		No.	1					
3.2	**For 33/11 kV Power Transformer**								
3.2.1	33 kV and 11 kV Bushing (one of each type) with metal parts and gaskets and lifting tools		Set	1					
3.2.2	Local & Remote WTI and OTI with sensing device & contact (each type)		Set	1					
3.2.3	Oil Level Gauges		Set	1					
3.2.4	Indicating Lamps (25% of used)		Lot	1					
3.2.5	All types of Fuses (25% of used)		Lot	1					
3.2.6	Complete set of Gaskets of each type		Set	1					
3.2.7	Complete set of Pressure Relief Device		Set	1					
3.2.8	All type of Auxiliary, Current, Voltage and Thermal Relays, Contactors and Timers for electrical control, protection and cooling circuit(one of each type)		Set	1					

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.2.9	OLTC Motor with Contactor		Set	1					
3.2.10	Complete set of Buchholz relay with contacts		Set	1					
3.2.11	Cooler Fan with motor		No.	1					
3.3	**For 145kV SF6 Circuit Breaker**								
3.3.1	Complete set (one chamber) of interrupter		Sets	2					
3.3.2	Tripping Coils assembly with resistor as applicable		Nos.	6					
3.3.3	Closing Coils assembly with resistor as applicable		Nos.	6					
3.3.4	Pressure Switch, Relays, Contactors, push buttons, timers & MCBs etc (one no. of each type & rating)		Sets	2					
3.3.5	Motors for mechanism of each type		Nos.	1					
3.3.6	SF6 gas filling equipment, nozzle & adaptor complete with accessories		Set	1					
3.3.7	Rubber gaskets, `O' rings and seals for SF6 gas (1 No. of each type)		Sets	2					
3.3.8	Gas in sealed non returnable bottles, net		kgs	50					
3.4	**For 36kV Vaccum Circuit Breaker**								
3.4.1	Complete set (one chamber) of interrupter		Sets	1					
3.4.2	Tripping Coils assembly with resistor as applicable		Nos.	3					
3.4.3	Closing Coils assembly with resistor as applicable		Nos.	3					
3.4.4	Relays and Contactors (One of each type)		Sets	2					

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			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.4.5	Motors for Mechanism of each type		Set	1					
3.4.6	Complete set (one chamber) of Sealing rings and Gaskets		Sets	1					
3.5	**For 12kV VCB Switchgear**								
3.5.1	Complete set of 12 kV Vaccum Interrupter		Nos.	2					
3.5.2	Tripping Coils assembly with resistor as applicable		Nos.	6					
3.5.3	Closing Coils assembly with resistor as applicable		Nos.	6					
3.5.4	Spring Charging Motor		Set	2					
3.5.5	3 Phase Overcurrent Relay for 11kV Side, one of each type		Sets	1					
3.5.6	Earth Fault Relay for 11kV Side, one of each type		Sets	1					
3.5.7	Ammeter		Nos.	1					
3.5.8	Voltmeter		Nos.	1					
3.5.9	kVA Meter		Nos.	1					
3.5.10	11 kV CTs of each type used (3 Nos)		Sets	1					
3.5.11	Operating Handle		Sets	1					
3.5.12	Indicating Lamps and fuses (100% of used)		Set	1					
3.5.13	12 kV XLPE Cable termination kit (three phase) including all accessories complete		Set	3					
3.5.14	12 kV XLPE Cable termination kit (single phase) including all accessories complete		Set	9					

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			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.6	**For 145kV Disconnecting Switches/ISOLATORS**								
3.6.1	Complete set of 3-phase disconnector including main circuit with enclosure		Set	1					
3.6.2	3-phase Earthing switch including main circuit, enclosure, driving mechanism.		Set	1					
3.6.3	Copper contact fingers for dis-connector male & female contact for one complete (3 phase) dis-connector of each type and rating		Set	1					
3.6.4	Copper contact fingers for earthing switch male & female contacts, for one complete (3 phase) earthing switch of each type and rating		Set	1					
3.6.5	Open / Close contactor assembly, timers, key interlock for one complete (3 phase) dis-connector and (3 phase) earthing switch of each rating (1 No. of each type and rating)		Set	1					
3.6.6	Procelain Insulator		Nos.	4					
3.6.7	Main Contact Assemblies (one assembly)		Set	4					
3.6.8	Auxiliary Contacts Assemblies (one assembly)		Sets	2					
3.6.9	Interlocking Coil		Nos.	2					
3.6.10	Motor for driving mechanism		Nos.	2					
3.6.11	Contactor for the mechanism		Nos.	2					
3.6.12	Push button switch - (1 No. of each type & rating) as applicable		Set	1					
3.6.13	Limit switch and Aux. Switches for complete 3 phase equipment								
(a)	For Isolator		Set	1					
(b)	For Earth switch		Set	1					

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.7	**For 36kV Disconnecting Switches**								
3.7.1	Complete set of 3-phase disconnector including main circuit with enclosure		Set	1					
3.7.2	3-phase Earthing switch including main circuit, enclosure, driving mechanism.		Set	1					
3.7.3	Procelain Insulator		Nos.	4					
3.7.4	Main Contact Assemblies (one assembly)		Set	3					
3.7.5	Auxiliary Contacts		Sets	2					
3.7.6	Interlocking Coil		Nos.	2					
3.7.7	Push button switch (1 No. of each type & rating) as applicable		Set	1					
3.7.8	Limit switch and Aux. Switches for complete 3 phase equipment								
(a)	For isolator		Set	1					
(b)	For earth switch		Set	1					
3.8	**For Instrument Transformers of used type**								
3.8.1	145 kV Current Transformer (excluding support structure and common JB) for transformer		Nos.	1					
3.8.2	145 kV Current Transformer (excluding support structure and common JB) for line and bus coupler		Nos.	2					
3.8.3	145 kV Capacitive Voltage Transformer (excluding support structure and common JB)		Nos.	2					

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.8.4	36 kV Current Transformer (excluding support structure and common JB)		Nos.	2					
3.8.5	36 kV Potential Transformer (excluding support structure and common JB)		Nos.	2					
3.8.6	Secondary bushing for 145 kV Current Transformer of each type and rating		Set	1					
3.8.7	Secondary bushing for 36 kV Current Transformer of each type and rating		Set	1					
3.9	**For Lightening Arrestor of used type with insulating base, terminal connector, Surge counter & accessories (excluding support structure)**								
3.9.1	120 kV Single Phase Lightening Arrestor (pedestal-type)		Nos.	4					
3.9.2	30 kV Single Phase Lightening Arrestor (pedestal-type)		Nos.	3					
3.9.3	9 kV Single phase Lightening Arrestor (Pedestal-type)		Nos.	6					
3.10	**For Relay and Protection (132 kV)**								
3.10.1	**Line Protection Panel**								
3.10.1.1	Numerical Distance Relay for Line Protection		Set	1					
3.10.2	**Transformer Protection Panel**								
3.10.2.1	3 Phase Transformer Differential Protection Relay		Set	1					
3.10.2.2	3 Phase Directional Overcurrent with Earthfault Protection Relay		Set	1					
3.10.2.3	Restricted earth fault protection relay with non-linear resistor		Set	1					

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3.10.3	**Common Spares**								
3.10.3.1	Breaker failure Relay		No.	1					
3.10.3.2	Trip-Circuit Supervision Relay		No.	2					
3.10.3.3	Self reset trip relay (relay of each type)		Set	1					
3.10.3.4	Hand reset trip relay (relay of each type)		Set	1					
3.10.3.5	Timer relay (relay of each type)		Set	1					
3.10.3.6	DC supervision relay (relay of each type)		Set	1					
3.10.3.7	Flag relays (relay of each type)		Set	1					
3.10.3.8	Auxiliary relays (relay of each type)		Set	1					
3.10.3.9	Synchro Check Relay		No.	1					
3.10.3.10	Indicating Lamps(50% of used)		Lot	1					
3.10.3.11	Fuses of each type (50% of used)		Lot	1					
3.10.3.12	Color Caps of each color for indicating lamps (30% of used)		Lot	1					
3.10.3.13	One of each type of Switch, Timer and other special devices		Set	1					
3.10.3.14	Watt meter		No.	1					
3.10.3.15	Energy meter		No.	2					
3.10.3.16	MVAR meter		No.	1					

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3.10.3.17	Frequency meter		No.	1					
3.10.3.18	Ammeter		Nos.	4					
3.10.3.19	Voltmeter		Nos.	4					
3.11	**For Relay and Protection (33 kV)**								
3.11.1	**Line Protection Panel**								
3.11.1.1	3 Phase Directional Overcurrent & Earthfault Protection Relay		Set	1					
3.11.2	**Transformer Protection Panel**								
3.11.2.1	3 Phase Transformer Differential Protection Relay		Set	1					
3.11.2.2	3 Phase Directional Overcurrent with Earthfault Protection Relay		Set	1					
3.11.2.3	Restricted earth fault protection relay with non-linear resistor		Set	1					
3.11.3	**Common Spares**								
3.11.3.1	Breaker failure Relay		No.	1					
3.11.3.2	Trip-Circuit Supervision Relay		No.	2					
3.11.3.3	Self reset trip relay (relay of each type)		Set	1					
3.11.3.4	Hand reset trip relay (relay of each type)		Set	1					
3.11.3.5	Timer relay (relay of each type)		Set	1					
3.11.3.6	DC supervision relay (relay of each type)		Set	1					

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Arunkhola Dumkibas 132/33 kV Substation Project

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Electricity Grid Modernization Project - Additional Financing

OCB No. : PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 1: Plant and Equipment including Mandatory Spares to be supplied from Abroad

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)	Custom, VAT and other taxes
					FC			FC	LC
			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.11.3.7	Flag relays (relay of each type)		Set	1					
3.11.3.8	Auxiliary relays (relay of each type)		Set	1					
3.11.3.9	Indicating Lamps(50% of used)		Lot	1					
3.11.3.10	Fuses of each type (50% of used)		Lot	1					
3.11.3.11	Color Caps of each color for indicating lamps (30% of used)		Lot	1					
3.11.3.12	One of each type of Switch, Timer and other special devices		Set	1					
3.12	**110 V Battery Charger**								
3.12.1	Set of Control Cards		Set	1					
3.12.2	Set of relays		Set	1					
3.12.3	Rectifier transformer		No.	1					
3.12.4	Thyristor/ Diode		Set	1					
3.12.5	Fuses of Thyristor with indicators		Set	6					
3.12.6	Fuses of each type(50% of used)		Lot	1					
3.12.7	Indicating Lamp (50% of used)		Lot	1					
3.12.8	Ammeter		No.	1					
3.12.9	Voltmeter		No.	1					

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Schedule No. 1: Plant and Equipment including Mandatory Spares to be supplied from Abroad

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)	Custom, VAT and other taxes
					FC			FC	LC
			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.13	**48 V Battery Charger**								
3.13.1	Set of Control Cards		Set	1					
3.13.2	Set of relays		Set	1					
3.13.3	Rectifier transformer		No.	1					
3.13.4	Thyristor/ Diode		Set	1					
3.13.5	Fuses of Thyristor with indicators		Set	6					
3.14	**Monitoring, Testing and Analyzing Equipments**								
3.14.1	Three Phase Relay Testing Kit as per specification		Set	1					
3.14.2	Portable DC Earth Fault Locator as per specification		Set	1					
3.14.3	Earthing Resistance Tester as per specification		Set	1					
3.14.4	Non-Contact Voltage along with 5 meter telescopic fiber glass rod as per specification		Set	1					
3.14.5	Digital Multimeter as per specification		Nos.	5					
3.14.6	Tong Tester as per specification		Nos.	2					
3.14.7	HV Insulation Tester as per specification (5 kV)		Set	1					
3.14.8	Transformer Oil Test Kit (Digital, 80 kV) as per specification		Nos.	1					

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Schedule No. 1: Plant and Equipment including Mandatory Spares to be supplied from Abroad

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)	Custom, VAT and other taxes
					FC			FC	LC
			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.15	**Communication/SCADA**								
3.15.1	Digital Protection Coupler		Set	2					
3.15.2	SDH Equipment with MPLS - TP facility								
(i)	Base Equipment (Common cards, Cross Connect/control cards, optical base cards, power supply cards, power cabling, other hardware and accessories including sub racks (Additional Sub Rack if required to accomodate all facilities including SDH and MPLS - TP mentioned above) , patch cord, DDF etc. fully equiped excluding (ii) & (iii) below		Set	1					
(ii)	Optical Interface Cards/SFP								
(a)	L4.2 SFP		Nos.	2					
(b)	10 G SFP		Nos.	2					
(iii)	Tributary cards								
(a)	E1 Interface card (Min.8 interfaces per card)		Nos	1					
(b)	Fast -Ethernet Interface 10/100 Mbps Base T with Layer-2 switching (Min. 8 Interfaces per card)		Nos.	1					
3.15.3	VOIP telephone instrument with one common switch (min. 8 port)		Nos.	1					
3.16	**For Networking & Visual Monitoring System**								
3.16.1	Dual band Router, Wi-Fi 6 / IEEE 802.11ac compatible		Nos.	2					
3.16.2	Wireless Access Points		Nos.	2					
3.16.3	Full HD Video IP Camera with Infrared		Nos.	3					
3.16.4	Infrared Night Vision Optical Zoom camera		Nos.	2					
3.16.5	Night Vision speed Optical Zoom camera		Nos.	1					
3.16.6	32CH NVR/DVR with 2TB SSD		Nos.	1					

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Electricity Grid Modernization Project - Additional Financing

OCB No. : PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 1: Plant and Equipment including Mandatory Spares to be supplied from Abroad

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)	Custom, VAT and other taxes
					FC			FC	LC
			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
3.17	**For Erection Hardware**								
3.17.1	3% spares of the actual quantities for Insulator strings & hardwares, clamps & connectors (including equipment connectors), spacers, corona bell and welding sleeves.		LS	1					
3.18	**For LV Indoor Switchgear**								
3.18.1	Each type of MCB, MCCB, ELCB		LS	1					
3.19	**For Fire Fighting System**								
3.19.1	Recommended Spares		LS	1					
3.20	**For DG Set**								
3.20.1	Self starter assembly		No.	1					
3.20.2	AVR (Auto Voltage Regulator)/ AVR card		Set	1					
3.21	**Bus post Insulators**								
3.21.1	132 kV post insulator		Nos.	9					
3.21.2	33 kV post insulator		Nos.	6					
	Sub-Total of Part - D of Mandatory Spares parts								
	Total of Part I : 132/33/11 kV AIS Dumkibas Substation								

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Schedule No. 1: Plant and Equipment including Mandatory Spares to be supplied from Abroad

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)	Custom, VAT and other taxes
					FC			FC	LC
			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
Part II: Dead-End Tower at Substation - 1 No.									
1	**Design, Supply and Delivery of Materials for 132 kV DD Type TOWER PARTS (132 kV Double Circuit BEAR Tower) - 1 No. as per approved drawing and technical specifications.**								
1.1	**Fabrication, galvanising & supply of DD Type tower & tower parts, tower/leg extensions (complete) including stubs, bolts and nuts, step bolts, hangers, D-shackles, pack plates, pack washers**		MT	11					
1.2	**Insulator strings with insulators, attachment assemblies and arcing horns all complete for ACSR "BEAR" conductor and attachment assemblies all complete for Earthwire and OPGW**								
1.2.1	Double tension insulator string for "BEAR" with compression clamps all complete long rod Polymer Insulator (650kV BIL long rod polymer insulator)		Set	18					
1.2.2	Stockbridge Vibration damper for BEAR Conductor with preformed armour rods		Set	24					
1.2.3	OPGW tension preformed assembly complete for one tower (one set/tower)		Set	1					
1.2.4	Stockbridge Vibration damper for OPGW overhead ground wire with preformed armour rods		Set	4					
1.3	Optical fiber ground wire including intermediate splice boxes, terminal splice boxes and additional length as required		m	300					
1.4	Pipe Type earthing complete with pipe, flat, salt, sand & charcoal		Set	1					
	Total of Part II: Dead-End Tower at Substation - 1 No.								

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Schedule No. 1: Plant and Equipment including Mandatory Spares to be supplied from Abroad

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)	Custom, VAT and other taxes
					FC			FC	LC
			Unit	*Quantity*	*Currency*	*Unit Rate*	*Amount*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(5)x(7)	(9)=(8)	(10)
Part III: 11 kV Distribution Line									
1	**Supply and Delivery of Materials for 11kV Distribution Line (Pole, Covered Conductor & Accessories, Single Circuit) as per approved drawings and technical specifications.**								
1.1	11m Steel Tubular Pole (fully galvanized) of 410 grade (410 SP-54, 194 Kg)		Nos	115				SPSA-69, SPDA-21, SPDDE-2, DPDA-5, HS-5, TO-1, DE-2	
1.2	XLPE Covered Conductor (120 sq.mm area. AAAC, 11 kV voltage class)		km	10					
1.3	Pin Insulator for Covered Conductor with pulling sleeve/ties and all accessories complete		Set	400					
1.4	Tension Insulator for Covered Conductor with tension clamp and all accessories complete		Set	70					
1.5	Power Arc Devices (3 Nos. per set)		Set	9					
1.6	Termination Kits (3 Nos. per set)		Set	9					
1.7	Tension Joining Kits (3 Nos. per set)		Set	9					
1.8	Insulating Piercing Connectors		Nos	60					
1.9	Horizonal Cross-Arm for 3 nos. of Covered Conductor with all accessories complete		Set	60					
1.10	Terminal Cross-Arm for 3 nos. of Covered Conductor with all accessories complete		Set	10					
1.11	Steel Cross Arm (ISMC 100x50x6.4x5x2390mm with suitable Pole Clamps and Nut Bolt fully galvanized)		Set	20					
1.12	Steel Cross Bracing Angle (2723x50x50x50*6mm) with suitable Pole Clamps and Nut Bolt		Set	10					
1.13	Steel Cross Bracing Angle (2071x50x50x6mm) with suitable Pole Clamps and Nut Bolt		Set	10					
1.14	Offset Cross-Arm for 3 nos. of Covered Conductor with all accessories complete		Set	30					
1.15	Stay Set Complete (Stay Rod-16mm dia., 1.8 m length, Stay Plate-300x300x6mm, Eye Bolt-16mm, Turn Buckle-16mm)		Set	48					
1.16	HT Stay Insulator		Nos	96					
1.17	Stay Wire 7/10 SWG		kg	336					
	Total of Part III: 11 kV Distribution Line								
	Total of Schedule- 1 (Total of column 9 to be carried forward to Schedule 5: Grand Summary)								

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PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No.2: Plant and Equipment including Mandatory Spares Parts to be supplied from within Nepal **LC: Local Currency (NRs)**

Item No.	Item description	Unit	Quantity	Ex Faxtory Price (Excluding VAT) in LC		Inland transportation to site in LC		Total Amount (Excluding Taxes)	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 of Schedule 2(Total of column 9 to be carried forward to Schedule 5: Grand Summary)								

Note : 1) Bidder is required to quote prices in this Schedule for all the items in Schedule 1 which they wish to supply from within Nepal.

2.) The Prices of equipments are inclusive of type test charges

\# Specify currency in accordance with BDS ITB Clause 32.1, Part-I of the Bidding Documents.

* Strike-out whichever is not applicable.

[a] *Specify currency in accordance with ITB 19.1 of the BDS.*

[b] *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.*

Name of Bidder: **Date:**

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)

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Schedule 3: Design Services and Prototype Testing

Item No.	Item Description	Estimated		Unit Price		Total Price	
		Unit	Quantity	Local Currency Portion (NPR)	Foreign Currency Portion (USD)	Local Currency Portion (NPR)	Foreign Currency Portion (USD)
(1)	(2)	(3)	(4)	(5)	(6)	(7) = (4)x(5)	(8) = (4)x(6)
	11 kV Distribution Line						
a)	Pre-Construction Survey, Geographical Maping, Drawing, Staking, Preparation of Structure Data Sheet, Single Line Diagram & Final Bill of Quantity	ckt-km	3.2				
b)	Preparation of Final as built drawing, Structure Data Sheet (SDS), Detail Project Completion Report (DPCR), Testing & Charging of electric Distribution Lines and handover with all documentation to NEA.	ckt-km	3.2				
	Total of Schedule - 3(Total of column 7 and 8 to be carried forward to Schedule 5: Grand Summary)						

NOTE: Except for 11 kV Line, design Services and Prototype Testing costs of all other items shall be include in Schedule-1 or in Schedule-2 by the bidder.

Name of Bidder:
Signature of Bidder:
(Printed Name)
(Designation)
(Common Seal)

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Arunkhola Dumkibas 132/33 kV Substation Project

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Electricity Grid Modernization Project - Additional Financing

OCB No. : PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
Part I: 132/33/11 kV Dumkibas Substation (AIS)										
1	**Electrical, SAS and Communication Works**									
	PART - A : EMPLOYER ASSESSED QUANTITIES									
1.1	**Transformers**									
1.1.1	**Power Transformer**									
1.1.1.1	132/33 kV, Three phase, 24/27/30 MVA, ONAN/ONAF1/ONAF2 Power Transformer complete with On Load Tap Changer (OLTC) & RTCC facility, Tank Mounted LA at LV side and Bushing CT on both sides, Oil filled, star/star connected complete with all accessories as specified in technical Specification.			Set	2					
1.1.1.2	33/11 kV, Three phase, 10/13.33/16.66 MVA, ONAN/ONAF1/ONAF2 Power Transformer complete with On Load Tap Changer (OLTC) & RTCC facility, Tank Mounted LA at LV side and Bushing CT on both sides, Oil filled, delta/star connected complete with all accessories as specified in technical Specification.			Set	2					
1.1.2	**Station Supply Transformer**									
1.1.2	200 kVA, 33/0.4 kV, Three phase, ONAN, delta/star connected, Off load Tap Changer, Distribution Transformer with all other accessories as specified in technical Specification.			Set	2					
1.2	**Circuit Breakers and Switchgears with support structures**									
1.2.1	145 kV, 1250 A, 3 phase, SF6 Circuit Breaker (individual pole operation type) complete with all accessories and support structures as per specification for incoming/outgoing 132 kV lines			Set	4					
1.2.2	145 kV, 1250 A, 3 phase, SF6 Circuit Breaker (three pole operation type) complete with all accessories and support structures as per specification for 2 nos. of 132/33 kV Power Transformers			Set	2					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.2.3	145 kV, 2000 A, 3 phase, SF6 Circuit Breaker (three pole operation type) complete with all accessories and support structures as per specification for 132 kV Bus Coupler			Set	1					
1.2.4	36 kV, 1250 A, 3 phase, Vaccum Circuit Breaker (three pole operation type) complete with all accessories and support structures as per specification for 2 incomer 33 kV Lines.			Set	2					
1.2.5	36 kV, 800 A, 3 phase, Vaccum Circuit Breaker (three pole operation type) complete with all accessories and support structures as per specification for 4 outgoing 33 kV feeder and 2 Power Transformer.			Set	6					
1.3	**Disconnector Switches/Isolators**									
1.3.1	145 kV, 2000 A, 3 phase, Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification for Bus Coupler			Set	2					
1.3.2	145 kV, 1250 A, 3 phase Double Break Disconnector Switch with one Grounding Switch complete with all accessories as per specification for 132 kV incoming/outgoing Lines			Set	4					
1.3.3	145 kV, 1250 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification			Set	16					
1.3.4	145 kV, 1250 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification for using as By-pass isolator for 132 kV Lines			Set	4					
1.3.5	36 kV, 1600 A, 3 phase Bus-Sectionalizer Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification			Set	1					
1.3.6	36 kV, 1250 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification			Set	4					
1.3.7	36 kV, 800 A, 3 phase Double Break Disconnector Switch with one Grounding Switch complete with all accessories as per specification for 33 kV outgoing lines			Set	4					
1.3.8	36 kV, 800 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification			Set	6					
1.3.9	36 kV, 400 A, 3 phase Double Break Disconnector Switch (without Grounding Switch) complete with all accessories as per specification			Set	2					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.4	**Instrument Transformers**									
1.4.1	145 kV, 50 VA, 132/√3 /110/√3/ 110/√3 kV, Class 0.2/3P, Capacitor Voltage Transformer (1-phase) complete with all accessories as per specification			Nos.	18					
1.4.2	145 kV, 30 VA, 5 core, Class 0.2, 900-600-300/1 A, Current Transformer (1-phase) complete with all accessories as per specification for 132 kV Line bays			Nos.	12					
1.4.3	145 kV, 30 VA, 5 core, Class 0.2, 1600-1000/1 A, Current Transformer (1-phase) complete with all accessories as per specification for 132 kV Bus coupler			Nos.	3					
1.4.4	145 kV, 30 VA, 4 core, Class 0.2, 600-300-150/1 A, Current Transformer (1-phase) complete with all accessories as per specification for 132/33 kV Power Transformers			Nos.	6					
1.4.5	36 kV, 30 VA, 33/√3/ 110/√3/ 110/√3 kV, Class 0.2/3P, Voltage Transformer (1-phase) complete with all accessories as per specification			Nos.	24					
1.4.6	36 kV, 30 VA, 3 core, Class 0.2, Multi ratio, Current Transformer (1-phase) complete with all accessories as per specification			Nos.	24					
1.5	**Lightening Arrestor**									
1.5.1	120 kV, 10 kA Lightening Arrestor including Discharge Counter complete with all accessories as per specification			Nos.	18					
1.5.2	30 kV, 10 kA Lightening Arrestor complete with all accessories as per specification			Nos.	30					
1.5.3	9 kV, 10 kA Lightening Arrestor complete with all accessories as per specification			Nos.	24					
1.6	**Control and Relay Panel with Automation**									
1.6.1	132 kV Transmission Line Control and Relay Panel complete with all accessories as per specification for incoming/outgoing 132 kV Line			Set	4					
1.6.2	132/33 kV Transformer Control and Relay Panel complete set for HV and LV side with all accessories as per specification			Set	2					

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Arunkhola Dumkibas 132/33 kV Substation Project

Schedule of Rates and Prices

Electricity Grid Modernization Project - Additional Financing

OCB No. : PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.6.3	132 kV bus coupler cum bus bar protection control and relay panel complete with all accessories as per specification			Set	1					
1.6.4	33/11 kV Transformer Control and Relay Panel complete set for HV and LV side with all accessories as per specification			Set	2					
1.6.5	33 kV Sub-transmision Line Control and Relay Panel complete with all accessories as per specification for 4 nos. of outgoing 33 kV Line			Set	4					
1.6.6	Time Synchronisation Equipment as per specification pertaining to C & R System			No.	1					
1.7	**12 KV, 25kA, 3 sec, 3-phase Indoor Switchgear Panel with all accessories**									
1.7.1	12 kV Transformer Incomer Module (2000A) with VCB, CRP, CT and all accessories as per technical specification			Set	2					
1.7.2	12 kV Line Outgoing Module (800A) with VCB, CRP, CT and all accessories as per technical specification			Set	6					
1.7.3	12 kV Bus Coupler Module (2500A) with all accessories as per technical specification			Set	1					
1.7.4	12 kV PT module with all accessories as per technical specification			Set	2					
1.8	**Substation Automation System (SAS)**									
1.8.1	Complete Substation automation system including hardware and software for the substation & remote control stations alongwith associated equipments for the followings as per Technical Specification.									
i.	132 kV System			Bay Nos.	7					
ii.	33 kV System			Bay Nos.	8					
iii.	11 kV System (Indoor Switchgear)			Bay Nos.	9					
iv.	BCU for controlling & monitoring of auxiliary system			Set	1					

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Arunkhola Dumkibas 132/33 kV Substation Project

Schedule of Rates and Prices

Electricity Grid Modernization Project - Additional Financing

OCB No. : PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.9	**Teleprotection & Communication Equipments**									
1.9.1	Digital Protection Coupler with sub Rack			Nos.	8					
1.9.2	SDH Equipment with MPLS - TP facility (STM -4 upto 4 MSP Protected directions as well as 10 G upto 4 MSP Protected directions)									
(i)	Base Equipment (Common cards, Cross Connect/control cards, optical base cards, power supply cards, power cabling, other hardware and accessories including sub racks (Additional Sub Rack if required to accomodate all facilities including SDH and MPLS - TP mentioned above) , patch cord, DDF etc. fully equiped excluding (ii) & (iii) below			Nos.	1					
(ii)	Optical Interface Cards/SFP									
(a)	L4.1 SFP			Nos.	4					
(b)	10 G SFP			Nos.	4					
(iii)	Tributary cards									
(a)	E1 Interface card (Min. 8 interfaces per card)			Set	2					
(b)	Fast -Ethernet Interface 10/100 Mbps Base T with Layer-2 switching (Min. 8 Interfaces per card)			Nos.	3					
1.9.3	Equipment Cabinets			No.	1					
1.9.4	VOIP telephone instrument with one common POE+switch (min. 8 port)			Nos.	2					
1.10	**Station Supply, LV Switchgear (As per Technical specification)**									
1.10.1	400V AC Main Switch Control Panel including MCB, Cable and accessories for the specified scope of the work.			Set	1					
1.10.2	400V AC Distribution Board (ACDB) including Cable and accessories for the specified scope of the work.			Set	2					

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Schedule of Rates and Prices

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.10.3	400V AC Main Lighting Distribution Board (MLDB) including Cable and accessories for the specified scope of the work.			Set	1					
1.10.4	400V AC Emergency Distribution Board including Cable and accessories for the specified scope of the work.			Set	1					
1.10.5	110 V DC Distribution Board including cable and accessories to complete the specified scope of work.			Set	1					
1.10.6	48 V DC Distribution Board including cable and accessories to complete the specified scope of work.			Set	1					
1.11	**Power Cables with clamps, glands, lugs and straight joints etc. in Cable Trench**									
1.11.1	Installation of 12 kV, 400 sq. mm, Single core, XLPE insulated Copper conductor armoured Power Cable including Straight Joints and termination joints for both ends with other required accessories complete as per Drawing and specification for Two cables per phase from LV sides of both 33/11 kV, 3 phase, Power Transformers upto 2 nos. of Indoor 11 kV Switchgear Module Panels in the switchgear room . (2*2*3=12 nos. of single core power cable)			m	1100					
1.11.2	Installation of 12 kV, 240 sq.mm, 3 core, XLPE insulated Copper conductor armoured Power Cable including cable termination joints at both ends with other required accessories complete as per Drawing and specification for 6 nos. of Outgoing 11 kV Distribution Feeders.			m	1000					
1.12	**Battery / Battery Charger**									
1.12.1	Dual Mode Float Cum Boost Battery charger for 110 V battery complete with all accessories to complete the specified scope of work (One for 132kV & One for 33kV).			Set	2					
1.12.2	110 V, 600 AH maintenance free lead acid sealed type battery complete with all accessories to complete the specified scope of work (One for 132kV & One for 33kV).			Set	2					
1.12.3	Dual Mode Float Cum Boost Battery charger for 48 V battery complete with all accessories to complete the specified scope of work.			Set	1					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.12.4	48 V, 300 AH maintenance free lead acid sealed type battery complete with all accessories to complete the specified scope of work.			Set	1					
1.13	**Fire Detection & Alarm System**									
1.13.1	50 litre foam type, Portable/Trolley/Wheel mounted fire extinguishers			Nos.	2					
1.13.2	4.5 kg CO_2 type, Fire Extinguisher			Nos.	10					
1.13.3	22.5 kg Dry Chemical Power (DCP) type, Trolley/Wheel mounted fire extinguishers			Nos.	3					
1.13.4	Smoke detection system in Control Room Building cum Administrative Building as per technical Specification and approved drawing			set	1					
1.13.5	Fire detection and Alarm System in Control Room cum Administrative Building as per technical Specification and approved drawing			set	1					
1.14	**Monitoring and Analyzing Equipment**									
1.14.1	Online monitoring Equipment of fault gases, air components and moisture in transformer insulating fluids (Dissolved gas Analyzer) of 132/33 kV Power Transformer with Inside View (Analysis Software) as per specification			Set	2					
1.15	**Air Conditioning system as per technical specification and approved drawing**									
1.15.1	Ceiling cassette type split AC unit of 3 TR capacities includung Ceiling cassette for 132 kV control room			Nos.	4					
1.15.2	High wall type split AC unit of 2 TR capacities for switchgear room			Nos.	2					
1.15.3	High wall type split AC unit of 1.5 TR capacities for Office room, communication room, battery room and Township (Staff Quarters) buildings			Nos.	10					
1.16	**Bus Post/Support Insulators including all other accessories required to complete the specified scope of work for**									
1.16.1	132 kV Bus			Nos.	78					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.16.2	33 kV Bus			Nos.	56					
1.17	**Diesel Generator with control Panel**									
1.17.1	50 kVA Silent type Diesel Generator (400/230 V, 50 Hz) with control Panel & AMF panel as per technical specification for fire fighting system			Set	1					
	Sub-total of Part - A of Electrical, SAS and Communication Works									
	PART - B: CONTRACTOR ASSESSED QUANTITIES									
1.18	**Power & Control cables with fitting accessories**									
1.18.1	1.1 kV grade PVC/XLPE insulated Power and lighting cable (Copper) for proper connection of electrical works in Control room building, Staff quarters, Security (Guard) room, Store buliding, Pump house, Fire fighting system, Switchyard lighting, Road & Street lighting and other necessary places and circuits to complete the specified scope of work as per Technical specification and approved drawing.			Lot	1					
1.18.2	1.1 kV grade PVC insulated Control cable (Copper) to complete the specified scope of works including that for communication and networking system works as per Technical specification and approved drawing.			Lot	1					
1.18.3	Cable glands, lugs & straight through joints for Power & Control cables			Lot	1					
1.19	**Communication / SCADA (Based on IEC 61850)/SAS**									
1.19.1	Optical Distribution Frame complete in all respects as per technical specifications			Lot	1					
1.19.2	Optical Approach Cable -24 pair Fibre (DWSM -G.652D) along with Installation hardware set for above 24 Fibre, Fibre Optic Approach Cable complete in all respects as per technical specifications			Lot	1					

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OCB No. : PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.19.3	Integration of all 132/33/11 kV Bays at Dumkibas substation under present scope with the SCADA of SIEMENS (SINAUT Spectrum) at Load Dispatch Centre, Kathmandu and remote operation including supply of Hardware, Software, accessories etc. as per TS Section of the Project.			Lot	1					
1.20	**Visual Monitoring System**									
1.20.1	Visual Monitoring System for watch & ward as per technical specification and approved drawing			Lot	1					
1.21	**Fire Protection System as per technical Specification and approved drawing**									
1.21.1	Pumping arrangement for HVW system & hydrant system complete with all piping, valves, fittings etc. inside pump house.			Lot	1					
1.21.2	Hydrant system, complete U/G piping and accessories etc. outside the Pump House for all transformers and equipment.			Lot	1					
1.21.3	HVW spray system, Hydrant system and complete U/G & O/G piping and accessories etc. out side the pump house for :									
1.21.3.1	30 MVA, 132/33 kV Three Phase Power Transformer and equipment			Sets	2					
1.21.3.2	16.66 MVA, 33/11 kV Three Phase Power Transformer and equipment			Sets	2					
1.22	**Earthing and lightning protection**									
1.22.1	Galvanized E.H.S. steel wires of size 7/3.35 for lightning shield wire in take off and internal structures, with accessories to complete the specified scope of works as per technical Specification and approved drawing.			lot	1					
1.22.2	Earthing system of substation with 100 sq.mm. Copper conductors, copper clad steel Earth Rod with necesaary connectors/connections, risers etc. complete in all respect as per technical Specification and approved drawing.			Lot	1					

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OCB No. : PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.22.3	Equipment for lightning protection of substation including necesaary connectors/connections, risers etc. complete in all respect (but excluding LM structures for Lightning protection) as per technical Specification and approved drawing.			Lot	1					
1.23	**Erection Hardwares and Miscellaneous material as per technical Specification and approved drawing**									
1.23.1	145 kV Insulator Strings, Disc/support Insulators, necessary hardwares, Clamps, spacers, connectors for Transformer, Substation Works and connection between Line Tower, Take Off Gantry and Internal Gantry structure etc. all complete as per the specification to complete the specified scope of works for 7 bays.			Lot	1					
1.23.2	36 kV Insulator Strings, Disc/support Insulators, necessary hardwares, Clamps, spacers, connectors for Transformer, Substation Works and connection between Line Tower, Take Off Gantry and Internal Gantry structure etc. all complete as per the specification to complete the specified scope of works for 6 bays and 2 station transformers.			Lot	1					
1.23.3	132 kV Tubular Bus (Outer Dia 100 mm and thickness 10 mm), expansion joint including all other Accessories required to complete 132 kV double bus-bar configuration as per the specified scope of work			Lot	1					
1.23.4	ACSR "CARDINAL" Conductors for 132kV switchyard and substation works with necessary hardwares and accessories to complete the specified scope of works for Line Tower to Take Off and Internal Gantry Structure (including stringing of conductor between tower to gantry for 132kV)			Lot	1					
1.23.5	33 kV Tubular Bus (Dia 75 mm, thickness 8 mm) including branch bus -bars for 33 kV and other accessories required to complete the specified scope of work			Lot	1					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
1.23.6	ACSR "CARDINAL" conductors for 33 kV switchyard with necessary hardwares and accessories for substation works and for overhead connections to the 33 kV lines at the gantry as required to complete the specified scope of works			Lot	1					
1.23.7	36 kV Horn Gap Fuse along with support insulator (1-phase) and other accessories as required to complete the specified scope of work for primary connection of 33/0.4 kV station service Transformer.			Nos.	6					
1.23.8	H-pole Dead End double arm Steel Tubular Pole (Fully Galvanized, 11 Meter, equivalent strength or more than 540 SP-54, 194 Kg weight per pole) Structure as per drawing and technical specification for 11 kV outgoing Feeders			Set	6					
1.24	**Illumination System**									
1.24.1	Lighting system (Outdoor and Peripheral) for Switchyard, Substation area, Entrance & Internal Roads, outdoor area of Control Room, Township (Staff Quarters), Security room, store and fire fighting pump house buildings, Boundary wall periphery & along main approach roads (with support whereever necessary), occupancy sensor and Street lights etc. to complete the specified scope of works as per technical specification and approved drawing.			Lot	1					
1.24.2	Emergency DC lighting system with necessary accessories all complete for control room, switchyard and substation gate area as per technical specification			Set	15					
	Sub-total of Part - B of Electrical, SAS and Communication works									
	Total of Electrical, SAS and Communication Works of AIS Dumkibas Substation									

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
2	**CIVIL AND ARCHITECTURAL WORKS**									
	PART - C : EMPLOYER ASSESSED QUANTITIES									
2.1	**Installation works of Steel structure for Gantry, post, beam and equipment supporting frame complete with bolts, fastner, pack washer, nuts, gusset plates & accessories (For 132 and 33 kV side) and various electrical equipments as per technical specification and approved drawings**									
2.1.1	132 kV Take Off Gantry structure for 2 nos. of incoming & 2 nos. of outgoing line bays, one no. of bus coupler bay and two nos. of transformer bays including internal gantry, tower & beam structures and bus bar support as per scope of contract			Bays	7					
2.1.2	132 kV SF6 Circuit Breaker (3-phase)			Sets	7					
2.1.3	132 kV Disconnector Switch/Isolator with Earth Switch (3-phase)			Sets	4					
2.1.4	132 kV Disconnector Switch/Isolator without Earth switch (3-phase)			Sets	22					
2.1.5	132 kV Capacitive Voltage Transformer (1-phase)			Nos.	18					
2.1.6	132 kV Current Transformer (1-phase)			Nos.	21					
2.1.7	120 kV Lightening Arrestor (1-phase)			Nos.	18					
2.1.10	33 kV Gantry structure for 2 nos. of incoming & 4 nos. of outgoing line bays, 4 nos. of transformer bays including internal gantry, tower & beam structures and bus bar support as per scope of work			Bays	10					
2.1.11	33 kV Vaccum Circuit Breaker (3-phase)			Sets	8					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
2.1.12	33 kV Disconnector Switch/Isolator with Earth Switch (3-phase)			Sets	4					
2.1.13	33 kV Disconnector Switch/Isolator without Earth Switch (3-phase)			Set	13					
2.1.14	33 kV Voltage Transformer (1-phase)			Nos.	24					
2.1.15	33 kV Current Transformer (1-phase)			Nos.	24					
2.1.16	30 kV Lightening Arrestor (1-phase)			Nos.	30					
2.1.19	9 kV Lightning Arrestor (3 Nos. per set) with accessories all complete and connection with earthing			Sets	8					
2.2	**Installation works of Lattice/Pipe Structure including peak plates/pack washers and guest paltes including foundation bolts (nuts, washers, MS plate welded at the bottom) as per approved drawings and technical specifications for additional items not included in above S.N. 2.1 of Steel structure of Towers, Gantry structures & Equipment support structures.**									
(a)	Lattice structure including Foundation bolts			MT	1					
(b)	Pipe Structure including Foundation Bolts			MT	1					
(c)	Fastners for towers, beams and equipment support structures			MT	0.5					
	Sub-total of Part - C of Installation works of Steel Structures									

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
2.3	**Civil Works (MATERIAL PLUS LABOUR) as per technical specification and approved drawings**									
	PART - D: CONTRACTOR ASSESSED QUANTITIES									
2.3.1	Site preparation work			Sq.m	4250					
2.3.2	Geotechnical /Soil Investigation as per technical specification			Loc	5					
2.3.3	Soil Resistivity test			lot	1					
2.3.4	Exploration works for soil strength of foundations including laboratory tests for Substation and Dead End Tower as per specified			lot	1					
2.3.5	Site levelling									
(a)	Earth work in cutting & Filling in all types of soils including soft/disintegrated rock with all leads and lifts within sub station boundary			Cu.m	10000					
(b)	Earth work in Filling with borrowed earth with all leads and lifts including royalty,taxes etc for Site Grading including compaction and leveling etc all complete as per TS			Cu.m	1000					
2.3.6	Excavation works in all types of soil and rock including backfilling disposal etc. for all leads and lifts for 132kV and 33kV Switchyard, Control Building, Cable trench, Township (Staff Quarters), Store, security room (Guard House), Fire Fighting Pump House, Approach Road, Retaining Wall, underground Water tank etc. and other locations			Cu.m	21000					
2.3.7	All civil works for Boundary wall including excavation, concrete, reinforcement steel, structural steel, plaster, painting, barbed wire and concertina coil etc. all complete as per technical specification and approved drawing (2.5 m high brick masonary and 0.5 m high angle supports with barbed wire and concertina coil at top of wall)			R-m	725					

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Electricity Grid Modernization Project - Additional Financing

OCB No. : PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
2.3.8	Construction of retaining wall with random Rubble masonry in cement sand mortar (1:6) including levelling up with cement concrete (1:6:12), providing weep holes of PVC pipes (150 mm dia) with necessary filter material at the mouth of weep holes, 50 mm thick cement concrete (1:2:4) copping on the top of wall, 100 mm thick PCC (1:4:8) below RR masonary work, excavation of foundation for all lifts up to 3m above lower level . Item of excavation, PCC (1:2:4 & 1:4:8) shall be measured and paid seperately under respective items of BPS.			Cu.m	2000					
2.3.9	Providing and laying of Plain Cement Concrete (PCC) (1:4:8; C:S:A)			Cu.m	275					
2.3.10	Providing and laying of Plain Cement Concrete (PCC) (1:2:4; C:S:A)			Cu.m	100					
2.3.11	Providing and laying Plain Cement Concrete 1:5:10 (1 cement : 5 sand : 10 Stone aggregate)			Cu.m	675					
2.3.12	Plum Concrete work of ratio 40% plums/boulders and 60% concrete of M15 etc. all complete as per technical specification and approved drawing			Cu.m	100					
2.3.13	Stone filling (40mm) over grating of Transformer /reactor Foundation			Cu.m	50					
2.3.14	Stone spreading (40 mm size) including antiweed treatment in Switch yard but excluding PCC			Sq.m	10000					
2.3.15	Stone soling below foundations whereever specified in aproved drawings during detailed Engineering			Cu.m	125					
2.3.16	Local Sand filling around and under DG Set Foundation and other foundations as applicable.			Cu.m	5					
2.3.17	Providing and laying of Reinforced Cement Concrete Design Mix of Grade M25 (1:1.5:3) including pre cast, shuttering, Grouting of pockets & underpinning but excluding steel reinforcement			Cu.m	3250					
2.3.18	Cutting, bending, placing of Steel reinforcement with binding wire for RCC as per drawing, Steel Reinforcement (Fe 500)			MT	380					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
2.3.19	Miscellaneous Structural steel used for rails , plates for rail fixing, gratings, gratings supports etc. for transformer /reactor foundation, cable supportst and earthing cleats, chequered plates, embedments, edge protection angles for cable trenches but excluding the reinforcement steel and steel for lattice and pipe structures which shall be paid seperately under respective items of BPS			MT	28					
2.3.20	**CONTROL ROOM BUILDING**									
	All Civil works for Control Room cum Administrative Building including external & internal finishing, internal cable trench, electrification, air conditioning, sanitary and plumbing works, water supply, Doors, windows, False celing, Painting, Furnitures and miscellaneous work etc. all complete as per technical specification and approved drawings but excluding excavation, PCC, RCC and reinforcement steel which shall be measured and paid seperately under respective items of BPS (Plinth area measurement)			Sq. m.	336					
2.3.21	**Other Buildings and Structures**									
	All civil works for following Buildings and structures including external & internal finishing, electrification, sanitary and plumbing works, Doors, windows, Painting, Furnitures and miscellaneous work etc. all complete as per technical specification and approved drawings but excluding excavation, PCC, RCC and reinforcement steel which shall be measured and paid seperately under respective items of BPS :									
2.3.21.1	Township (Staff Quarters) as per TS									
(a)	B - Type (Three story, plinth Area 256 Sq.m.) - 1 No.			Sq. m.	768					
(b)	C - Type (Two story, plinth Area 305 Sq.m.) - 1 No.			Sq. m.	610					
2.3.21.2	Store (one story) building as per TS			Sq. m.	90					
2.3.21.3	Fire fighting pump house building as per TS			Sq. m.	99					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
2.3.21.4	Fire fighting Water tank as per TS			LS	1					
2.3.21.5	Vehicle Parking shed (for 5 Nos. of 4 wheelers/cars) as per TS			LS	1					
2.3.22	All civil works for one storey security room (Guard house) as per as per technical specification and approved drawing including septic tank and soak pit, Internal and external finish, sanitary and plumbing works, Doors, windows, Painting, plinth protection etc. to complete the building but excluding excavation, PCC, RCC and reinforcement steel which shall be measured and paid seperately under respective items of BPS.			Sq.m	37.8					
2.3.23	Construction of Concrete road as per technical specification and approved drawing including all items such as excavation, cut & fill, extra widening, compaction, rolling, watering and surface preparation with Water Bound Macadam of thickness 100 mm but excluding reinforcement & concrete which shall be paid seperately under respective items of BPS									
(a)	3.75 m wide Road (500 m length)			Sq.m	1900					
(b)	5.5 m wide Road (125 m length)			Sq.m	700					
2.3.24	Construction of 5.5 m wide Approach road (Outside boundary) as per technical specification and approved drawing including all items such as excavation, cut & fill, extra widening, compaction, rolling, watering and surface preparation with Water Bound Macadam of thickness 100 mm but excluding reinforcement & concrete which shall be paid seperately under respective items of BPS			Sq.m	1800					
2.3.25	Construction of rail- cum- road as per drawing including all items such as excavation, compaction, rolling, watering, WBM etc. but excluding concrete, reinforcement and structural steel which shall be paid seperately under respective items of BPS									
(a)	Section having four rails			Sq.m	200					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
2.3.26	Chain link Fence for Switchyards as per technical specification and approved drawing including Fence and poles but excluding concrete which shall be paid seperately under respective items of BPS									
(a)	For 132 kV switchyard			R-m	320					
(b)	For 33 kV switchyard			R-m	240					
2.3.27	Switchyard Gate as per technical specification and approved drawing excluding concrete which shall be paid seperately under respective items of BPS			Nos.	2					
2.3.28	All civil works for construction of drains including excavation as per technical specification and approved drawing but excluding concrete and PCC works which shall be paid seperately under respective items of BPS									
(a)	Type AA (300mm wide x depth up to 600mm)			R-m	450					
(b)	Type BB (450 wide x depth from 600 to 900mm)			R-m	300					
(c)	Type CC (600 wide x depth from 900 to 1200mm)			R-m	100					
2.3.29	Supplying & laying of hume pipe of grade (NP-3) as per technical specification and approved drawing but excluding concrete of bed/support/encasing of hume pipes which shall be paid seperately under respective items of BPS									
(a)	250mm dia			R-m	100					
(b)	300mm dia			R-m	100					
(c)	450mm dia			R-m	75					
(d)	600mm dia			R-m	50					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
2.3.30	Supplying and Erecting de-watering pumps as per technical specification and approved drawing									
(a)	5 HP			Nos.	2					
(b)	0.5 HP			Nos.	5					
2.3.31	External water supply as per technical specification from borewell/single point of water supply within substation boundary to Fire Fighting water Tank, Underground tank, Control Room Building and other buildings as applicable including all items like excavation, pipes, fittings, jointings, valves, chambers/manholes etc.									
(a)	80 mm dia. GI Pipe			R-m	200					
(b)	50 mm dia. GI pipe			R-m	150					
(c)	25 mm dia. GI Pipe			R-m	250					
2.3.32	External sewerage system including all item such as excavation, piping, pipe fittings, manholes, gali trap, gali chamber etc. as per technical specification and approved drawing									
(a)	250 mm dia.			R-m	50					
(b)	150 mm dia.			R-m	100					
2.3.33	Septic tank and soak pit with External sewerage system as per technical specification and approved drawing according to International/British standards including all item such as excavation, piping, pipe fittings, manholes, gali trap, gali chamber etc. complete excluding concrete & reinforcment which shall be measured and paid seperately under respective items of BPS. (At 3 locations for 30 nos. of users each).			Lot	3					
2.3.34	Supplying, providing stone work packed in steel wire crate as per design & drawing to be developed by the contractor for all leads & lifts along the boundary wall & other places as required.			Cu.m	200					

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
2.3.35	Main Boundary wall Gate (Steel) as per technical specification and approved drawing excluding concrete which shall be paid seperately under respective items of BPS									
(a)	Main Entry Gate for Substation Entrance and exit			Nos.	2					
(b)	Side Entry Gate for Township (Staff Quarters) Buildings			Nos.	1					
2.3.36	Site preparation work for construction of RCC Box culvert of size 6 m length, 5 m width and 2.5 m height in approach road as per technical specification and approved drawings but excluding excavation, PCC, RCC and reinforcement steel which shall be measured and paid seperately under respective items of BPS			LS	1					
2.3.37	Construction of underground Water tank (18000 ltr.) excluding excavation, PCC, RCC and reinforcement steel and fitting of overhead tanks with suction motor for water supply, auto cut off switch, required Upvc pipes and fittings for water supply point to tanks, building and waste pipe etc. and all complete accessories as per specifications & instruction of site engineer.			Lot	2					
2.4	**Miscellaneous works as per technical specification**									
2.4.1	Identification plate, danger notice etc. (MATERIAL PLUS LABOUR) in Control room cum administrative building, fire fighting, pump house, entrance & exit, switchyard, substation area and approach road			Lot	1					
2.4.2	Installation works of Lightning/Earth mast			Lot	1					
	Sub-total of Part - D of Civil works (MATERIAL PLUS LABOUR) of Dumkibas AIS Substation									
	Total of Civil and Arichitectural works of Dumkibas AIS Substation									
	Total of Part- I : 132/33/11 kV AIS Dumkibas Substation									

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Electricity Grid Modernization Project - Additional Financing

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
Part II: Dead-End Tower at Dumkibas Substation - 1 Nos.										
1	**132 kV DD Type TOWER PARTS (132 kV Double Circuit BEAR Tower) - 1 No.**									
1.1	Erection of 1 Nos. of DD type tower & tower extension parts complete with step bolts, hangers, D-shackles, bolts & nuts etc, tack welding and supply and application of enamel & zinc rich paint etc.			MT	11					
2	**Work associated with construction of tower foundations including stub setting**									
2.1	Excavation in all Type and nature of Soil			Cu.m	500					
3	**Concreting (including all associated works related to foundation)**									
3.1	M20 Concrete Nominal mix 1:1.5:3			Cu.m	60					
3.2	M10 Concrete Nominal mix 1:3:6			Cu.m	15					
4	Supply and placement of Reinforcement Steel			MT	2					
5	Pipe Type earthing complete with pipe, flat, salt, sand & charcoal			Set	1					
6	Dismantling of ACSR BEAR conductor including armour rod, hardware fittings, insulators etc (double wire)			Km.	0.5					
7	Restringing of ACSR BEAR conductor upto dead end tower including armour rod, hardware fittings, insulators etc (single wire)			Km.	0.5					
8	Dismantling of OPGW, earth wire including all hardware and hardware fittings. (single wire)			Km.	0.5					
9	Dismantling of OPGW, earth wire including all hardware and hardware fittings. (double wire)			Km.	0.4					
10	Special arrangement for erection of Dead-End Tower between tower no. 11 & 12 of existing double circuit 132 kV transmission line (ACSR BEAR conductor). The arrangement must be prepared so that the new tower is erected, transmission line stringing and taping/connection/jumper work shall be completed in a single working day within specified time by the help of maximum no. of manpower, multiple cranes and best working technique of contractor.			Lot	1					
	Total of Part II : Dead-End Tower at Dumkibas Substation									

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Schedule No. 4(a): Installation and Other Services

(a): Installation, Testing & Commissioning Services and Civil Works

SL No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Quantity	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)x(6)	(10)	(11)=(10)x(6)
Part III: 11 kV Distribution Line										
1	**Erection, Installation, Testing and commissioning works complete for 11kV Distribution Line (Pole, Covered Conductor & Accessories, Single Circuit) as per TS and approved drawing.**									
1.1	Erection works of 11 m Steel Tubular Pole with necessary Hardware fittings all complete including transportation to site as per drawing, specification and instruction.			Set	115					
1.2	Stringing of 3 phase, 3-wire, single circuit, 11 kV line with XLPE Covered AAAC (120 sq.mm area.) Conductor with proper tension on the STP pole as per TS including transportation of all necesary fabricated materials, insulators, hardware fittings & accessories to working site, This shall also include laying of conductor, installation of mid span joints, repair sleeves, clamps, tying, jointing, binding etc.,using temporary stay all complete as per drawing, specification and site incharge's instruction. Testing & Commissioning work of the constructed 11 kV line shall also be performed by the contractor.			km	3.2					
1.3	HT Stay set installation works in 11 kV line, including transportation of materials to the working site, digging, erection, back filling of soil, ramming properly, installation of stay wire, fitting of 2 nos. of stay Insulator & other accessories complete as per drawing, specification and instruction.			Set	48					
	Total of Part III: 11 kV Distribution Line									
	Total of Schedule- 4(a)(Total of column 9 and 11 to be carried forward to Schedule 5: Grand Summary)									

 # Specify currency in accordance with ITB Clause 12.1 and corresponding BDS clauses, Vol.I of the Bidding Documents.

Name of Bidder: Date:

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)

Date:

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

(b):Training Charges for training to be imparted to Employer's Personnel by Bidder's Instructor in 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	
						Charges (USD)	Total Training Charges (USD)
1	2	3	4	5	6	7	8 = 5 x 6 x 7
a)	Training to Owners personnel on Design, testing and Maintenance aspect as per Section Project, Technical Specification at manufacturer's works	i) Substation Control & Protection and Substation Automation System		3	5 days		
		ii) Teleprotection & Communication Equipment (SDH, MUX & NMS (Craft Terminal)) and Visual Monitoring System		3	5 days		
		iii) Transformer and Substation/Switchyard equipments		3	5 days		
	Total for Training Charges						
Total of Schedule- 4(b)(Total of column 8 to be carried forward to Schedule 5: Grand Summary)							

REMARKS:

1. Training at Manufacturer's works: The Bidder/Contractor shall include in the training charges payment of per Diem allowance to Employer's Personnel (NEA trainees) @ USD 150 per day per trainee for the duration of training abroad towards accommodation, meals and other incidental expenses and to and fro economy class air ticket from Nepal to place of training. The duration of training shall be excluding travelling period.

Name of Bidder: **Date:**

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)

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PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

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.	Training duration in days	Currency	Training Charges for Contractors Trainers		Remarks
					Unit rate (NPR)	Total Training Charges (NPR)	
1	2	3	4	5	6	7 = 4x 6	
a)	On Job training on operation, maintenance and testing & commissioning aspect at one Location in Nepal as per section Project, Technical Specification	i) Substation Control & Protection	5	NPR			
		ii) Substation Automation System including integration aspect of existing SCADA (of Siemens supplied SINAUT Spectrum Software) at Load Dispatch Center	5	NPR			
		iii) Teleprotection & Communication Equipment (SDH, MUX & NMS (Craft Terminal))	5	NPR			
		iv) Transformer and Substation/Switchyard equipments	5	NPR			
		v) Fire Protection System and and Visual Monitoring System	3	NPR			
		vi) Power Substation Design Course (Parameter and physical layout for 132, 220, 400KV etc.) for 5 person	10	NPR			
	Total for Training Charges						
Total of Schedule- 4 (c) (Total of column 7 to be carried forward to Schedule 5: Grand Summary)							

REMARKS:

2. On Job Training in Nepal: The traveling and living expenses of Employer's personnel for the training programme conducted in Nepal shall be borne by the Employer (Owner).

Name of Bidder:
Signature of Bidder:
(Printed Name)
(Designation)
(Common Seal)

Date:

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

(d): Maintenance Charges

Sl No	Description	Unit	Qty.	Total Maintenance Charges			Remarks
				Currency	Unit Rate (NPR)	Total Maintenance Charges (NPR)	
	1	2	3	4		5	
1	Maintenance Charges for Teleprotection & Communication Equipments including SDH & MUX for Six (6) years after Warranty period	Year	6	NPR			
	Total Maintenance Charges for Communication Equipment Package (Total Schedule- 4d)						
	Total of Schedule- 4 (d) (Total of column 5 to be carried forward to Schedule 5: Grand Summary)						

Name of Bidder: **Date:**

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)

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Schedule No. 5: Grand Summary

Sl. No.	Description	Total Amount	
		Total Price Foreign (USD)*	Total Price Local (NPR)*
1	**TOTAL SCHEDULE NO. 1**		
	Plant and Equipment including Mandatory Spares to be supplied from abroad, including Type Test Charges for Type Tests to be conducted abroad.		
2	**TOTAL SCHEDULE NO. 2**		
	Plant and Equipment including Mandatory Spares Parts to be supplied from within Nepal including Type Test Charges		
3	**TOTAL SCHEDULE NO. 3**		
	Design Services		
4	**TOTAL SCHEDULE NO. 4**		
	a. Installation Charges and construction charges		
	b. Training Charges for Training to be imparted abroad		
	c. Training Charges for Training to be imparted in Nepal		
	d. Maintenance charges		
	GRAND TOTAL [1+2+3+4(a)+4(b)+4(c)+4(d)]		

Signature: _____

Printed Name: _____

Date: Designation: _____

Place: Common Seal: _____

NEPAL ELECTRICITY AUTHORITY

Project Management Directorate

Arunkhola Dumkibas 132/33 kV Substation Project

Schedule of Rates and Prices

Electricity Grid Modernization Project - Additional Financing

PMD/EGMPAF/ADSP-078/79-01:Design, Supply, Installation,Testing and Commissioning of 132/33/11 kV Air Insulated Substation at Dumkibas, Binayi Triveni Rural Municipality, Nawalparasi (Bardaghat-Susta East) District (Package A-4)

Schedule No. 6: Recommended Availability/Optional Spares Parts and recommended Test Equipment in line with technical Specifications

Item No.	Name & Description of Parts	Name of Original Manufacturer	Part No.	Number of Units in each set	Total No. of Sets to be provided	Unit Price	Total Price	Remarks

Date:_____

Signature: _____

Printed Name: _____

Designation: _____

Common Seal: _____