

NEPAL ELECTRICITY AUTHORITY

(An Undertaking of Government of Nepal)
Project Management Directorate

NEW BUTWAL & KUSHMA SUBSTATION EXPANSION PROJECT



(A Component of Energy Transmission and Distribution Strengthening Project)

BIDDING DOCUMENT FOR

Procurement of Plant for
Design, Supply, Installation and Commissioning of transformer & bays (220 kV, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation

Single-Stage, Two-Envelope Bidding Procedure

Issued on:	25 March 2025
Invitation for Bids No.:	PMD/ETDSSP/NBKSEP-081/82 – 01
OCB No.:	PMD/ETDSSP/NBKSEP-081/82 – 01
Employer:	Nepal Electricity Authority
Country:	Nepal

VOLUME – III OF III
March 2025

New Butwal & Kushma Substation Expansion Project
NEA Project Management Directorate
Matatirtha, Kathmandu, Nepal
Telephone: +977-15164099

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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 required to quote their price including all taxes and duties applicable in their country/ 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:

OCB 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.....

NEPAL ELECTRICITY AUTHORITY								
PROJECT MANAGEMENT DIRECTORATE								
New Butwal and Kushma Substation Expansion Project								
OCB No.: PMD/ETDSP/NBKSEP-081/82-01:Design, Supply, Installation and Commissioning of transformer & bays (220 Kv, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation								FC: Foreign Currency
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)			Remarks
			Unit	Quantity	FC			
					Currency#	Unit Rate	Amount	
1	2	3	4	5	6	9	10 = (5) x (9)	
PART-A	EMPLOYER ASSESSED QUANTITIES							
I	NEW BUTWAL SUBSTATION							
1	ELECTRICAL WORKS							
1.1	Power Transformers							
1.1.1	220/132/11 kV, 315 MVA Three Phase ONAN/ONAF Auto transformer with On Load Tap Changer (OLTC), RTCC Facility and Bushing CT on both sides complete with all accessories including Online dissolved Gas (Multi-gas) and Moisture Analyser as specified		No	2				
1.1.2	132/33 kV, Three Phase 63 MVA, ONAN/ONAF Power Transfromer complete with On load Tap Changer (OLTC) and RTCC facility with Tank Mounted LA at LV side and Bushing CT on both sides, complete with all accessories including Online dissolved Gas (Multi-gas) and Moisture Analyser as specified (Excluding Insulating Oil)		No	2				
1.1.3	33/11 kV, Three phase 20/24 MVA, ONAN/ONAF Power Transformer complete with On load Tap Changer (OLTC) and RTCC facility with Tank Mounted LA at LV side and Bushing CT on both sides complete with all accessories including Online dissolved Gas (Multi-gas) and Moisture Analyser as specified (Excluding Insulating Oil)		No	2				
1.1.4	Insulating Oil for Transformer (1 Lot* = oil for above Transformers)		Lot	1				
1.2	Circuit Breakers for ICT Bays							
1.2.1	245 kV, 3150 A, 3 phase, SF6 Circuit Breaker for auto transformer, three pole operation type, complete with support structure & all accessories as per specification		No	1				
1.2.2	145 kV, 2500 A, 3 phase, SF6 Circuit Breaker for LV side of auto transformer, three pole operation type, complete with support structure & all accessories as per specification		No	1				
1.3	Disconnecting Switches for ICT Bays							
1.3.1	Isolator (3-phase)-Horizontal Double Break (HDB)							
1.3.1.1	245 kV, 1600 A, 3 phase Disconnecting Switch with two earth Switch complete with all accessories as per specification		Nos	1				
1.3.1.2	245 kV, 1600 A, 3phase Disconnecting Switch (Tandem Isolator) without earth Switch complete with all accessories as per specification		Set	2				
1.3.1.3	245 kV, 1600 A, 3 phase Disconnecting Switch with one earth Switch complete with all accessories as per specification		Nos	1				
1.3.1.4	145 kV, 2500 A, 3 phase Disconnecting Switch with two earth Switch complete with all accessories as per specification for replacement in the existing bay and new ICT bay		Nos	2				
1.3.1.5	145 kV, 2500 A, 3 phase Disconnecting Switch (Tandem Isolator) without earth Switch complete with all accessories as per specification (2) for replacement in the existing bay and (2) for new ICT bay		Set	4				
1.3.1.6	145 kV, 2500 A, 3 phase Disconnecting Switch with one earth Switch complete with all accessories as per specification for replacement in the existing bay and new ICT bay		Set	2				
1.4	Instrument Transformers for ICT Bays							
1.4.1	245 kV, 1600 A, 5 core Current Transformer with 120% extended current rating complete with all accessories as per specification (1-Phase)		Nos	3				
1.4.2	145 kV, 1600A, 5 core Current Transformer with 120% extended current rating complete with all accessories for replacement at in the existing bay and new ICT bay as per specification (1-Phase)		Nos	6				
1.5	Lightning Arresters for ICT bays							
1.5.1	216 kV, 10 kA, 1-phase lightning arrester including discharge counter complete with all accessories as per specification		No	3				
1.5.2	120 kV, 10 kA, 1-phase lightning arrester including discharge counter complete with all accessories as per specification		No	3				
1.6	Control and relay panel with Automation							
1.6.1	220/132 kV transformer protection panel complete with all accessories as per specification		No	1				
1.6.2	132/33 kV transformer protection panel complete with all accessories as per specification		No	2				
1.6.3	33/11 kV transformer protection panel complete with all accessories as per specification		set	2				
1.7	33 KV VCB Switchgear Panel (Indoor) with all accessories as specified							
1.7.1	33 kV Transformer incomer module (2500A) for 33kV side of 132/33kV Transformer including CT/PT, Control & Relays with all accessories as per specification		No	2				
1.7.2	33 kV Bus Coupler module (2500A) including CT/PT, Control & Relays with all accessories as per specification		No	1				
1.7.3	33 kV Transformer feeder module (1250A) for 33kV side of 33/11kV Transformer including CT/PT, Control & Relays with all accessories as per specification		No	2				
1.7.4	33 kV Feeder module (630 A) including CT/PT, Control & Relays with all accessories as per specification		No	8				
1.7.5	36 kV PT module with all accessories as per technical specification		No	2				

NEPAL ELECTRICITY AUTHORITY								
PROJECT MANAGEMENT DIRECTORATE								
New Butwal and Kushma Substation Expansion Project								
OCB No.: PMD/ETDSP/NBKSEP-081/82-01:Design, Supply, Installation and Commissioning of transformer & bays (220 Kv, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation								FC: Foreign Currency
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)			Remarks
			Unit	Quantity	FC			
					Currency#	Unit Rate	Amount	
1	2	3	4	5	6	9	10 = (5) x (9)	
1.8	11 KV VCB Switchgear Panel with all accessories as per specified							
1.8.1	11 kV Transformer incomer module (2000A) (IP-2) including PT module (IP-3) with all accessories as per specification		No	2				
1.8.2	11 kV Line Module(1250A) (IP-1) with all accessories as per specification		No	6				
1.8.3	11 kV Bus Coupler Module (2000 A) (IP-2) with all accessories as per specification		No	1				
1.8.4	12 kV PT module with all accessories as per technical specification		No	2				
1.9	Air conditioning System as per Technical Specification							
1.9.1	High wall type split AC unit of 2 TR capacity for Control room		Nos	6				
1.9.2	Air conditioning for Switchyard Panel Room (SPR) as per design		Set	1				
1.10	11kV & 33kV Power cables							
1.10.1	12 kV, 600 sq. mm single core XLPE Copper Power Cable including termination joints and accessories for both ends,from LV sides of 33/11 kV Power Transformers to indoor 11 kV Switchgear Room		M	300				
1.10.2	12 kV, 300 sq.mm 3 core (3C X 300 SQmm) XLPE Aluminium Power Cable armoured including termination joints and all accessories for both ends complete for 6 nos. of outgoing feeder		M	600				
1.10.3	33 kV, 400 sq. mm single core XLPE Copper Power Cable including termination joints and accessories for both ends,from LV sides of 132/33 kV Power Transformers to indoor 33 kV Switchgear Room (Double run for each phase + one double run spare for each transformer)		M	1500				
1.10.4	33 kV HT armoured Copper XLPE Cable (1CX400 SQmm) for 6 nos of 33 kV feeder line & from indoor 33 kV Switchgear to HV side of 2 Nos of 33/11 kV Power Transformers (single run for each phase + one single run spare for each transformer) along with 6 ladder cable trench and termination equipments at both end joints,with all accessories complete.		M	2400				
1.11	Fire Detection & Alarm System							
1.11.1	50 litre foam type, Portable/Trolley/Wheel mounted fire extinguishers		Nos.	2				
1.11.2	4.5 kg CO2 type, Fire Extinguisher		Nos.	6				
1.11.3	22.5 kg Dry Chemical Power (DCP) type, Trolley/Wheel mounted fire extinguishers		Nos.	2				
1.11.4	Smoke detection system in Control Room Building		Set	1				
1.11.5	Fire detection and Alarm System in Control Room Building		Set	1				
1.11.6	Fire detection & Alarm System for Switchyard panel room including one number 4.5 kg CO2 type fire Extinguisher for fire Protection		Set	1				
1.12	Post Insulator (PI)							
1.12.1	220 kV		Nos	12				
1.12.2	132 kV		Nos	6				
1.12.3	36 kV		Nos	6				
2	SUBSTATION AUTOMATION/ COMMUNICATION / SCADA (Based on IEC 61850)							
2.1	Hardware, Software, accessories etc. for Integration of five (5) number of transformer bays with protection system under present scope with the GE T&D make SAS of Existing New Butwal Substation & into the SINAUT Spectrum (SIEMENS make) of the Load Dispatch Center, Kathmandu		Bay Nos	5				
2.2	Hardware, Software, accessories etc. for 33kV Bay Integration with GE T&D make SAS of Existing New Butwal Substation		Bay Nos	12				2 nos of spare bays
2.3	Hardware, Software, accessories etc. for 11kV Bay Integration with GE T&D make SAS of Existing New Butwal Substation		Bay Nos	8				
2.4	Provision for Control & Monitoring of 33kV &11kV system at 33kV & 11 kV Switchgear Control Building and master control room of New Butwal Substation, including all necessary hardware & software to complete the scope of work (including workstation, printer, switches & all other accessories)		Lot	1				
3	Diesel Generator with Control Panel							
3.1	160 kVA Silent type Diesel Generator (400/230 V, 50 Hz) with control Panel & AMF panel as per technical specification		Set	1				
Subtotal of I (NEW BUTWAL SUBSTATION):								
II	KUSHMA SUBSTATION							
1	ELECTRICAL WORKS							
1.1	Power Transformer							
1.1.1	132/33 kV, Three Phase 24/30 MVA, ONAN/ONAF Power Transformer complete with On load Tap Changer (OLTC) and RTCC facility with Tank Mounted LA at LV side and Bushing CT on both sides, complete with all accessories including Online dissolved Gas (Multi-gas) and Moisture Analyser as specified		No	1				
1.1.2	Insulating Oil for Transformer (1 Lot* = oil for above Transformer)		Lot	1				
1.2	Circuit breakers							
1.2.1	145 kV, 1600 A, 3 phase, SF6 Circuit Breaker, three pole operation type, complete with support Structure & all accessories as per specification		No	1				-
1.3	Disconnecting switches							
1.3.1	145kV Isolator (3-phase)-Horizontal Double Break (HDB)							

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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)			Remarks
			Unit	Quantity	FC			
					Currency#	Unit Rate	Amount	
1	2	3	4	5	6	9	10 = (5) x (9)	
1.3.1.1	145 kV, 1600 A, 3-phase Disconnecting Switch with two earth Switch complete with all accessories as per specification		No	1			-	
1.3.1.2	145 kV, 1600 A, 3 phase Disconnecting Switch (Tandem Isolator) without earth Switch (for bus and bypass isolator) complete with all accessories as per specification		Set	2			-	
1.3.1.3	145 kV, 1600 A, 3 phase Disconnecting Switch with one earth Switch complete with all accessories as per specification		Set	1			-	
1.4	Instrument transformers							
1.4.1	145 kV, 800A, 5 core Current Transformer with 120% extended current rating complete with all accessories as per specification (1-Phase)		No	3			-	
1.5	Lightning/Surge Arresters							
1.5.1	120 kV, 10 kA, lightning arrester including discharge counter complete with all accessories as per specification		No	3			-	
1.6	Control and Relay Panel with Automation							
1.6.1	132/33 kV transformer protection panel & Circuit Breaker relay panel complete with all accessories as per specification		set	1				
1.7	33kV Power cables							
1.7.1	33kV, XLPE Insulated, armored Copper Cable (1CX400 SQmm) including termination joints and accessories for both ends,from LV sides of 132/33 kV Power Transformer to indoor 33 kV Switchgear Room (Single run for each phase + one Single run spare for transformer)		M	600				
1.7.2	33 kV, XLPE Insulated, armored Copper Cable (1CX240 SQmm) for 4 nos of 33 kV feeder line		M	2400				
1.8	Fire Detection & Alarm System							
1.8.1	50 litre foam type, Portable/Trolley/Wheel mounted fire extinguishers		Nos.	2				
1.8.2	4.5 kg CO2 type, Fire Extinguisher		Nos.	4				
1.9	Post Insulator (PI)							
1.9.1	132 kV		Nos	9				
1.10	33 KV VCB Switchgear Panel (Indoor) with all accessories as per specified							
1.10.1	33 kV Transformer incomer module (1250 A) including CT/PT, Control & Relays with all accessories as per specification		Nos	1				
1.10.2	33 kV Feeder module (630 A) including CT/PT, Control & Relays with all accessories as per specification		Nos	4				
1.10.3	36 kV PT module with all accessories as per technical specification		Nos	1				
2	SUBSTATION AUTOMATION/ COMMUNICATION / SCADA (Based on IEC 61850)							
2.1	Hardware, Software, accessories etc.for Integration of 132/33kV transformer protection system under present scope with the ABB make SAS of Existing Kushma Substation & SIEMENS (SINAUT Spectrum) at Load Dispatch Centre, Kathmandu as per technical specification		Lot	1				
2.2	33kV Bay Integration with ABB make SAS of Existing Kushma Substation		Bay Nos	5				
Subtotal of II (KUSHMA SUBSTATION):								
Subtotal of Part A:								
PART-B: VENDOR ASSESSED QUANTITIES								
I	NEW BUTWAL SUBSTATION							
1	Erection Hardwares & Miscellaneous materials as per Technical Specifications and Approved Drawings							
1.1	Earthing with conductors, electrode grounding materials and connecting them with existing lightning protection system and lightning mast, copper conductor, electrodes, risers etc complete with all accessories for control building & Substation.		Lot	1				
1.2	Furniture and miscellaneous indoor facilities for control room as per technical Specification for 33kV Switchgear control building.		Lot	1				
2	Fire Protection System							
2.1	Extension and upgradation of existing Hydrant System complete U/G piping and accessories etc. as required alongwith suitable tapping point		Set	1				
2.2	HVV Spray System, Hydrant System and complete U/G & O/G piping and accessories etc for Transformer outside the pumphouse							
2.2.1	220/132/11 kV , 3 Phase, 315 MVA Auto Transformer		Set	1				
2.2.2	132/33kV, 3 Phase, 63 MVA Power Transformer		Set	2				
2.3	Necessary Pumping Arrangement for HVV System & Hydrant System complete with all piping, valves, fittings,etc. inside existing pump house		Lot	1				
3	Illumination System							
3.1	Illumination System for switchyard panel room		LS	1				
3.2	33kV switchgear Control room building illumination		LS	1				
3.3	Switchyard lighting		LS	1				
3.4	Street lighting		LS	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)			Remarks
			Unit	Quantity	FC			
					Currency#	Unit Rate	Amount	
1	2	3	4	5	6	9	10 = (5) x (9)	
4	Control and Power cables							
4.1	Power Cables(PVC)- (1.1kV grade)		LS	1				
4.2	Power Cables (XLPE)- (1.1kV grade)		LS	1				
4.3	Control Cable (PVC)- (1.1kV grade)		LS	1				
4.4	Cable glands, lugs & straight through joints for Power & Control cables		LS	1				
Subtotal of I (NEW BUTWAL SUBSTATION):								
II	KUSHMA SUBSTATION							
1	Erection Hardwares & Miscellaneous materials as per Technical Specifications and Approved Drawings							
1.1	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:		Lot	1				
1.2	Earthing with conductors, electrode grounding materials and it is connecting with lightning protection system and lightning mast, copper conductor, electrodes, risers etc complete with all accessories for control building & Substation.		Lot	1				
1.3	Erection Hardware :-Insulator strings, Disc Insulators, Hardware, conductor, Al Tube, Conductor, clamps & connectors including necessary arrangements for the 132kV Transformer bays under this scope, as per specified scope of works:		Lot	1				
2	Fire Protection System							
2.1	Extension and upgradation of existing Hydrant System complete U/G piping and accessories etc. as required alongwith suitable tapping point		Set	1				
2.2	HVP spray system, Hydrant system and complete U/G & O/G piping and accessories etc for							
2.2.1	132/33kV, 3 Phase, 30 MVA Power transformer		Set	1				
3	Illumination System							
3.1	For 33kV Switchgear Control bulding and Switchyard lighting for extended bays only under the scope		LS	1				
4	Control and Power cables							
4.1	Power Cables(PVC)- (1.1kV grade)		LS	1				
4.2	Power Cables (XLPE)- (1.1kV grade)		LS	1				
4.3	Control Cable (PVC)- (1.1kV grade)		LS	1				
4.4	Cable glands, lugs & straight through joints for Power & Control cables		LS	1				
Subtotal of II (KUSHMA SUBSTATION):								
Sub total of Part B								
PART-C: C1:CIVIL AND ARCHITECTURAL WORKS (Steel Structure)								
I NEW BUTWAL SUBSTATION								
1	STEEL STRUCTURES (Tower,Gantry structures& Equipment support structures)							
1.1	Fabrication, Galvanizing and suply of following Steel Structure for towers,beams and equipment support structure including peak plates/pack washers and guest paltes including foundation bolts(nuts,washers,MS plate welded at the bottom)							
1.1.1	Lattice stucture, foundation bolts & fasteners		MT	42				
1.1.2	Pipe Structure, foundation bolts & fasteners		MT	25				
Subtotal of I (NEW BUTWAL SUBSTATION):								
II	KUSHMA SUBSTATION							
1	STEEL STRUCTURES (Tower,Gantry structures& Equipment support structures)							
1.1	Fabrication, Galvanizing and supply of following Steel Structure for towers,beams and equipment support structure including peak plates/pack washers and guest paltes including foundation bolts(nuts,washers,MS plate welded at the bottom)							
1.1.1	Pipe Structure, foundation bolts & fasteners		MT	15				
Subtotal of II (KUSHMA SUBSTATION):								
Sub total of Part C1								
PART-C2: MANDATORY SPARES								
I NEW BUTWAL SUBSTATION								
1	For 200/132 kV Auto Transformer							
1.1	Phase & neutral bushing		set	1				
1.2	Dial type thermometer(OTI, WTI)		no	1				
1.3	Indicating lamps (20% of used)		lot	1				
1.4	All types at fuses (20% of used)		lot	1				
1.5	All type of auxillary current, voltage and thermal relays, contactors for control, protection and cooling circuit (one of each type)		set	1				
1.6	OLTC Motor Contactor		set	1				
1.7	Oil Level Gauges		no	1				
1.8	Complete set of Gaskets		set	1				
1.9	Complete set of Pressure Relief Devices		set	1				
1.10	Complete set of Bucholz relay		set	1				
2	For 132/33 kV Power Transformer							
2.1	Phase & neutral bushing (1 no. each for 132/33 kV transformer)		set	1				

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			Unit	Quantity	FC			
					Currency#	Unit Rate	Amount	
1	2	3	4	5	6	9	10 = (5) x (9)	
2.2	Dial type thermometer(OTI, WTI)		no	1				
2.3	Indicating lamps (20% of used)		lot	1				
2.4	All types at fuses (20% of used)		lot	1				
2.5	All type of auxillary current, voltage and thermal relays, contactors for control, protection and cooling circuit (one of each type)		set	1				
2.6	OLTC Motor Contactor		set	1				
2.7	Oil Level Gauges		no	1				
2.8	Complete set of Gaskets		set	1				
2.9	Complete set of Pressure Relief Devices		set	1				
2.10	Complete set of Bucholz relay		set	1				
3	For 33/11 kV Power Transformer							
3.1	Phase & neutral bushing (1 no. each for 33/11 kV transformer)		Set	1				
3.2	Indicating Lamps (20% of used)		Lot	1				
3.3	All types of Fuses (20% of used)		Lot	1				
3.4	All type of Auxiliary, Current, Voltage and Thermal Relays, Contactors and Timers for control, protection and cooling circuit(one of each type)		Set	1				
3.5	Complete set of Gaskets		Set	1				
4	For 33 kV VCB Switchgears							
4.1	complete set of interrupter for Incomer panel		Nos.	1				
4.2	complete set of interrupter for outgoing panel		Nos.	3				
4.3	Tripping Coils		Nos.	3				
4.4	Closing Coils		Nos.	3				
4.5	Spring Charging Motor		Set	1				
4.6	3 Phase Overcurrent Relay with ground fault for 11kV Side		Sets	1				
4.7	Ammeter		Nos.	1				
4.8	Voltmeter		Nos.	1				
4.9	kVA Meter		Nos.	1				
4.10	33 kV CTs as in Incomer Feeder (3 Nos)							
4.11	33 kV CTs as in Outgoing Feeder (3 Nos)		Sets	1				
4.12	Operating Handle		Sets	1				
4.13	Indicating Lamps (50% of used)		Set	1				
4.14	Trolley for the breaker		Set	1				
5	Lighting Arrestor							
5.1	216 kV, 10 kA lightning arrestor including discharge counter complete with all accessories as per specification		nos.	3			-	
5.2	120 kV, 10 kA lightening arrestor including discharge counter complete with all accessories as per specification		nos.	3				
6	For 33 kV Control and Relay Panel							
6.1	Indicating lamps		no.	50				
6.2	Fuses for each type (300% of used)		lot	1				
6.3	Color caps of each color for indicating lamps		no.	30				
6.4	One of each type of switch, relay, timer and other special devices		lot	1				
6.5	Each type of auxiliary relays		lot	1				
6.6	3 phase overcurrent protection relay		lot	1				
6.7	Tripping circuit control relay		no.	1				
6.8	Ammeter with double scale		no	1				
6.9	Voltmeter		no.	1				
6.10	Watt meter		no.	1				
6.11	MVAR meter		no.	1				
7	Post Insulators (PI)							
7.1	220 kV		nos	3				
7.2	132 kV		nos	3				
7.3	33 kV		nos	3				
8	For 12 kV VCB Switchgears							
8.1	complete set of interrupter for Incomer panel		Nos.	1				
8.2	complete set of interrupter for outgoing panel		Nos.	3				
8.3	Tripping Coils		Nos.	3				
8.4	Closing Coils		Nos.	3				
8.5	Spring Charging Motor		Set	1				
8.6	3 Phase Overcurrent Relay with ground fault for 11kV Side		Sets	1				
8.7	Ammeter		Nos.	1				
8.8	Voltmeter		Nos.	1				
8.9	kVA Meter		Nos.	1				
8.10	11 kV CTs as in Outgoing Feeder (3 Nos)		Sets	1				
8.11	Operating Handle		Sets	1				
8.12	Indicating Lamps (50% of used)		Set	1				
8.13	Trolley for the breaker		Set	1				
9	Power Cables and Termination Kit							
6.1	XLPE Insulated, armored Copper Cable (33 kV, 1CX400 SQmm)		M	300				
6.2	XLPE Insulated, armored Copper Cable (12 kV, 3CX300 SQmm)		M	300				
6.3	XLPE Insulated, armored Copper Cable (12 kV, 1CX600 SQmm)		M	300				
6.4	33 kV Cable Termination kit for (33 kV, 1CX400 SQmm) XLPE cable		Set	3				
6.5	12 kV Cable Termination kit for (12 kV, 1CX600 SQmm) XLPE Cable		Set	3				

NEPAL ELECTRICITY AUTHORITY								
PROJECT MANAGEMENT DIRECTORATE								
New Butwal and Kushma Substation Expansion Project								
OCB No.: PMD/ETDSP/NBKSEP-081/82-01:Design, Supply, Installation and Commissioning of transformer & bays (220 Kv, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation								FC: Foreign Currency
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)			Remarks
			Unit	Quantity	FC			
					Currency#	Unit Rate	Amount	
1	2	3	4	5	6	9	10 = (5) x (9)	
6.6	13 kV Cable Termination kit for (12 kV, 3CX300 SQmm) XLPE Cable		Set	3				
Subtotal of I (NEW BUTWAL SUBSTATION):								
II KUSHMA SUBSTATION								
1	For 132/33 kV Power Transformer							
1.1	Phase & neutral bushing (1 no. each for 132/33 kV transformer)		set	1				
1.2	Dial type thermometer(OTI, WTI)		no	1				
1.3	Indicating lamps (20% of used)		lot	1				
1.4	All types at fuses (20% of used)		lot	1				
1.5	All type of auxillary current, voltage and thermal relays, contactors for control, protection and cooling circuit (one of each type)		set	1				
1.6	OLTC Motor Contactor		set	1				
1.7	Oil Level Gauges		no	1				
1.8	Complete set of Gaskets		set	1				
1.9	Complete set of Pressure Relief Devices		set	1				
1.10	Complete set of Bucholz relay		set	1				
2	For 132 kV Transformer Protection Panel							
2.1	Indicating lamps		nos	20				
2.2	Fuses for each type (30% of used)		lot	1				
2.3	Color caps of each color for indicating lamps		nos	20				
2.4	One of each type of switch, relay, timer and other special devices		sets	1				
2.5	Each type of auxiliary relays		sets	1				
2.6	Differential relay for transformer protection		nos	1				
2.7	3 phase overcurrent protection relay (non directional)		nos	1				
2.8	Tripping circuit control relay		nos	1				
2.9	Ammeter with double scale		nos	1				
2.10	Watt meter		nos	1				
2.11	MVAR meter		nos	1				
3	For 33 kV Vacuum Circucit Breaker (VCB)							
3.1	complete set of interrupter one of each type		sets	1				
3.2	Tripping coils		nos.	1				
3.3	Closing coils		nos.	1				
3.4	Relays and contactors (one of each type)		sets	1				
3.5	Motor for mechanism		nos.	1				
3.6	Complete set of Sealing rings & Gaskets		sets	1				
4	For 33 kV Control and Relay Panel							
4.1	Indicating lamps		no.	50				
4.2	Fuses for each type (30 % of used)		lot	1				
4.3	Color caps of each color for indicating lamps		no.	30				
4.4	One of each type of switch, relay, timer and other special devices		lot	1				
4.5	Each type of auxiliary relays		lot	1				
4.6	3 phase overcurrent protection relay		lot	1				
4.7	Tripping circuit control relay		no.	1				
4.8	Ammeter with double scale		no	1				
4.9	Voltmeter		no.	1				
4.10	Watt meter		no.	1				
4.11	MVAR meter		no.	1				
5	Post Insulators (PI)							
5.1	132 kV		no.	3				
5.2	33 kV		no.	3				
6	Power Cables and Termination Kit							
6.1	XLPE Insulated, armored Copper Cable (1CX240 SQmm)		M	300				
6.2	33 kV Cable Termination kit for 400 SQmm		Set	3				
6.3	33 kV Cable Termination kit for 240 SQmm		Set	3				
Subtotal of II (KUSHMA SUBSTATION):								
Sub total of Part C2								
Sub Total of Part C								
Total for Schedule 1 (Total of PART A.B.&C to be carried forward to Schdule 5: Grand Summary)								

Note : 1) Bidder is required to quote prices in this Schedule for all the individual items/sub-items.
 2.) The Prices of equipments are inclusive of type test charges
 3.) BOQ given above 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 Specify currency in accordance with BDS ITB Clause 32.1, Part-I of the Bidding Documents.
 * Strike-out whichever is not applicable.

NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

New Butwal and Kushma Substation Expansion Project

OCB No.: PMD/ETDSP/NBKSEP-081/82-01:Design, Supply, Installation and Commissioning of transformer & bays (220 Kv, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation

Schedule No.2: Plant and Equipment including Mandatory Spares Parts to be supplied from within Nepal

LC: Local Currency (ALL Price in Local Currency)

Item No.	Item description	Unit	Quantity	Ex Factory 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 for Schedule 2 (Total of column 9 to be carried forward to Schdule 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

Name of Bidder:

Date:

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)



NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

New Butwal and Kushma Substation Expansion Project

OCB No.: PMD/ETDSP/NBKSEP-081/82-01:Design, Supply, Installation and Commissioning of transformer & bays (220 Kv, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation

Schedule A-3: Design Services

Item No.	Item Description	Estimated		Unit Prices		Total Prices	
				Local Currency Portion	Foreign Currency Portion		
		Quantity	Unit	NRs	Currency	LC	FC
1	2	3	4	5	6	7=3x5	8=3x6
	NOT APPLICABLE						
	Total for Schedule 3 (Total of column 7 & 8 to be carried forward to Schdule 5: Grand Summary)						

NOTE: The design cost is included in schedule 1.

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

Date:



NEPAL ELECTRICITY AUTHORITY							
PROJECT MANAGEMENT DIRECTORATE							
New Butwal and Kushma Substation Expansion Project							
OCB No.: PMD/ETDSP/NBKSEP-081/82-01: Design, Supply, Installation and Commissioning of transformer & bays (220 KV, 132KV, 33KV & 11KV) for the Expansion of New Butwal & Kushma Substation							
Schedule No. 4 (a): Installation and Other Services				#LC: Local Currency			
(a): Installation and Construction Charges							
Sl. No.	Item Description	Type & Designation	Unit	Qty.	Portion in Nepalese Currency (in LC)#		REMARKS
					Unit Rate	Total Charges	
(1)	(2)	(3)	(4)	(5)	(6)	7=6x5	
PART-A EMPLOYER ASSESSED QUANTITIES							
I NEW BUTWAL SUBSTATION							
1 ELECTRICAL WORKS							
1.1 Power Transformers							
1.1.1	220/132/11 KV, 315 MVA Three Phase ONAN/ONAF Auto transformer with On Load Tap Changer (OLTC), RTCC Facility and Bushing CT on both sides complete with all accessories including Online dissolved Gas (Multi-gas) and Moisture Analyser as specified		No	2			
1.1.2	132/33 KV, Three Phase 63 MVA, ONAN/ONAF Power Transformer complete with On load Tap Changer (OLTC) and RTCC facility with Tank Mounted LA at LV side and Bushing CT on both sides, complete with all accessories including Online dissolved Gas (Multi-gas) and Moisture Analyser as specified (Excluding Insulating Oil)		No	2			
1.1.3	33/11 KV, Three phase 20/24 MVA, ONAN/ONAF Power Transformer complete with On load Tap Changer (OLTC) and RTCC facility with Tank Mounted LA at LV side and Bushing CT on both sides complete with all accessories including Online dissolved Gas (Multi-gas) and Moisture Analyser as specified (Excluding Insulating Oil)		No	2			
1.1.4	Insulating Oil for Transformer (1 Lot* = oil for above Transformers)		Lot	1			
1.2 Circuit Breakers for ICT Bays							
1.2.1	245 KV, 3150 A, 3 phase, SF6 Circuit Breaker for auto transformer, three pole operation type, complete with support structure & all accessories as per specification		No	1			
1.2.2	145 KV, 2500 A, 3 phase, SF6 Circuit Breaker for LV side of auto transformer, three pole operation type, complete with support structure & all accessories as per specification		No	1			
1.3 Disconnecting Switches for ICT Bays							
1.3.1	Isolator (3-phase)-Horizontal Double Break (HDB)						
1.3.1.1	245 KV, 1600 A, 3 phase Disconnecting Switch with two earth Switch complete with all accessories as per specification		Nos	1			
1.3.1.2	245 KV, 1600 A, 3phase Disconnecting Switch (Tandem Isolator) without earth Switch complete with all accessories as per specification		Set	2			
1.3.1.3	245 KV, 1600 A, 3 phase Disconnecting Switch with one earth Switch complete with all accessories as per specification		Nos	1			
1.3.1.4	145 KV, 2500 A, 3 phase Disconnecting Switch with two earth Switch complete with all accessories as per specification for replacement in the existing bay and new ICT bay		Nos	2			
1.3.1.5	145 KV, 2500 A, 3 phase Disconnecting Switch (Tandem Isolator) without earth Switch complete with all accessories as per specification (2) for replacement in the existing bay and (2) for new ICT bay		Set	4			
1.3.1.6	145 KV, 2500 A, 3 phase Disconnecting Switch with one earth Switch complete with all accessories as per specification for replacement in the existing bay and new ICT bay		Set	2			
1.4 Instrument Transformers for ICT Bays							
1.4.1	245 KV, 1600 A, 5 core Current Transformer with 120% extended current rating complete with all accessories as per specification (1-Phase)		Nos	3			
1.4.2	145 KV, 1600A, 5 core Current Transformer with 120% extended current rating complete with all accessories for replacement at in the existing bay and new ICT bay as per specification (1-Phase)		Nos	6			
1.5 Lightning Arresters for ICT bays							
1.5.1	216 KV, 10 kA, 1-phase lightning arrester including discharge counter complete with all accessories as per specification		No	3			
1.5.2	120 KV, 10 kA, 1-phase lightning arrester including discharge counter complete with all accessories as per specification		No	3			
1.6 Control and relay panel with Automation							
Includes integration of busbar protection works with existing busbar protection system including all necessary cabling and secondary wiring works etc. all complete							
1.6.1	220/132 KV transformer protection panel complete with all accessories as per specification		No	1			
1.6.2	132/33 KV transformer protection panel complete with all accessories as per specification		No	2			
1.6.3	33/11 KV transformer protection panel complete with all accessories as per specification		set	2			
1.7 33 KV VCB Switchgear Panel (Indoor) with all accessories as specified							
1.7.1	33 KV Transformer incomer module (2500A) for 33KV side of 132/33KV Transformer including CT/PT, Control & Relays with all accessories as per specification		No	2			
1.7.2	33 KV Bus Coupler module (2500A) including CT/PT, Control & Relays with all accessories as per specification		No	1			
1.7.3	33 KV Transformer feeder module (1250A) for 33KV side of 33/11KV Transformer including CT/PT, Control & Relays with all accessories as per specification		No	2			
1.7.4	33 KV Feeder module (630 A) including CT/PT, Control & Relays with all accessories as per specification		No	8			
1.7.5	36 KV PT module with all accessories as per technical specification		No	2			
1.8 11 KV VCB Switchgear Panel with all accessories as per specified							
1.8.1	11 KV Transformer incomer module (2000A) (IP-2) including PT module (IP-3) with all accessories as per specification		No	2			
1.8.2	11 KV Line Module (1250A) (IP-1) with all accessories as per specification		No	6			
1.8.3	11 KV Bus Coupler Module (2000 A) (IP-2) with all accessories as per specification		No	1			
1.8.4	12 KV PT module with all accessories as per technical specification		No	2			
1.9 Air conditioning System as per Technical Specification							
1.9.1	High wall type split AC unit of 2 TR capacity for Control room		Nos	6			
1.9.2	Air conditioning for Switchyard Panel Room (SPR) as per design		Set	1			

NEPAL ELECTRICITY AUTHORITY							
PROJECT MANAGEMENT DIRECTORATE							
New Butwal and Kushma Substation Expansion Project							
OCB No.: PMD/ETDSP/NBKSEP-061/82-01: Design, Supply, Installation and Commissioning of transformer & bays (220 KV, 132KV, 33KV & 11KV) for the Expansion of New Butwal & Kushma Substation							
Schedule No. 4 (a): Installation and Other Services							
(a): Installation and Construction Charges							
Sl. No.	Item Description	Type & Designation	Unit	Qty.	Portion in Nepalese Currency (in LC)#		REMARKS
					Unit Rate	Total Charges	
(1)	(2)	(3)	(4)	(5)	(6)	7=6x5	
1.10	11kV & 33kV Power cables						
1.10.1	12 kV, 600 sq. mm single core XLPE Copper Power Cable including termination joints and accessories for both ends, from LV sides of 33/11 kV Power Transformers to indoor 11 kV Switchgear Room.		M	300			
1.10.2	12 kV, 300 sq. mm 3 core (3C X 300 SQmm) XLPE Aluminium Power Cable armoured including termination joints and all accessories for both ends complete for 6 nos. of outgoing feeder		M	600			
1.10.3	33 kV, 400 sq. mm single core XLPE Copper Power Cable including termination joints and accessories for both ends, from LV sides of 132/33 kV Power Transformers to indoor 33 kV Switchgear Room (Double run for each phase + one double run spare for each transformer)		M	1500			
1.10.4	33 kV HT armoured Copper XLPE Cable (1CX400 SQmm) for 6 nos of 33 kV feeder line & from indoor 33 kV Switchgear to HV side of 2 Nos of 33/11 kV Power Transformers (single run for each phase + one single run spare for each transformer) along with 6 ladder cable trench and termination equipments at both end joints, with all accessories complete.		M	2400			
1.11	Fire Detection & Alarm System						
1.11.1	50 litre foam type, Portable/Trolley/Wheel mounted fire extinguishers		Nos	2			
1.11.2	4.5 kg CO2 type, Fire Extinguisher		Nos	6			
1.11.3	22.5 kg Dry Chemical Powder (DCP) type, Trolley/Wheel mounted fire extinguishers		Nos	2			
1.11.4	Smoke detection system in Control Room Building		Set	1			
1.11.5	Fire detection and Alarm System in Control Room Building		Set	1			
1.11.6	Fire detection & Alarm System for Switchyard panel room including one number 4.5 kg CO2 type fire Extinguisher for fire Protection		Set	1			
1.12	Post Insulator (PI)						
1.12.1	220 kV		Nos	12			
1.12.2	132 kV		Nos	6			
1.12.3	36 kV		Nos	6			
2	SUBSTATION AUTOMATION/ COMMUNICATION / SCADA (Based on IEC 61850)						
2.1	Integration of five (5) number of transformer bays with protection system under present scope with the GE T&D make SAS of Existing New Butwal Substation & into the SINAUT Spectrum (SIEMENS make) of the Load Dispatch Center, Kathmandu		Bay Nos	5			
2.2	33kV Bay Integration with GE T&D make SAS of Existing New Butwal Substation		Bay Nos	12			
2.3	11kV Bay Integration with GE T&D make SAS of Existing New Butwal Substation		Bay Nos	8			
2.4	Provision for Control & Monitoring of 33kV & 11kV system at 33kV & 11 kV Switchgear Control Building and master control room of New Butwal Substation, including all necessary hardware & software to complete the scope of work (including workstation, printer, switches & all other accessories)		Lot	1			
3	Diesel Generator with Control Panel						
3.1	160 kVA Silent type Diesel Generator (400/230 V, 50 Hz) with control Panel & AMF panel as per technical specification (includes cabling, wiring all complete compatible to existing platform/ system)		Set	1			
Subtotal of I (NEW BUTWAL SUBSTATION):							
II	KUSHMA SUBSTATION						
1	ELECTRICAL WORKS						
1.1	Power Transformer						
1.1.1	132/33 kV, Three Phase 24/30 MVA, ONAN/ONAF Power Transformer complete with On load Tap Changer (OLTC) and RTCC facility with Tank Mounted LA at LV side and Bushing CT on both sides, complete with all accessories including Online dissolved Gas (Multi-gas) and Moisture Analyser as specified		No	1			
1.1.2	Insulating Oil for Transformer (1 Lot* = oil for above Transformer)		Lot	1			
1.2	Circuit breakers						
1.2.1	145 kV, 1600 A, 3 phase, SF6 Circuit Breaker, three pole operation type, complete with support Structure & all accessories as per specification		No	1			
1.3	Disconnecting switches						
1.3.1	145kV Isolator (3-phase)-Horizontal Double Break (HDB)						
1.3.1.1	145 kV, 1600 A, 3-phase Disconnecting Switch with two earth Switch complete with all accessories as per specification		No	1			
1.3.1.2	145 kV, 1600 A, 3 phase Disconnecting Switch (Tandem Isolator) without earth Switch (for bus and bypass isolator) complete with all accessories as per specification		Set	2			
1.3.1.3	145 kV, 1600 A, 3 phase Disconnecting Switch with one earth Switch complete with all accessories as per specification		Set	1			
1.4	Instrument transformers						
1.4.1	145 kV, 800A, 5 core Current Transformer with 120% extended current rating complete with all accessories as per specification (1-Phase)		No	3			

NEPAL ELECTRICITY AUTHORITY							
PROJECT MANAGEMENT DIRECTORATE							
New Butwal and Kushma Substation Expansion Project							
OCB No.: PMD/ETD/SP/NBKSEP-061/82-01: Design, Supply, Installation and Commissioning of transformer & bays (220 KV, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation							
Schedule No. 4 (a): Installation and Other Services							
(a): Installation and Construction Charges							
Sl. No.	Item Description	Type & Designation	Unit	Qty.	Portion in Nepalese Currency (in LC)#		REMARKS
					Unit Rate	Total Charges	
(1)	(2)	(3)	(4)	(5)	(6)	7=6x5	
1.5	Lightning/Surge Arresters						
1.5.1	120 KV, 10 kA, lightning arrestor including discharge counter complete with all accessories as per specification		No	3			
1.6	Control and Relay Panel with Automation						
1.6.1	132/33 kV transformer protection panel & Circuit Breaker relay panel complete with all accessories as per specification		set	1			
1.7	33kV Power cables						
1.7.1	33kV, XLPE Insulated, armored Copper Cable (1CX400 SQmm) including termination joints and accessories for both ends from LV sides of 132/33 kV Power Transformer to indoor 33 kV Switchgear Room (Single run for each phase + one Single run spare for transformer)		M	600			
1.7.2	33 kV, XLPE Insulated, armored Copper Cable (1CX240 SQmm) for 4 nos of 33 kV feeder line		M	2400			
1.8	Fire Detection & Alarm System						
1.8.1	50 litre foam type, Portable/Trolley/Wheel mounted fire extinguishers		Nos.	2			
1.8.2	4.5 kg CO2 type, Fire Extinguisher		Nos.	4			
1.9	Post Insulator (PI)						
1.9.1	132 KV		Nos	9			
1.10	33 KV VCB Switchgear Panel (indoor) with all accessories as per specified						
1.10.1	33 kV Transformer incomer module (1250 A) including CT/PT, Control & Relays with all accessories as per specification		Nos	1			
1.10.2	33 kV Feeder module (630 A) including CT/PT, Control & Relays with all accessories as per specification		Nos	4			
1.10.3	36 kV PT module with all accessories as per technical specification		Nos	1			
2	SUBSTATION AUTOMATION/ COMMUNICATION / SCADA (Based on IEC 61850)						
2.1	Hardware, Software, accessories etc. for integration of 132/33kV transformer protection system under present scope with the ABB make SAS of Existing Kushma Substation & SIEMENS (SINAUT Specdrum) at Load Dispatch Centre, Kathmandu as per technical specification		Lot	1			
2.2	33kV Bay Integration with ABB make SAS of Existing Kushma Substation		Bay Nos	5			
Subtotal of II (KUSHMA SUBSTATION):							
Sub Total of A							
PART-B: VENDOR ASSESSED QUANTITIES							
I	NEW BUTWAL SUBSTATION						
1	Erection Hardwares & Miscellaneous materials as per Technical Specifications and Approved Drawings						
1.1	Earthing with conductors, electrode grounding materials and connecting them with existing lightning protection system and lightning mast, copper conductor, electrodes, risers etc. complete with all accessories for control building & Substation		Lot	1			
1.2	Furniture and miscellaneous indoor facilities for control room as per technical Specification for 33kV Switchgear control building.		Lot	1			
2	Fire Protection System						
2.1	Extension and upgradation of existing Hydrant System complete U/G piping and accessories etc. as required along with suitable tapping point		Set	1			
2.2	HVV Spray System, Hydrant System and complete U/G & O/G piping and accessories etc. for Transformer outside the pump house						
2.2.1	220/132/11 KV, 3 Phase, 315 MVA Auto Transformer		Set	1			
2.2.2	132/33kV, 3 Phase, 63 MVA Power Transformer		Set	2			
2.3	Necessary Pumping Arrangement for HVV System & Hydrant System complete with all piping, valves, fittings etc. inside existing pump house		Lot	1			
3	Illumination System						
3.1	Illumination System for switchyard panel room		LS	1			
3.2	33kV switchgear Control room building illumination		LS	1			
3.3	Switchyard lighting		LS	1			
3.4	Street lighting		LS	1			
4	Control and Power cables						
4.1	Power Cables (PVC)- (1.1kV grade)		LS	1			
4.2	Power Cables (XLPE)- (1.1kV grade)		LS	1			
4.3	Control Cable (PVC)- (1.1kV grade)		LS	1			
4.4	Cable glands, lugs & straight through joints for Power & Control cables		LS	1			
Subtotal of I (NEW BUTWAL SUBSTATION):							
II	KUSHMA SUBSTATION						
1	Erection Hardwares & Miscellaneous materials as per Technical Specifications and Approved Drawings						
1.1	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		Lot	1			
1.2	Earthing with conductors, electrode grounding materials and it is connecting with lightning protection system and lightning mast, copper conductor, electrodes, risers etc. complete with all accessories for control building & Substation		Lot	1			
1.3	Erection Hardware - Insulator strings, Disc Insulators, Hardware, conductor, Al Tube, Conductor, clamps & connectors including necessary arrangements for the 132kV Transformer bays under this scope, as per specified scope of works		Lot	1			
2	Fire Protection System						
2.1	Extension and upgradation of existing Hydrant System complete U/G piping and accessories etc. as required along with suitable tapping point		Set	1			
2.2	HVP spray system, Hydrant system and complete U/G & O/G piping and accessories etc. for						
2.2.1	132/33kV, 3 Phase, 30 MVA Power transformer		Set	1			

NEPAL ELECTRICITY AUTHORITY							
PROJECT MANAGEMENT DIRECTORATE							
New Butwal and Kushma Substation Expansion Project							
OCB No.: PMD/ETD/SP/NBKSEP-061/82-01: Design, Supply, Installation and Commissioning of transformer & bays (220 KV, 132KV, 33KV & 11KV) for the Expansion of New Butwal & Kushma Substation							
Schedule No. 4 (a): Installation and Other Services							
(a): Installation and Construction Charges							
Sl. No.	Item Description	Type & Designation	Unit	Qty.	Portion in Nepalese Currency (in LC)#		REMARKS
					Unit Rate	Total Charges	
(1)	(2)	(3)	(4)	(5)	(6)	7=6x5	
3	Illumination System						
3.1	For 33kV Switchgear Control building and Switchyard lighting for extended bays only under the scope		LS	1			
4	Control and Power cables						
4.1	Power Cables(PVCI)- (1.1kV grade)		LS	1			
4.2	Power Cables (XLPE)- (1.1kV grade)		LS	1			
4.3	Control Cable (PVC)- (1.1kV grade)		LS	1			
4.4	Cable glands, lugs & straight through joints for Power & Control cables		LS	1			
Subtotal of II (KUSHMA SUBSTATION):							
Sub Total of B							
PART-C: CIVIL AND ARCHITECTURAL WORKS							
I	NEW BUTWAL SUBSTATION						
1	STEEL STRUCTURES (Tower,Gantry structures& Equipment support structures)						
1.1	Fabrication, Galvanizing and supply of following Steel Structure for towers,beams and equipment support structure including peak plates/pack washers and gusset plates including foundation bolts(nuts,washers,MS plate welded at the bottom)						
1.1.1	Lattice structure, foundation bolts & fasteners		MT	42			
1.1.2	Pipe Structure, foundation bolts & fasteners		MT	25			
8	Concrete Foundation & Necessary Firewalls for Equipment and Steel Structures (along with modification of existing foundation if any) complete with excavation, backfilling, form works, concrete works and reinforcement bars						
8.1	Excavation in all types of soil and rock including backfilling disposal etc. for all leads and lifts		Cu.M	1,040			
8.2	Stone soring below foundations wherever specified in aproved drawings during detailed Engineering		Cu.M	40			
8.3	Providing and laying of Plain Cement Concrete (PCC) (1:2:4)		Cu.M	100			
8.4	Providing and laying of Reinforced Cement Concrete Design Mix M25 including form work, pre cast, shuttering, Grouting of pockets & underpinning but excluding steel reinforcement		Cu.M	500			
8.5	Cutting, bending, placing of reinforcement with binding wire for RCC as per drawing Steel Reinforcement (Fe 500)		MT	50			
8.6	Misc. Structural steel including rails, plates for rail fixing, embedments, chequered plates, edge protection angles, gratings, grating supports etc. but excluding the reinforcement steel and steel for lattice and pipe structures.		MT	10			
9	CONTROL ROOM BULIDING FOR 33 & 11 KV SWITCHGEAR						
9.1	All civil works as per technical specification and approved drawing including brick work, internal and external finish but excluding excavation, PCC, RCC, reinforcement steel and external finishing which shall be paid seperately under respective items of BPS (Plinth area measurement)		Sq. M.	450			
10	RCC(Rigid Pavement) Road: Construction of concrete road as per approved drawing including all items such as excavation, compaction, rolling, watering, preparation of WBM etc but excluding concrete, reinforcement and structural steel.						
10.1	Road 3.75/5.5m wide		Sq.M.	1000			
11	Supplying and lying Hume Pipe with collars of grade(NP-3) but excludng concrete of bed/support/encasing of hume pipes which shall be paid seperately under respective items of BPS						
11.1	300mm dia		RM	25			
12	Switch yard Panel Room (6.0 M X 3.9 M).						
12.1	All civil works as per technical specification and approved drawing including internal finish but excluding excavation, PCC, RCC, reinforcement steel and external finishing which shall be paid seperately under respective items of BPS		LS	1			
12.2	External finish as per specification		LS	1			
13	Dismantling Works for existing 100 MVA ICT bay						
13.1	Dismantling and Removal of existing 220/132/11 kV, 100 MVA Power Transformer and its accessories to a safe location within Substation compound		Nos.	1			
13.2	Dismantling and Removal of existing 220/132/11 kV, 100 MVA Power Transformer foundation		Cu.m	50			
13.3	Dismantling and Removal of existing 1250 A, 145 kV isolators to a safe location within Substation compound		Lot	1			
13.4	Adjustment of Rail						
13.4.1	Rail Track of existing 220/132/11 kV, 100 MVA Transformer to accommodate the 220/132/11 kV, 315 MVA transformer in the existing ICT bay		LS	1			

NEPAL ELECTRICITY AUTHORITY							
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New Butwal and Kushma Substation Expansion Project							
OCB No.: PMD/ETDSP/NBKSEP-081/82-01: Design, Supply, Installation and Commissioning of transformer & bays (220 KV, 132KV, 33KV & 11KV) for the Expansion of New Butwal & Kushma Substation							
Schedule No. 4 (a): Installation and Other Services							
(a): Installation and Construction Charges							
Sl. No.	Item Description	Type & Designation	Unit	Qty.	Portion in Nepalese Currency (in LC)#		REMARKS
					Unit Rate	Total Charges	
(1)	(2)	(3)	(4)	(5)	(6)	7=6x5	
14	Miscellaneous Works						
14.1	Clearing and stripping of Substation Area		sq.m.	500			
14.2	Survey of construction area as per specified work		lot	1			
14.5	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		cu.m.	500			
14.6	Stone filling (40 mm size) over grating of transformer/ reactor foundation & Stone spreading including antiweed treatment in switchyard excluding PCC.		cu.m.	200			
14.8	Main boundary wall Gate (Steel) including all works complete as per technical specification		No	1			
14.9	All civil works for Boundary wall including excavation, concrete, reinforcement steel ,structural steel, Brick, plaster, painting, barbed wire and concertina coil etc all complete as per technical specification (2.5 m high brick masonry wall and 0.5 m high angle support on top).		RM	300			
14.10	Chain link fencing as per technical specification and approved drawing excluding concrete which shall be paid separately under respective items if BPS.		RM	150			
14.11	Switchyard Gate excluding Concrete		Nos	1			
14.12	Septic tank and soak pit, External sewerage system including all item such as excavation, piping, pipe fittings, manholes, gali trap, gali chamber etc. complete as per technical specification and approved drawing excluding concrete & reinforcement which shall be measured and paid separately under respective items of BPS. (For 20 Users).		LS	1			
14.13	All civil works for construction of drains as per technical specification and approved drawing excluding concrete which shall be paid separately under respective items of BPS.						
14.13.1	Type BB (450 wide x Depth From 800 to 900mm)		RM	200			
14.14	Brickworks with Plaster (As per site requirements and instructions)		cu.m	60			
Subtotal of I (NEW BUTWAL SUBSTATION):							
II	KUSHMA SUBSTATION						
1	STEEL STRUCTURES (Tower Gantry structures& Equipment support structures)						
1.1	Fabrication, Galvanizing and supply of following Steel Structure for towers,beams and equipment support structure including peak plates/pack washers and gusset plates including foundation bolts/nuts washers MS plate welded at the bottom)						
1.1.1	Pipe Structure foundation bolts & fasteners		MT	15			
8	Concrete Foundation & Necessary Firewalls for Equipment and Steel Structures complete with excavation, backfilling, form works, concrete works and reinforcement bars						
8.1	Excavation in all types of soil and rock including backfilling disposal etc. for all leads and lifts.		Cu.M	200			
8.2	Stone soring below foundations wherever specified in aproved drawings during detailed Engineering		Cu.M	5			
8.3	Providing and laying of Plain Cement Concrete (PCC) (1:2:4)		Cu.M	20			
8.4	Providing and laying of Reinforced Cement Concrete Design Mix M25 including form work, pre cast, shuttering, GROUTING of pockets & underpinning but excluding steel reinforcement		Cu.M	150			
8.5	Cutting, bending, placing of reinforcement with binding wire for RCC as per drawing Steel Reinforcement (Fe 500).		MT	10			
8.6	Misc. Structural steel including rails, plates for rail fixing, embedments, chequered plates, edge protection angles, gratings, grating supports etc. but excluding the reinforcement steel and steel for lattice and pipe structures.		MT	2			
9	CONTROL ROOM BUILDING FOR 33 kV Switchgear						
9.1	All civil works as per technical specification and approved drawing including brick work, internal and external finish but excluding excavation, PCC, RCC, reinforcement steel and external finishing which shall be paid separately under respective items of BPS (Plinth area measurement)		SqM	200			
9	RCC(Rigid Pavement) Road: Construction of concrete road as per approved drawing including all items such as excavation, compaction, rolling, watering, preparation of WBM etc but excluding concrete, reinforcement and structural steel.						
9.1	Road 3.75 m / 5.5 m wide		Sq.M	500			
10	Supplying and lying Hume Pipe with collars of grade(NP-3) but excluding concrete of bed/support/encasing of hume pipes which shall be paid separately under respective items of BPS						
10.1	300mm dia		RM	10			
11	Miscellaneous Works						
11.1	Clearing and stripping of Substation Area		sq.m.	600			
11.2	Survey of construction area as per specified work		lot	1			
11.3	Stone filling (40 mm size) over grating of transformer foundation & Stone spreading including antiweed treatment in switchyard excluding PCC.		cu.m.	100			
11.4	Main boundary wall Gate (Steel) including all works complete as per technical specification		No	1			
11.5	Chain link fencing as per technical specification and approved drawing excluding concrete which shall be paid separately under respective items in BPS.		RM	100			
11.6	Switchyard Gate excluding Concrete		Nos	1			
11.7	All civil works for construction of drains as per technical specification and approved drawing excluding concrete which shall be paid separately under respective items of BPS.						
11.7.1	Type AA (300mm wide x Depth up to 600mm)		RM	150			
Subtotal of II (KUSHMA SUBSTATION):							
Sub total of C							

NEPAL ELECTRICITY AUTHORITY							
PROJECT MANAGEMENT DIRECTORATE							
New Butwal and Kushma Substation Expansion Project							
OCB No.: PMD/ETDSP/NBKSEP-081/82-01: Design, Supply, Installation and Commissioning of transformer & bays (220 KV, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation							
Schedule No. 4 (a): Installation and Other Services							
(a): Installation and Construction Charges							
Sl. No.	Item Description	Type & Designation	Unit	Qty.	Portion in Nepalese Currency (in LC)#		REMARKS
					Unit Rate	Total Charges	
(1)	(2)	(3)	(4)	(5)	(6)	7=6x5	
PART-D:	IMPLEMENTATION OF PROJECT LEVEL ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT PLAN MENTIONED IN THE ANNEXURE VI OF PROJECT SPECIFIC REQUIREMENTS						
I	NEW BUTWAL SUBSTATION						
1	Management of temporary and permanent workers' accommodation (day and/or overnight camps) as mentioned in the Appendix C of the Project Level Environmental Management Plan			LS			
2	Implementation of Corrective Action Plan (CAP) at existing Substation						
2-a)	Short-term Actions			LS			
2-b)	Long-term Actions			LS			
3	Contractor's EMP implementation cost (including PPE provision)			LS			
4	Environmental Quality Monitoring as mentioned in the Project Level Environmental Management Plan						
4-a)	Survey/Tests as mentioned in the EMOIP for Pre-Construction Phase			LS			
4-b)	Survey/Tests as mentioned in the EMOIP for Construction-to-Commissioning Phase			LS			
Subtotal of I (NEW BUTWAL SUBSTATION):							
II	KUSHMA SUBSTATION						
1	Management of temporary and permanent workers' accommodation (day and/or overnight camps) as mentioned in the Appendix C of the Project Level Environmental Management Plan			LS			
2	Implementation of Corrective Action Plan (CAP) at existing Substation						
2-a)	Short-term Actions			LS			
2-b)	Long-term Actions			LS			
3	Contractor's EMP implementation cost (including PPE provision)			LS			
4	Environmental Quality Monitoring as mentioned in the Project Level Environmental Management Plan						
4-a)	Survey/Tests as mentioned in the EMOIP for Pre-Construction Phase			LS			
4-b)	Survey/Tests as mentioned in the EMOIP for Construction-to-Commissioning Phase			LS			
Subtotal of II (KUSHMA SUBSTATION):							
Sub total of D							
Total for Schedule 4(a): Total of A,B,C & D 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:
Signature of Bidder:
(Printed Name)
(Designation)
(Common Seal)

NEPAL ELECTRICITY AUTHORITY
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New Butwal and Kushma Substation Expansion Project

OCB No.: PMD/ETDSP/NBKSEP-081/82-01:Design, Supply, Installation and Commissioning of transformer & bays (220 Kv, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation

Schedule No. 4 : Installation and Other Services (Common for all)
(b):Training Charges for training to be imparted abroad

Sl. No.	Description	Items for which training to be imparted	Country where training is to be imparted	Nos. of Trainee	Training duration in days	Total Training Charges	
						Unit Rate (NPR)	Total Training Charges
1	2		3	4	5	6	7 = 4x5 x 6
A	NOT APPLICABLE			10	5		
	Total for Training Charges						
	Total for Schedule 4(b) (Total of column 7 to be carried forward to Schedule 5: Grand Summary)						

REMARKS:
1. Training at Manufacturer's works: The Contractor shall include in the training charges payment of per Diem allowance to NEA trainees @ USD 100 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.



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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	Training Charges for Contractors Trainers		
				Currency	Unit rate	Total Training Charges
1	2	3	4	5	6	7 = 4x 6
a)	Not Applicable					
	Total for Training Charges					
	Total for 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 Owner's personnel for the training programme conducted in Nepal shall be borne by the Owner.

Name of Bidder:

Date:

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



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

(d): Maintenance Charges

SI No	Description	Unit	Qty.	Total Maintenance Charges	
				Currency	Total Maintenance Charges
	1	2	3	4	5
1	Not Applicable				
2					
	Total for Schedule 4(d) (Total of column 5 to be carried forward to Schedule 5: Grand Summary)				

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

Date:



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New Butwal and Kushma Substation Expansion Project

OCB No.: PMD/ETDSP/NBKSEP-081/82-01:Design, Supply, Installation and Commissioning of transformer & bays (220 Kv, 132kV, 33kV & 11kV) for the Expansion of New Butwal & Kushma Substation

Schedule No. 4 : Installation and Other Services

(e): Type Test Charges for Type Test to be Conducted Abroad

SI No	Description of Tests	Testing Location	Test Charges	
			Currency	Amount
1	2	4	5	6
220/132/33 kV 3-Ph, 200 MVA Auto Transformer				
1	Temperature Rise test		USD	
2	Measurement of Harmonic Level in No Load Current		USD	
3	Measurement of Acoustic Noise Level		USD	
4	Measurement of Zero Seq. Reactance		USD	
5	Measurement of Power taken by Fans and Oil Pumps		USD	
Total for Schedule 4(e) (Total of column 5 to be carried forward to Schedule 5: Grand Summary)				

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

Date:



**NEPAL ELECTRICITY AUTHORITY
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for the Expansion of New Butwal & Kushma Substation

Schedule No. 5: Grand Summary

Sl. No.	Description	Total	
		Total Price Foreign (USD)*	Total Price Local (NPR)*
1	TOTAL SCHEDULE NO. 1	1	2
	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		
	b. Training Charges for Training to be imparted abroad		
	c. Training Charges for Training to be imparted in Nepal		
	d. Maintenance charges		
	e. Type test charges to be conducted abroad		
	GRAND TOTAL [1+2+3+4(a)+4(b)+4 (c) +4 (d)+ 4 (e)]		

Date:
Place:

Signature: _____
Printed Name: _____
Designation: _____
Common Seal: _____



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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: _____

