NEPAL ELECTRICITY AUTHORITY

(An Undertaking of Government of Nepal)
Project Management Directorate

DADAKHET - RAHUGHAT 132 KV TRANSMISSION LINE PROJECT

A component of
Electricity Grid Modernization Project

BIDDING DOCUMENT
FOR

Design, Supply, Installation, Testing and Commissioning of Dadakhet - Rahughat 132 kV Transmission Line and Associated Substations at Rahughat and Dadakhet.

(Procurement of Plant)

Single-Stage, Two-Envelope
Bidding Procedure (OCB)

Issued on:	**10 August 2020**
Invitation for Bids No.:	**PMD/EGMP/DRTLSS-077/78-01**
OCB No.:	**PMD/EGMP/DRTLSS-077/78-01**
Employer:	**Nepal Electricity Authority**
Country:	**Nepal**

VOLUME –III OF III (PRICE SCHEDULE)

August 2020

Dadakhet - Rahughat 132 kV Transmission Line Project
Project Management Directorate
Kharipati, Bhaktapur, Nepal
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Preface

This Bidding Document for Procurement of Plant – Design, Supply, and Installation, has been prepared by Nepal Electricity Authority and is based on the Standard Bidding Document for Procurement of Plant – Design, Supply, and Installation (SBD Plant) issued by the Asian Development Bank dated June 2018.

ADB's SBD Plant has the structure and the provisions of the Master Procurement Document entitled "Procurement of Plant – Design, Supply, and Installation", prepared by multilateral development banks and other public international financial institutions except where ADB-specific considerations have required a change.

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PART I BIDDING PROCEDURES

Section 1 - Instructions to Bidders (ITB) ---------- **1-1**
This Section specifies the procedures to be followed by Bidders in the preparation and submission of their Bids. Information is also provided on the submission, opening, and evaluation of bids and on the award of contract.

Section 2 - Bid Data Sheet (BDS) ---------- **2-1**
This Section consists of provisions that are specific to each procurement and supplement the information or requirements included in Section 1 - Instructions to Bidders.

Section 3 - Evaluation and Qualification Criteria (EQC) ---------- **3-1**
This Section contains the bid evaluation criteria to determine the lowest evaluated bid and lists the necessary qualifications of Bidders.

Section 4 - Bidding Forms (BDF) ---------- **4-1**
This Section contains the forms which are to be completed by the Bidder and submitted as part of its Bid.

Section 5 - Eligible Countries (ELC) ---------- **5-1**
This Section contains the list of eligible countries.

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Section 7 - General Conditions of Contract (GCC) ---------- **7-1**
This Section contains the general clauses to be applied in all contracts. These Conditions are subject to the variations and additions set out in Section 8 (Special Conditions of Contract).

Section 8 - Special Conditions of Contract (SCC) ---------- **8-1**
This Section contains provisions that are specific to each contract and that modify or supplement the GCC. Whenever there is a conflict, the provisions herein shall prevail over those in the GCC. The clause number of the SCC is the corresponding clause number of the GCC.

Section 9 - Contract Forms (COF) ---------- **9-1**
This Section contains forms, which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Dadakhet Rahughat132 kV Transmission Line Project

ELECTRICITY GRID MODERNIZATION PROJECT
PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substations
Part 1: Dadakhet Rahughat 132 kV Transmission Line
Bid Price Schedule No. 1A: Supply and Delivery of Plant and Equipment from Abroad

S.N.	Description	Country of Origin	Quantity				Unit Price		Total Price	Taxes and Duties
			Unit	Quantity	Unit Wt. KG	Total Weiight (KG)/Quantity	Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7	8	9	10=7*9	11
A	**DADAKHET RAHUGHAT 132 KV TRANSMISSION LINE**									
1.0	**TOWER AND LINE MATERIALS**									
1.1	**Design, Fabrication & supply of following types of towers & tower extension parts complete with stubs setting template, step bolts, hangers, D-shackles, bolts & nuts etc but excluding tower accessories such as danger plates, number plates, phase plates, anti-climbing devices(132 kV LINE)**									
1.1.2	**Tension Tower DB**									
a)	Stubs		Nos./Leg	**148**	83.75	12,395.00				
b)	Stubs- Raised Chimney (0.5M)		Nos./Leg	**48**	93.75	4,500.00				
c)	Stubs- Raised Chimney (1 M)		Nos./Leg	**40**	100.00	4,000.00				
d)	Basic Tower		Nos.	**59**	5,160.00	304,440.00				
e)	DB View Member @ Basic Body		Nos.	**5**	250.00	1,250.00				
f)	DB 0m Girder/Body Extension		Nos.	**26**	1,715.00	44,590.00				
g)	DB 3m Girder/Body Extension		Nos.	**-**	2,625.00	-				
h)	DB 6m Girder/Body Extension		Nos.	**14**	3,460.00	48,440.00				
i)	DB 9m Girder/Body Extension		Nos.	**14**	4,813.00	67,382.00				
j)	DB +1.5m Leg Ext		Nos.	**28**	100.00	2,800.00				
k)	DB +3m Leg Ext		Nos.	**37**	210.00	7,770.00				
l)	DB +4.5m Leg ext		Nos.	**64**	275.00	17,600.00				
m)	DB +6 m Leg Ext		Nos.	**38**	360.00	13,680.00				
n)	DB +7.5m Leg Ext		Nos.	**25**	475.00	11,875.00				
o)	DB +9m Leg Ext		Nos.	**43**	700.00	30,100.00				
1.1.3	**Tension Tower DC**									
a)	Stubs		Nos./Leg	**16**	102.00	1,632.00				
b)	Stubs- Raised Chimney (0.5M)		Nos./Leg	**8**	128.00	1,024.00				
c)	Stubs- Raised Chimney (1 M)		Nos./Leg	**12**	150.00	1,800.00				
d)	Basic Tower		Nos.	**9**	6,390.69	57,516.21				
e)	DC View Member @ Basic Body		Nos.	**1**	280.00	280.00				
f)	DC 0m Girder/Body Extension		Nos.	**3**	1,935.00	5,805.00				
g)	DC 3m Girder/Body Extension		Nos.	**-**	3,050.00	-				
h)	DC 6m Girder/Body Extension		Nos.	**1**	4,140.00	4,140.00				
i)	DC 9m Girder/Body Extension		Nos.	**4**	4,333.72	17,334.88				
j)	DC +1.5m Leg Ext		Nos.	**8**	120.00	960.00				
k)	DC +3m Leg Ext		Nos.	**4**	250.00	1,000.00				
l)	DC +4.5m Leg ext		Nos.	**8**	335.00	2,680.00				
m)	DC +6 m Leg Ext		Nos.	**6**	450.00	2,700.00				
n)	DC +7.5m Leg Ext		Nos.	**4**	560.00	2,240.00				
o)	DC +9m Leg Ext		Nos.	**6**	725.00	4,350.00				
1.1.4	**Tension Tower DD**									
a)	Stubs		Nos./Leg	**32**	160.00	5,120.00				

S.N.	Description	Country of Origin	Quantity				Unit Price		Total Price	Taxes and Duties
			Unit	Quantity	Unit Wt. KG	Total Weiight (KG)/Quantity	Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7	8	9	10=7*9	11
b)	Stubs- Raised Chimney (0.5M)		Nos./Leg	**6**	200.00	1,200.00				
c)	Stubs- Raised Chimney (1 M)			**10**	250.00	2,500.00				
d)	Basic Tower		Nos.	**12**	6,850.00	82,200.00				
e)	DD View Member @ Basic Body		Nos.	**-**	330.00	-				
f)	DD 0m Girder/Body Extension		Nos.	**4**	2,575.00	10,300.00				
g)	DD 3m Girder/Body Extension		Nos.	**2**	4,025.00	8,050.00				
h)	DD 6m Girder/Body Extension		Nos.	**3**	5,450.00	16,350.00				
i)	DD 9m Girder/Body Extension		Nos.	**3**	6,875.00	20,625.00				
j)	DD +1.5m Leg Ext		Nos.	**13**	196.00	2,548.00				
k)	DD +3m Leg Ext		Nos.	**6**	360.00	2,160.00				
l)	DD +4.5m Leg ext		Nos.	**8**	450.00	3,600.00				
m)	DD +6 m Leg Ext		Nos.	**2**	600.00	1,200.00				
n)	DD +7.5m Leg Ext		Nos.	**7**	750.00	5,250.00				
o)	DD +9m Leg Ext		Nos.	**12**	925.00	11,100.00				
1.1.5	**Tension Tower DDM**									
a)	Stubs		Nos./Leg	**12**	260.00	3,120.00				
b)	Stubs- Raised Chimney (0.5M / 1 M)		Nos./Leg	**6**	280.00	1,680.00				
c)	Stubs- Raised Chimney (0.5M / 1 M)			**6**	325.00	1,950.00				
d)	Basic Tower		Nos.	**6**	9,785.00	58,710.00				
e)	DDM View Member @ Basic Body		Nos.	**4**	350.00	1,400.00				
f)	DDM 0m Girder/Body Extension		Nos.	**-**	3,025.00	-				
g)	DDM 3m Girder/Body Extension		Nos.	**1**	4,685.00	4,685.00				
h)	DDM 6m Girder/Body Extension		Nos.	**-**	6,175.00	-				
i)	DDM 9m Girder/Body Extension		Nos.	**1**	7,995.00	7,995.00				
j)	DDM +1.5m Leg Ext		Nos.	**5**	210.00	1,050.00				
k)	DDM +3m Leg Ext		Nos.	**2**	400.00	800.00				
l)	DDM +4.5m Leg ext		Nos.	**7**	520.00	3,640.00				
m)	DDM +6 m Leg Ext		Nos.	**3**	690.00	2,070.00				
n)	DDM +7.5m Leg Ext		Nos.	**3**	875.00	2,625.00				
o)	DDM +9m Leg Ext		Nos.	**4**	1,100.00	4,400.00				
1.2	**Design, Fabrication & supply of following types of towers & tower extension parts complete with stubs setting template, step bolts, hangers, D-shackles, bolts & nuts etc but excluding tower accessories such as danger plates, number plates, phase plates, anti-climbing devices(220 KV LILO TOWERS)**		Nos	**2**	35,000.00	70,000.00				
1.3	**Design, Fabrication & supply of steel structure for miscellaneous works on towers & tower extension parts**		Kgs			100,000.00				
	Total of 1		**KGS**			**1,110,612.09**				
2.0	**TOWER ACCESSORIES AND EARTHING**									
2.1	**Tower Accessories**									
i)	Danger Plate		Nos.	90		90				
ii)	Number Plate		Nos.	90		90				
iii)	Anti Climbing Device		Sets	90		90				
iv)	Phase Plate (set of 3)		Sets	180		180				
v)	Circuit plate (sets of 3)		Sets	180		180				
vi)	Aviation Signal		Sets	10		10				
vii)	Bird Guards		Sets	10		10				

S.N.	Description	Country of Origin	Quantity				Unit Price		Total Price	Taxes and Duties
			Unit	Quantity	Unit Wt. KG	Total Weiight (KG)/Quantity	Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7	8	9	10=7*9	11
	Total of Sub - Total 2.1									
2.2	**Tower Earthing Material**									
i)	Pipe Type		Sets	20		20				
ii)	Counterpoise Type			-		-				
a	Counterpoise Type - 25 m		Sets	60		60				
b	Counterpoise Type - 50 m		Sets	15		15				
c	Counterpoise type - 100M		Set	15		15				
	Total of Sub - Total 2.2									
	Total of 2									
3.0	**LINE MATERIALS**									
3.1	**Conductor and Accessories**									
i)	ACSR conductor, code name "CARDINAL" with armour rod etc to complete the job		km	165.0		165.0				
ii)	Stockbridge Vibration damper for CARDINAL Conductor with preformed armour rods		Sets	1,688		1,688				
iii)	Mid span compression joints for ACSR "CARDINAL" conductor		Nos.	119		119				
iv)	Repair sleeve for ACSR "CARDINAL" conductor		Nos.	119		119				
i)	ACSR conductor, code name "MOOSE" with armour rod etc to complete the job		km	15.0		15.0				
ii)	Stockbridge Vibration damper for MOOSE Conductor with preformed armour rods		Sets	96		96				
iii)	Mid span compression joints for ACSR "MOOSE" conductor		Nos.	12		12				
iv)	Repair sleeve for ACSR "MOOSE" conductor		Nos.	30		30				
	Sub - Total of 3.1							-		
3.2	**Optical Fiber ground wire (OPGW) and accessories**									
a	Optical fiber ground wire including intermediate splice boxes, terminal splice boxes and additional length as required		km	30.0		30.0				
b	Stockbridge Vibration damper for OPGW overhead ground wire with preformed armour rods		Nos.	430		430				
	Sub - Total of 3.2							-		
3.3	**Insulator strings with insulators, attachment assemblies and arcing horns all complete for ACSR "CARDINAL" conductor and attachment assemblies all complete for OPGW**									
i)	Single tension insulator string for "CARDINAL" with compression clamps all complete long rod Polymer Insulator (650kV BIL long rod polymer insulator)		Sets	608		608				
ii)	Double tension insulator string for "CARDINAL" with compression clamps all complete long rod Polymer Insulator (650kV BIL long rod polymer insulator)		Sets	484		484				

S.N.	Description	Country of Origin	Quantity				Unit Price		Total Price	Taxes and Duties
			Unit	Quantity	Unit Wt. KG	Total Weiight (KG)/Quantity	Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7	8	9	10=7*9	11
iii)	Double tension insulator string for "MOOSE" with compression clamps all complete long rod Polymer Insulator (1250kV BIL long rod polymer insulator)		Sets	216		216				
iii)	Pilot insulators string for "CARDINAL" with compression clamps all complete long rod Polymer Insulator (650kV BIL long rod polymer insulator)		Sets	120		120				
iv)	OPGW suspension preformed assembly complete for one tower		Sets	9		9				
v)	OPGW tension preformed assembly complete for one tower (one set/tower)		Sets	88		88				
	Sub - Total of 3.3							-		
3.4	**Optical Fiber and accessories**									
i)	Optical approach cable for both Substation		km	1.0		1.0				
ii)	Optical Distribution Frames for both substation to complete the jobs		Sets	2		2				
	Sub - Total of 3.4							-		
	Total of 3							-		
4.0	**SUPPLY OF SPARES**									
4.1	**Supply of Basic Tower with extension + 9m including Stub**									
ii)	Tower Type DB+9M Complete		Nos.	1	10056.75	10,056.75				
iii)	Tower Type DC+9M Complete		Nos.	1	10826.41	10,826.41				
iv)	Tower Type DD+9M Complete		Nos.	1	13885	13,885.00				
	Sub - Total of 4.1							-		
4.2	**Conductor and OPGW accessories**									
i)	Mid span compression joints for ACSR "CARDINAL" conductor		Nos.	10		10				
ii)	Repair sleeve for ACSR "CARDINAL" conductor		Nos.	10		10				
iii)	Insulator 90kN 650kV BIL long rod polymer insulator		Nos.	5		5				
iv)	Insulator 160kN capacity 650kV BIL long rod polymer insulator		Nos.	5		5				
v)	Stockbridge vibration damper for ACSR "CARDINAL" conductor with accessories		Nos.	24		24				
vi)	Vibration damper for OPGW		Nos.	12		12				
vii)	Optical approach cable		M	500.00		500.00				
	Sub - Total of 4.2							-		
	Total of 4 (Spare)							-		
5.0	**TOOLS AND TACKELS**									
5.1	Flat wrench of different sizes for common bolts		Sets	1		1				
5.2	Torque wrench of different sizes for common bolts		Sets	1		1				
5.3	Pipe wrench for common bolts		Sets	1		1				
5.4	Steel ropes (Pilot wire) 35 sq. mm		m	1,000		1,000				
5.5	Pilot wire grips (35 sq. mm) come along clamp		Nos.	3		3				
5.6	Rubber covered rollers, pullies(2,3 keys)		Sets	3		3				
5.7	Portable earthing set (for Transmission line maintenance safety purpose)		Sets	1		1				
5.8	Safety belt		Sets	5		5				
5.9	Line operator's leather gloves		Pairs	5		5				

S.N.	Description	Country of Origin	Quantity				Unit Price		Total Price	Taxes and Duties
			Unit	Quantity	Unit Wt. KG	Total Weiight (KG)/Quantity	Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7	8	9	10=7*9	11
5.10	Hydraulic,Manually operated portable crimping tools with 2 sets of each dies suitable for conductor "BEAR" and OPGW		Sets	1		1				
5.11	Safety helmet with chinstrap and accessories		Sets	10		10				
5.12	Insulation tester (10000 V) suitable for outdoor line testing purpose		Nos.	1		1				
5.13	Earth resistivity tester		Nos.	1		1				
5.14	Earthing resistance tester		Nos.	1		1				
5.15	Double sheeve pulley block 5 MT capacity with all accessories		Sets	1		1				
5.16	Sagging Winch 10 MT capacity hand operated		Sets	1		1				
5.17	Grip suitable for ACSR "BEAR" Conductor		Sets	4		4				
5.18	Grip suitable for "OPGW" Ground Wire		Sets	4		4				
	Total of 5							-		
	GRAND TOTAL (Part 1_Price Schedule 1A)(Total of column 9 & 10 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 functional requirement and scope of work defined in Employer's Requirements.

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

* Strike-out whichever is not applicable.

Name of Bidder:

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)

Date:

P

Nepal Electricity Authority

Project Management Directorate

Dadakhet Rahughat 132 KV Transmission Line Project

ELECTRICITY GRID MODERNIZATION PROJECT

PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated

Part 2: Dadakhet 132/33 kV Substation

Bid Price Schedule No. 1B

PLANT & MANDATORY SPARE PARTS TO BE SUPPLIED FROM ABROAD

Item No.	Description	Country of Origin	*Unit*	Quantity	Unit Price		Total Price	TAXES AND DUTIES
					Foreign Currency	CIP	Foreign Currency	Local Currency Portion
1	2	3	*4*	5	6	7	8=5*7	
B	**DADAKHET 132/33kV SUBSTATION**							
1	**ELECTRICAL WORKS**							
1.1	**Transformers**							
1.1.1(a)	132/33 kV, Single Phase 8/10 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 star/star/delta connected complete with all accessories (to form 24/30 MVA capacity using a bank of three 8/10 MVA single phase transformers)(without transformer oil),as specified in technical Specification		Set	4				
1.1.1(b)	Insulating oil for above Power Transformer		Lot	4				
1.1.1 (c)	33 kV NCT for above Transformer		No	1				
1.1.2	33/0.4 kV, Three phase 200 kVA, ONAN Disribution Transformer with Off load Tap Changer delta/star connected complete with all accessories to complete thespecified scope of works		Set	1				
1.2	**Circuit breakers/Switchgears**							
1.2.1	145 kV, 1250 A, 3 phase, SF6 Circuit Breaker, Single pole operation type, complete with all accessories as per specification for Two outgoing lines		Set	2				
1.2.2	145 kV, 2000 A, 3 phase, SF6 Circuit Breaker, three pole operation type, complete with all accessories as per specification for Bus Coupler		Set	1				
1.2.3	145 kV, 1250 A, 3 phase, SF6 Circuit Breaker, three pole operation type, complete with all accessories as per specification for 132/33 kV Transformer HT		Set	1				
1.2.4	36 kV, 1250 A, 3 phase, Vaccum Circuit Breaker, three pole operation type, complete with all accessories as per specification		Set	3				
1.3	**Disconnecting Switches**							

Item No.	Description	Country of Origin	*Unit*	Quantity	Unit Price		Total Price	TAXES AND DUTIES
					Foreign Currency	CIP	Foreign Currency	Local Currency Portion
1.3.1	145 kV, 1250 A, 3 phase Center Break Disconnecting Switch without Grounding Switch complete with all accessories as per specification		Set	6				
1.3.2	145 kV, 2000 A, 3 phase Center Break Disconnecting Switch without Grounding Switch for bus coupler complete with all accessories as per specification		Set	2				
1.3.3	145 kV, 1250 A, 3 phase Disconnecting Switch with Grounding Switch complete with all accessories as per specification		Set	2				
1.3.4	36 kV, 1250 A, 3 phase Disconnecting Switch without Grounding Switch complete with all accessories as per specification		Set	3				
1.3.5	36 kV, 1250 A, 3 phase Disconnecting Switch with Grounding Switch complete with all accessories as per specification for Local Distribution		Set	1				
1.4	**Instrument Transformers**							
1.4.1	145 kV, 100 VA, 132/√3 /110/√3 kV, Class 0.2/3P Capacitor Voltage Transformer complete with all accessories as per specification		Nos.	12				
1.4.2	145 kV, 30 VA, 1200-900-600/1A, 5 core Current Transformer for Line bay and bus coupler complete with all accessories as per specification		Nos.	9				
1.4.3	145 kV, 30 VA, 600-300-150/1, 5 core Current Transformer for HT transformer bay complete with all accessories as per specification		Nos.	3				
1.4.4	36 kV, 50 VA, 33/√3/110/√3 kV Voltage Transformer for busbar complete with all accessories as per specification		Nos.	6				
1.4.5	36 kV, 15 VA, 800-600/1A, 2 core Current Transformer for 132/33 kV HT transformer incomer complete with all accessories as per specification		Nos.	3				
1.4.6	36 kV, 15 VA, 400-200/1A, 2 core Current Transformer for 33kV outgoing feeder complete with all accessories as per specification		Nos.	6				
1.5	**Lightening Arrestor**							
1.5.1	120 kV, 10 kA Lightening Arrestor including Discharge Counter complete with all accessories as per specification		Nos.	9				
1.5.2	30 kV, 10 kA Lightening Arrestor complete with all accessories as per specification		Nos.	9				
1.6	**Control and relay panel (WITH AUTOMATION)**							
1.6.1	132/33 kV Transformer Control and Relay Panel complete with all accessories as per specification		Set	1				
1.6.2	132 kV Transmission Line Control and Relay Panel complete with all accessories as per specification		Set	2				

Item No.	Description	Country of Origin	*Unit*	Quantity	Unit Price		Total Price	TAXES AND DUTIES
					Foreign Currency	CIP	Foreign Currency	Local Currency Portion
1.6.3	132 kV Bus Coupler Panel with Bus bar Protection Facilities		Set	1				
1.6.4	33 kV Protection Control and Relay Panel complete with all accessories as per specification for Line Bays		Nos.	1				
1.7	**Grounding**							
1.7.1	Galvanized E.H.S. Steel wires of size 7/3.35 for Lightening Shield Wire in take off and internal structures, with accessories to complete the specified scope of works		Lot	1				
1.7.2	Earthing of substation with conductors, electrode grounding materials and accessories to complete the specified scope of works		Lot	1				
1.8	**Control and Power Cables**							
1.8.1	1.1 kV power and lighting cable for all works to complete the specified scope of work		Lot	1				
1.8.2	1.1 kV control cable to complete the specified scope of works		Lot	1				
1.90	**Erection Hardware and Miscellaneous material**							
1.9.1	145 kV Insulator Strings with necessary hardwares, Clamps for Substation Works and connection between Line Tower, Take Off Gantry and Internal Gantry structure, complete as per the specified scope of works		Lot	1				
1.9.2	36 kV Insulator Strings with necessary hardware, Clamps for Substation Works and connection between Line Tower, Take Off Gantry and Internal Strucutre, complete as per the specified scope of works		Lot	1				
1.9.3	ACSR "CARDINAL" Conductors and Accessories to complete the specified scope of works including for Line Tower to Take Off and Internal Structure (including stringing of conductor between tower to gantry for 132 kV) .		Lot	1				
1.9.4	132 kV Tubular Bus (4 Inch Aluminium Pipe) and Bus Support Insulators including all other Accessories required to complete the specified scope of work		Lot	1				
1.9.5	145 kV Support Insulators including all other Accessories required to complete the specified scope of work		Lot	1				
1.9.6	33 kV Tubular Bus and Bus Support Insulator including all other accessories required to complete the specified scope of work		Lot	1				
1.9.7	Switchyard Lighting (including lighting for internal road), Control room building illumination and Air Conditioning works for Control Building		Lot	1				
1.9.8	33 kV ,1 core XLPE Cable and 33 kV Power Fuse with Support Structure for connection of Station Transformer from 132/33kV Transformer Incomer, 400V Main Swithboard, 400V ACDB, 400V MLDB, 400V Emergency LDB.		Lot	1				

Item No.	Description	Country of Origin	*Unit*	Quantity	Unit Price		Total Price	TAXES AND DUTIES
					Foreign Currency	CIP	Foreign Currency	Local Currency Portion
1.10	**Battery / Battery Charger**							
1.10.1	220 V 600 Ah Maintenance Free Lead Acid Battery complete with all accessories		Set	2				
1.10.2	48 V 600Ah Maintenance Free Lead Acid Battery complete with all accessories		Set	1				
1.10.3	Dual Mode (Main and Standby)Battery Charger for 220 V battery complete with all accessories		Set	2				
1.10.4	Dual Mode (Main and Standby)Battery Charger for 48 V battery complete with all accessories		Set	1				
1.10.5	220 V DC Distribution Board complete with all accessories		Set	1				
1.10.6	48 V DC Distribution Board complete with all accessories		Set	1				
1.11	**Fire Detection and Alarm System**							
1.11.1	50 litre foam type, Portable/Trolley/Wheel mounted fire extinguishers		Nos.	6				
1.11.2	4.5 kg CO_2 type, Fire Extinguisher		Nos.	6				
1.11.3	22.5 kg Dry Chemical Power (DCP) type, Trolley/Wheel mounted fire extinguishers		Nos.	6				
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				
	Total of Elecrical works (1)							
2	**SUBSTATION AUTOMATION/ COMMUNICATION / SCADA (Based on IEC 61850)**							
2.1	**SUBSTATION AUTOMATION**							
a.	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		Bays	4				
ii	33kV system		Nos.	3				
b.	Integration of all 132/33kV Bays under present scope with the SCADA of SIEMENS (SINAUT Spectrum) at Load Dispatch Centre, Kathmandu including supply of Hardware, Software, accessories etc. as per TS Section Project.		Lot	1				
2.1.2	**COMMUNICATION / SCADA**							
1	SDH Equipment (STM-4 upgradable to STM - 16, MADM upto 5 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, patch cord, DDF etc fully equiped excluding (ii) & (iii) below		Nos.	1				
(ii)	Optical Interface Cards/SFP							

Item No.	Description	Country of Origin	*Unit*	Quantity	Unit Price		Total Price	TAXES AND DUTIES
					Foreign Currency	CIP	Foreign Currency	Local Currency Portion
(a)	L4.1 SFP(To be modified as per link budget calculation)		Nos.	2				
(iii)	Tributary cards							
(a)	E1 Interface card (Min.8 interfaces per card)		Set	2				
(b)	Giga -Ethernet Interface 10/100/1000 Mbps Base T with Layer-2 switching (Min 8 Interfaces per card)		Nos.	2				
2	Equipment Cabinets		No.	1				
3	VOIP telephone instrument with one common POE+ switch (min. 8 port)		Nos.	2				
4	Digital Protection Coupler		Nos.	2				
5	Optical Distribution Frame complete in all respects as per technical specifications		Lot	2				
6	Optical Approach Cable -24 pair Fibre (DWSM -G.652D) along with Installation hardware set for above 48 Fibre, Fibre Optic Approach Cable complete in all respects as per technical specifications		Lot	1				
	Total of Communication (2)							
3	**CIVIL AND ARCHITECTURAL WORKS (Design and Supply)**							
3.1	**Steel structure for post, beam and equipment supporting frame complete with bolts, nuts and all accessories**							
3.1.1	Rail Structure for 132/33 kV Power Transformer including access from Internal Road		Lot	1				
3.1.2	132 kV Take Off Gantry structure including internal gantry tower & beam structures as per scope of Contract(Two line bays, bus coupler bay & one transformer bays)		Lot	1				
3.1.3	132 kV SF6 Circuit Breaker		Set	4				
3.1.4	132 kV Disconnecting Switch with Earth Switch		Set	2				
3.1.5	132 kV Disconnecting Switch without Earth switch		Set	8				
3.1.6	132 kV Capacitive Voltage Transformer		Nos.	12				
3.1.7	132 kV Current Transformer		Nos.	12				
3.1.8	120 kV Lightening Arrestor		Nos.	9				
3.1.9	132 kV Bus Post Insulator		Lot	1				
3.1.10	132 kV Support Insulator		Lot	1				
3.1.11	33 kV Vaccum Circuit Breaker		Set	3				
3.1.12	33 kV Disconnecting Switch with Earth Switch		Set	1				
3.1.13	33 kV Disconnecting Switch without Earth Switch		Set	3				
3.1.14	33 kV Current Transformer		Nos.	9				
3.1.15	33 kV Voltage Transformer		Nos.	6				
3.1.16	30 kV Lightening Arrestor		Nos.	9				
3.1.17	33 kV Bus Support Insulator		Lot	1				
3.1.18	Earth mast		Lot	1				

Item No.	Description	Country of Origin	*Unit*	Quantity	Unit Price		Total Price	TAXES AND DUTIES
					Foreign Currency	CIP	Foreign Currency	Local Currency Portion
3.1.19	33 kV take off and internal gantry structure as per scope of Contract		Lot	1				
3.1.20	11 kV outdoor type cable termination/sealing-end and all accessories complete		Lot	1				
3.1.21	Switchyard Fence as per Specifications (including Fence with Gate for 132 kV switchyard)		Rm	300				
3.1.22	Switchyard Fence as per Specificaitons (including Fence with Gate for 33 kV switchyard)		Rm	250				
3.1.23	Identification plate, danger notice etc		Lot	1				
	Total of Civil and Arichitectural Works (3)							
4	**SPARE PARTS**							
4.1	**For 132/33 kV Transformer**							
4.1.1	132 kV and 33 kV Bushing (one of each type)		Set	1				
4.1.2	Dial type Thermometers		Set	1				
4.1.3	Oil Level Gauges		Set	1				
4.1.4	Insulating Oil (10% of total supply)		Lot	1				
4.1.5	Indicating Lamps (25% of used)		Lot	1				
4.1.6	All types of Fuses (25% of used)		Lot	1				
4.1.7	Complete set of Gaskets of each type		Set	1				
4.1.8	Complete set of Pressure Relief Devices		Set	1				
4.1.9	All type of Auxiliary, Current, Voltage and Thermal Relays, Contactors and Timers for control, protection and cooling circuit(one of each type)		Set	1				
4.1.10	OLTC Motor Contactor		Set	2				
4.1.11	Complete set of Buchholz relay		Set	1				
4.1.12	OLTC Motor		Set	2				
4.3	**For 145kV SF6 Circuit Breaker**							
4.3.1	Complete set (one chamber) of interrupter		Set	4				
4.3.2	Tripping Coils		Nos.	8				
4.3.3	Closing Coils		Nos.	8				
4.3.4	Pressure Switch, Relays and Contactors (one of each type)		Set	2				
4.3.5	Motors for mechanism of each type		Nos.	2				
4.3.6	Gas filling equipment complete with accessories		Set	1				
4.3.7	Complete set(one chamber) of Sealing rings and Gaskets		Set	2				
4.4	**For 36kV Vaccum Circuit Breaker**							
4.4.1	Tripping Coils		Nos.	5				
4.4.2	Closing Coils		Nos.	5				
4.4.3	Relays and Contactors (One of each type)		Set	2				
4.4.4	Motors for Mechanism		Set	1				
4.4.5	Interrupter for VCB		Nos.	2				
4.5	**For 145kV Disconnecting Switches**							

Item No.	Description	Country of Origin	*Unit*	Quantity	Unit Price		Total Price	TAXES AND DUTIES
					Foreign Currency	CIP	Foreign Currency	Local Currency Portion
4.5.1	Procelain Insulator		Nos.	4				
4.5.2	Main Contact Assemblies(one assembly)		Set	4				
4.5.3	Auxiliary Contacts		Set	2				
4.5.4	Interlocking Coil		Nos.	2				
4.6	**For 36kV Disconnecting Switches**							
4.6.1	Procelain Insulator		Nos.	4				
4.6.2	Main Contact Assemblies(one assembly)		Set	3				
4.6.3	Auxiliary Contacts		Set	2				
4.6.4	Interlocking Coil		Nos.	2				
4.7	**Instrument Transformers of used type**							
4.7.1	145 kV Current Transformer		Nos.	2				
4.7.2	145 kV Capacitive Voltage Transformer		Nos.	2				
4.7.3	36 kV Current Transformer		Nos.	2				
4.7.4	36 kV Potential Transformer		Nos.	2				
4.8	**Lightening Arrestor**							
4.8.1	120 kV, 10kA Lightening Arrestor (pedestal-type)		Nos.	2				
4.8.2	30 kV, 10kA Lightening Arrestor (pedestal-type)		Nos.	2				
4.9	**For 132/33 kV Control and Relay Panel**							
4.9.1	Indicating Lamps(50% of used)		Lot	1				
4.9.2	Fuses of each type(50% of used)		Lot	1				
4.9.3	Color Caps of each color for indicating lamps (30% of used)		Lot	1				
4.9.4	One of each type of Switch, Timer and other special devices		Set	1				
4.9.5	3 Phase Overcurrent Relays with Earthfault Inbuilt		Set	1				
4.9.6	3 Phase Transformer Differential Relays		Set	1				
4.9.7	Each type of Auxiliary Relay		Set	1				
4.9.8	Ammeter		Nos.	2				
4.9.9	Voltmeter		Nos.	2				
4.10	**132 kV Control and Protection Panel**							
4.10.1	Indicating Lamps(50% of used)		Lot	1				
4.10.2	Fuses of each type(50% of used)		Lot	1				
4.10.3	Color Caps of each color for indicating lamps (30% of used)		Lot	1				
4.10.4	One of each type of Switch, Timer and other special devices		Set	1				
4.10.5	Distance Relay for Line Protection		Nos.	1				
4.10.6	One of each type of Over current and earth fault relays		Lot	2				
4.10.7	Carrier Auxiliary Relay		Nos.	1				
4.10.8	Synchro Check Relay		Nos.	1				
4.10.9	Trip-Circuit Supervision Relay		Nos.	1				
4.10.10	Ammeter		Nos.	3				
4.10.11	Voltmeter		Nos.	3				
4.12	**Communication/SCADA**							
	Communication Cards							

Item No.	Description	Country of Origin	*Unit*	Quantity	Unit Price		Total Price	TAXES AND DUTIES
					Foreign Currency	CIP	Foreign Currency	Local Currency Portion
	Digital Protection Coupler		set	2				
	SDH Equipment (STM-4 MADM upto 4 MSP protected directions)							
	Common cards, Cross Connect/control cards, optical base cards, power supply cards, power cabling, other hardware and accessories (each)		Set	1				
	Optical Interface Cards/SFP							
	L4.1 SFP		Nos.	1				
	Tributary cards							
	E1 Interface card (Min.8 interfaces per card)		Nos	1				
	Giga -Ethernet Interface 10/100/1000 Mbps Base T with Layer-2 switching (Min 8 Interfaces per card)		Nos.	1				
4.12.2	VOIP telephone instrument with one common switch (min. 8 port)		Nos.	1				
4.13	**220V Battery Charger**							
4.13.1	Fuses of each type(50% of used)		Lot	1				
4.13.2	Indicating Lamp (50% of used)		Lot	1				
4.13.3	One of each type of Switch, Timer and other special devices		Lot	1				
4.13.4	Ammeter		Nos.	1				
4.13.5	Voltmeter		Nos.	1				
4.14	**48V Battery Charger**							
4.14.1	Fuses of each type(50% of used)		Lot	1				
4.14.2	Indicating Lamp (50% of used)		Lot	1				
4.14.3	One of each type of Switch, Timer and other special devices		Lot	1				
4.14.4	Ammeter		Nos.	1				
4.14.5	Voltmeter		Nos.	1				
	Total of 4							
Grand Total (Part 2_Price Schedule 1B)(Total of column 7 & 8 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) BOQ given above is indicative only based on the scope of work as given in Employer's Requirements. The quantities mentioned above
Specify currency in accordance with BDS ITB Clause 32.1, Part-I of the Bidding Documents.

* Strike-out whichever is not applicable.

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

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Dadakhet Rahughat 132 kV Transmission Line Project

Electricity Grid Modernization Project
PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substations

Part 3: Rahughat 220/132/33 KV GIS Substation

Bid Price Schedule No.1C: Plant and Equipment including Mandatory Spares to be supplied from abroad

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
C	**RAHUGHAT 220/132/33kV GIS SUBSTATION**							
	PART - A: OWNER ASSESSED QUANTITIES							
A1.1	**POWER TRANSFORMER**							
1	53.33 / 66.67MVA, 220/√3 / 132//√3 kV Single Phase Power Transformer (without transformer Oil)		Nos.	4				
2	Insulating oil for the above Power Transformer		Lot	4				
3	33kV Current transformer (NCT) for autotransformer		No	1				
A1.2	**POWER TRANSFORMER**							
1	24/30 MVA, 132 /33 kV Three Phase Power Transformer (without transformer Oil)		Nos.	1				
2	Insulating oil for the above Power Transformer		Lot	1				
B	**Testing & Maintenance Equipments**							
1	Oil Storage tank of 20KL		Nos.	2				
2	Transformer Oil Filtration plant (10KLPH)		No	1				
C	**LT Transformer**							
1	630KVA 33/0.400 kV		Nos.	2				
D	**245 KV EQUIPMENTS**							
D1	**245KV GIS Equipment**							
1.1	245kV, SF6 GIS Bus Bars Module [Module description as per Technical Project specification]		Sets	2				
1.2	245kV, SF6 GIS Bus Coupler bay Module [Module description as per Technical Project specification]		Sets	1				
1.3	245kV, SF6 GIS Line bay Module [Module description as per Technical Projet specification]		Sets	5				
1.4	2145kV, SF6 GIS ICT bay Module including switching arrangement for 1-ph spare transformer [Module description as per Technical Project specification]		Sets	1				
1.5	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure and accessories							
1.5.1	220 kV, 800 Sq. mm XLPE Power cable with the necessary Straight Joints, AIS termination kit, GIS Termination Kit and accessories required to complete the installation of the cable from Gantry terminal to GIS		Mtr.	3000				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
1.5.2	220 kV, 500 Sq. mm XLPE Power cable with the necessary Straight Joints, AIS termination kit, GIS Termination Kit and accessories required to complete the installation of the cable from Power Transformer terminal to GIS		Mtr.	500				
1.6	245 kV Auxiliary Bus to connect spare unit of Transformer [Module description as per Technical specification and Section Project Specific Requirement]		Set	1				
D.2	**245KV Outdoor Equipment**							
1.0	216 KV Surge Arrester (1-phase)		Nos.	19				
2.0	245kV Capactive Voltage Transfromer for line		Nos.	21				
3.0	245kV Bus Post Insulator (1-Phase) (Except for wave trap)		Nos.	21				
E	**145kV Equipment**							
E.1	**145KV GIS Equipment**							
1.1	145kV, SF6 GIS Bus Bars Module [Module description as per Technical Project specification]		Sets	2				
1.2	145kV, SF6 GIS Bus Coupler bay Module [Module description as per Technical Project specification]		Set	1				
1.3	145kV, SF6 GIS Line bay Module [Module description as per Technical Projet specification]		Sets	3				
1.4	145kV, SF6 GIS ICT feeder bay Module for 220/132 kV Transformer including switching arrangement for 1-ph spare transformer [Module description as per Technical Project specification]		Sets	1				
1.5	145kV, SF6 GIS ICT feeder bay Module for 132/33 kV 3-ph Transformer [Module description as per Technical Project specification]		Sets	1				
1.6	SF6 Gas Insulated Bus Duct (GIB) outside GIS hall including Bus Duct support structure and associated accessories							
1.6.1	132 kV, 500 Sq. mm XLPE Power cable with the necessary Straight Joints, AIS termination kit, GIS Termination Kit and accessories required to complete the installation of the cable from Gantry terminal to GIS and 220/132 Power Transformer to 132 KV GIS Terminal		Mtr.	1200				
1.6.2	132 kV, 240 Sq. mm XLPE Power cable with the necessary Straight Joints, AIS termination kit, GIS Termination Kit and accessories required to complete the installation of the cable from 132/33 KV Power Transformer terminal to GIS		Mtr.	500				
1.7	145 kV Auxiliary Bus to connect spare unit of Transformer [Module description as per Technical specification and Section Project Specific Requirement]		Set	1				
1.8	145kV, SF6/Air Bushing for Connecting GIS to AIS alongwith support structure							
1.8.1	1250A, 31.5kA, 1sec single phase		Set	20				
E.2	**145kV EQUIPMENT (AIS)**							
1.0	120 kV Surge Arrestors (1-Phase)		Nos.	16				
2.0	8800pF, 145 kV Capacitive Voltage Transformer (1-Phase)		Nos.	15				
3.0	145KV Bus Post Insulator		Nos.	15				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
F	**33 KV EQUIPMENT**							
1.1	30 kV Surge Arrester (1 ph.)		Nos	15				
1.2	33 kV, 630A Isolators with out earth switch (3-phase, DBR type)		No.	1				
1.3	36 kV BPI		Nos.	3				
1.4	36 kV HG Fuse along with support insulator (1-phase)		Nos.	3				
G	**33kV, 25 kA (3 Phase) Indoor switch gear panel**							
1.0	**33 kV Indoor VCB Switchgear**							
1.1	33kV 2500A Incomer		Nos	1				
1.2	33kV 1250A Outgoing		Nos	2				
1.3	33kV 2500A Buscoupler		Nos	1				
1.4	33 kV Station Transformer		Nos	1				
H	**Testing & Maintenance Equipment for GIS**							
1	SF6 Gas processing Unit		Set	1				
2	Partial Discharge Monitoring System		Set	1				
3	Dew Point Meter		Set	1				
4	SF6 Gas Leak Detector		Set	1				
5	Portable Ladder with adustable height as per TS		Nos.	1				
6	EOT crane for 220kV GIS Hall		Set	1				
7	EOT crane for 132kV GIS Hall		Set	1				
I	**RELAY PANELS (WITH AUTOMATION)**							
1	**245kV**							
1.1	Line Control and Protection Panel		Nos.	5				
1.2	Transformer Control and Protection Panel (For both HV & MV side)		Nos.	1				
1.3	Bus Coupler Control and Protection Panel		Nos.	1				
1.4	Bus Bar Protection Panel		Set	1				
2	**145kV**							
2.1	Line Control and Protection Panel		Nos.	3				
2.2	Transformer Control and Protection Panel (For both HV & MV side)		Nos.	1				
2.3	Bus Coupler Control and Protection Panel		Nos.	1				
2.4	Bus Bar Protection Panel		Set	1				
3	Other/Common equipments Pertaining to C & R System							
3.1	Time Synchronisation Equipment		No.	1				
3.2	Relay Test kit		No.	1				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
J	**SUBSTATION AUTOMATION**							
1	Substation Automation System as per Technical Specification:							
1.1	220kV System		Nos.	6				
1.2	132 kV System		Nos.	4				
1.3	BCU for auxilary system		set	1				
1.4	33kV HT Indoor Switchgear		Nos.	5				
K	**Digital Protection Coupler & IP-PBAX**							
1	Digital Protection Coupler		Nos	6				
2	PBAX with per TS		Set	1				
3	Optical Distribution Frame complete in all respects as per technical specifications		**Lot**	**1**				
4	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**				
L	**LT Switchgear (As per Technical specification)**							
1	400V Main switchboard		Set	1				
2	400V ACDB		Set	1				
3	400V MLDB		Set	1				
4	400V Emergency LDB		Set	1				
5	220V DCDB		Sets	1				
6.0	48V DCDB		Set	1				
M	**Batteries**							
1	220V							
i	220 V 600Ah Maintenance Free Lead Acid Battery complete with all accessories		Nos	2				
2	48V							
i	48 V 600Ah Maintenance Free Lead Acid Battery complete with all accessories		Nos	2				
N	**Float Cum Boost Battery Charger**							
1	Dual Mode (Main and Standby)Battery Charger for 220 V battery complete with all accessories							
i	80A/80A		Nos	2				
2	Dual Mode (Main and Standby)Battery Charger for 48 V battery complete with all accessories							
i	80A/80A		Nos	2				
O	**Diesel Generator with control Panel**							
a	250 kVA		Set	1				
P	**Fire Protection System**							
1	Portable /Trolley/Wheel mounted extinguishers							

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
1.1	9 litre water type		Nos	2				
1.2	50 litre foam type		Nos	2				
1.3	4.5 kg CO_2 type		Nos	6				
1.4	4.5 kg Dry Chemical Power (DCP) type		Nos	2				
2.0	Smoke detection system		Set	1				
3.0	Fire detection and Alarm System		Set	1				
Q	**Cables along with clamps, glands, lugs and straight joints etc.**							
1.0	33kV HT 3C, 400 Sq.mm Aluminum Cable alongwith accessories and termination equipments for termination of 33 kV Line		KM	2				
2.0	33 kV HT 3C, 400 Sq.mm Aluminum Cable alongwith accessories and termination equipments for termination of 33 kV LT Transformer		KM	0.5				
3.0	33 kV HT Cable (1CX800 SQmm) Copper for 33 kV side of 132/33 kV Transformer alongwith accessories and termination equipments		KM	1				
4	Power Cables - (1.1kV grade)							
4.1	3.5Cx300 sqmm (XLPE) cable for filter Machine along with 2 nos outdoor receptacles - 250A		KM	0.5				
R	**Air conditioning**							
1	High wall type split AC unit of 2 TR capacities for control room, relay room and battery room		Nos.	25				
S	**STEEL STRUCTURES (Tower,Gantry structures& Equipment support structures)(Including Design)**							
1.0	Lattice/pipe Structure for towers,beams and equipments including peak plates/pack washers and guest paltes including foundation bolts(nuts,washers,MS plate welded at the bottom)including Design							
1.1	Rail Structure for 220/132 kVand 132/33 kV Power Transformer including access from Internal Road		Lot	1				
1.3	220 kV Take Off Gantry structure for Five line bays including internal gantry tower & beam structures as per scope of Contract		Lot	1				
1.4	132 kV Take Off Gantry structure for Three line bays including internal gantry tower & beam structures as per scope of Contract		Lot	1				
1.5	220 kV Capacitive Voltage Transformer		Nos	21				
1.6	220 kV Lightening Arrestor		Nos	19				
1.7	220 kV Bus Post Insulator		Nos	21				
1.8	132 kV Capacitive Voltage Transformer		Nos	15				
1.9	120 kV Lightening Arrestor		Nos	16				
1.1	132 kV Bus Post Insulator		Nos	18				
1.11	33 kV Disconnecting Switch without Earth Switch		Set	1				
1.12	30 kV Lightening Arrestor		Nos	15				
1.13	33 kV Bus Support Insulator		Nos	12				
1.14	Earth mast		Lot	1				
T	**Communication Equipment (detail as per TS)**							

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
1	**Transmission Equipment**							
	Telecommunication Equipments							
1.1.1	SDH Equipment (STM-4 upgradable to STM - 16, MADM upto 5 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, patch cord, DDF etc fully equiped excluding (ii) & (iii) below and integration with existing Communication equipments at Dana and Kusma 220 kV S/s		**Nos.**	**1**				
(ii)	Optical Interface Cards/SFP							
(a)	L4.1 SFP(To be modified as per link budget calculation)		**Nos.**	**6**				
(iii)	Tributary cards							
(a)	E1 Interface card (Min.8 interfaces per card)		**Set**	**2**				
(b)	Giga -Ethernet Interface 10/100/1000 Mbps Base T with Layer-2 switching (Min 8 Interfaces per card)		**Nos.**	**2**				
1.1.2	Equipment Cabinets		**No**	**1**				
1.1.3	VOIP telephone instrument with one common POE+ switch (min. 8 port)		**set**	**2**				
U	**PRE-ENGINEERED BUILDINGS**							
1	GIS Building and Panel Rooms including all supply materials from abroad except civil works and for civil works refer schedule 4(a)							
1.1	220 kV GIS Hall and Panel Rooms including all supply materials from abroad except civil works and for civil works refer schedule 4(a)							
(a)	220 kV GIS Hall		Sq. M.	450				
(b)	AHU		Sq. M.	127				
(c)	Panel Room		Sq. M.	38				
1.2	132 kV GIS Hall and Panel Rooms including all supply materials from abroad except civil works and for civil works refer schedule 4(a)							
(a)	132 kV GIS Hall		Sq. M.	400				
(b)	AHU		Sq. M.	98				
(c)	Panel Room		Sq. M.	37				
	SUB TOTAL PART-A							
	PART-B: VENDOR ASSESSED QUANTITIES							
A	Erection Hardware :-Insulator strings, Disc Insulators, Hardware, conductor, bus-bar materials, cable trays, clamps, spacers, connectors including conectors for Auto Transformer , Junction box, earthwire, earthing material risers, buried cable trenches/pipe of equipment & lighting, all accessories etc. for the following:							
1	**220 kV DM-type layout for GIS termination arrangement**							
1.1	Line Bay		Set	5				
1.3	Transformer Bay		Sets	1				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
0	**0**		0	0				
2	**132 kV DM-type layout for GIS termination arrangement**		0	0				
1.1	Line Bay		Sets	3				
1.3	Transformer Bay		Sets	1				
B	Bus post insulators, Spacers, equipment support structures, conductor(s), Al tube, clamp, connectors required for arrangement of Neutral formation for one transformer bank for making connection arrangement to connect spare unit in place of any other unit without physical shifting complete in all respect		Sets	1				
C	**Air conditioning & ventilation System**							
1	Ventilation & Airconditioning system (as per technical specification)							
1.1	220kV GIS Hall		LS	1				
1.2	132 kV GIS Hall		LS	1				
D	**Illumination System**							
1.1	Substation Lighting							
1.1.1	Control Room cum administrative building illumination		LS	1				
1.1.2	220kV GIS Building		LS	1				
1.1.3	132kV GIS Building		LS	1				
1.2	Security Room		LS	1				
1.3	Fire fighting Room		LS	1				
1.4	Outdoor Switchyard Lighting		LS	1				
1.5	Street Lighting		LS	1				
1.6	Occupancy sensor		LS	1				
1.7	Township Area Lighting		LS	1				
E	**Fire Protection System per technical Specification)**							
1	Pumping arrangement for HVW system & hydrant system, complete with all piping, valves, fittings,etc. inside pump house		Set	1				
2	Hydrant system, complete U/G piping and accessories etc. outside the Pump House.		Set	1				
3	HVW spray system, Hydrant system and complete U/G & O/G piping and accessories etc. out side the pump house for Transformer :							
3.1	53.33/66.67 MVA, 220/132 kV Single Phase Auto Transformer		nos	4				
3.2	132/33 kV,24/30 MVA Three phase transformer		nos	1				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
F	**POWER & CONTROL CABLES**							
1	**1.1 kV LV Cables**							
1.1	Power Cables(PVC)- (1.1kV grade)		LS	1				
1.2	Control Cable (PVC)- (1.1kV grade)		LS	1				
1.3	Cable glands, lugs & straight through joints for Power & Control cables		LS	1				
G	Visual Monitoring System for watch & ward as per technical specification		LS	1				
H	Earthing and lightning protection including necesaary connectors/connections, risers etc. complete in all respect(but excluding LM structures for Lightning protection)							
1.0	Earth Conductor (copper)		LS	1				
2.0	Earth Rod (copper clad steel)		LS	1				
3.0	Equipment for lightning protection		LS	1				
H	**SUBSTATION AUTOMATION**							
1	Integration of all 220/132kV Bays under present scope with the SCADA of SIEMENS (SINAUT Spectrum) at Load Dispatch Centre, Kathmandu including supply of Hardware, Software, accessories etc. as per TS Section Project.		LS	1				
	SUB TOTAL PART-B							
	PART-C: MANDATORY SPARES (Break up of Lumpsum quantity shall be as per Annexure-I, Section Project of Technical Specification).							
I.	**Transformer(220/132 kV)**							
1.1	Oil cooler pump with motor		Set	1				
1.2	Cooler Fan with motor		No.	1				
1.3	Local & Remote WTI with sensing device & contact (each type)		Set	1				
1.4	Buchholz relay complete with contacts (Main tank)		Set	1				
1.5	Magnetic oil level gauge		No.	1				
1.6	Starters, contactors, switches & relays for electrical control panels (one set of each type)		Set	1				
1.7	Remote tap position Indicator		No.	1				
1.8	Oil Flow indicator with flow switch		Set	1				
1.9	245kV Bushing with metal parts and gaskets and lifting tools		Nos.	1				
1.10	145 kV Bushing with metal parts and gaskets and lifting tools		Nos.	1				
1.11	36kV Bushing with metal parts and gaskets and lifting tools		Nos.	1				
1.12	Spare insulating oil to be handed over to after commissioning for O&M requirement		KL	10				
2	**Transformer(132/33 kV)**							
2.1	Cooler Fan with motor		No.	1				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
2.2	Local & Remote WTI with sensing device & contact (each type)		Set	1				
2.3	Buchholz relay complete with contacts (Main tank)		Set	1				
2.4	Magnetic oil level gauge		No.	1				
2.5	Starters, contactors, switches & relays for electrical control panels (one set of each type)		Set	1				
2.6	Remote tap position Indicator		No.	1				
2.7	Oil Flow indicator with flow switch		Set	1				
2.8	145kV Bushing with metal parts and gaskets and lifting tools		Nos.	1				
2.9	12 kV Bushing with metal parts and gaskets and lifting tools		Nos.	1				
2.10	Spare insulating oil to be handed over to Employer after commissioning for O&M requirement		KL	10				
3	**GIS(22O KV & 132 KV)**							
3.1	**General**							
3.1.1	SF6 gas Pressure Relief Devices, 1Nos. of each type		Set	1				
3.1.2	SF6 Pressure gauge cum switch OR Density monitors and pressure switch as applicable (1 no. of each type)		Set	1				
3.1.3	Coupling device for pressure gauge cum switch for connecting Gas handling plant		Set	1				
3.1.4	Rubber Gaskets, “O” Rings and Seals for SF6 gas of each type		Set	1				
3.1.5	Molecular filter for SF6 gas with filter bags(20% of total weight)		Set	1				
3.1.6	All types of Control Valves for SF6 gas of each type		Set	1				
3.1.7	SF6 gas (20 % of total gas quantity)		Set	1				
3.1.8	All types of coupling for SF6 gas (1 no. of each type)		Set	1				
3.1.9	Pipe length (Copper or Steel as applicable) for SF6 Circuit of each type		Set	1				
3.1.10	Covers with all accessories necessary to close a compartment in case of dismantling of any part of the Enclosure to ensure the sealing of this compartment							
3.1.10.1	For 3 Phase Enclosure if applicable		No.	1				
3.1.10.2	For Single phase enclosure if applicable		No.	1				
3.1.11	Locking device to keep the Dis-connectors (Isolators) and Earthing switches in close or open position in case of removal of the driving Mechanism		Set	1				
3.1.12	Bus Support insulator of each type for 3 phase/single phase enclosure.		No.	1				
3.1.13	SF6 to air bushing (220kV & 132kV - 1 No. of each type & rating) as applicable		Set	1				
3.2	***245KV SF6 CIRCUIT BREAKER:***							
3.2.1	Complete Circuit Breaker pole of each type & rating complete with interrupter, main circuit enclosure and Marshalling Box with operating mechanism		No.	1				
3.2.2	Rubber gaskets, `O' rings and seals for SF6 gas (1 No. of each type)		Set	1				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
3.2.3	Trip coil assembly with resistor as applicable		Set	1				
3.2.4	Closing coil assembly with resistor as applicable.		Set	1				
3.2.5	Relays, Power contactors, push buttons, timers & MCBs etc (1 No. of each type & rating)		Set	1				
3.2.6	Closing coil assembly (including valve, if applicable)		Set	1				
3.2.7	Trip coil assembly (including valve, if applicable)		Set	1				
3.2.8	Auxiliary switch assembly of each type		Set	1				
3.3	***145KV SF6 CIRCUIT BREAKER:***							
3.3.1	Complete Circuit Breaker pole of each type & rating complete with interrupter, main circuit enclosure and Marshalling Box with operating mechanism		No.	1				
3.3.2	Rubber gaskets, `O' rings and seals for SF6 gas (1 No. of each type)		Set	1				
3.3.3	Trip coil assembly with resistor as applicable		Set	1				
3.3.4	Closing coil assembly with resistor as applicable .		Set	1				
3.3.5	Relays, Power contactors, push buttons, timers & MCBs etc (1 No. of each type & rating)		Set	1				
3.3.6	Closing coil assembly (including valve, if applicable)		Set	1				
3.3.7	Trip coil assembly (including valve, if applicable)		Set	1				
3.3.8	Auxiliary switch assembly of each type		Set	1				
3.4	***245KV ISOLATORS :***							
3.4.1	Complete set of 3-phase dis-connector including main circuit, enclosure, driving mechanism		Set	1				
3.4.2	3-phase Earthing switch including main circuit, enclosure, driving mechanism.		Set	1				
3.4.3	Copper contact fingers for dis-connector male & female contact for one complete (3 phase) dis-connector of each type and rating		Set	1				
3.4.4	Copper contact fingers for earthing switch male & female contacts, for one complete (3 phase) earthing switch of each type and rating		Set	1				
3.4.5	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				
3.4.6	Push button switch - (1 No. of each type & rating) as applicable		Set	1				
3.4.7	Limit switch and Aux. Switches for complete 3 phase equipment							
3.4.7.1	For isolator		Set	1				
3.4.7.2	For earth switch		Set	1				
3.5	***145KV ISOLATORS :***							
3.5.1	Complete set of 3-phase dis-connector including main circuit, enclosure, driving mechanism		Set	1				
3.5.2	3-phase Earthing switch including main circuit, enclosure, driving mechanism.		Set	1				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
3.5.3	Copper contact fingers for dis-connector male & female contact for one complete (3 phase) dis-connector of each type and rating		Set	1				
3.5.4	Copper contact fingers for earthing switch male & female contacts, for one complete (3 phase) earthing switch of each type and rating		Set	1				
3.5.5	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				
3.5.6	Push button switch - (1 No. of each type & rating) as applicable		Set	1				
3.5.7	Limit switch and Aux. Switches for complete 3 phase equipment							
3.5.7.1	For isolator		Set	1				
3.5.7.2	For earth switch		Set	1				
3.6	**245KV CURRENT TRANSFORMER**							
3.6.4	Gas insulated complete CT of each type and rating with enclosure.		No.	1				
3.6.2	Secondary bushing of each type		Set	1				
3.7	**145KV CURRENT TRANSFORMER**							
3.7.1	Gas insulated complete CT of each type and rating with enclosure.		No.	1				
3.7.2	Secondary bushing of each type		Set	1				
4	**245kV Voltage Transformer**							
4.1	Gas insulated complete PT of each type and rating with enclosure.		No.	1				
5	**145 kV Voltage Transformer**							
5.1	Gas insulated complete PT of each type and rating with enclosure.		No.	1				
6	**AIS Capacitive Voltage Transformer**							
6.1	220kV,4400pF CVT (excluding support structure/ common JB)		No.	1				
6.2	132kV, 8800pF CVT (excluding support structure/ common JB)		No.	1				
7	**AIS Surge Arrestors**							
7.1	216kV Surge Arrestor with insulating base, terminal connector , Surge counter & accessories (excluding support structure)		Set	1				
7.2	120kV Surge Arrestor with insulating base, terminal connector , Surge counter & accessories (excluding support structure)		Set	1				
8	**DG Set**							
8.1	Self starter assembly		No.	1				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
8.2	AVR (Auto Voltage Regulator)/ AVR card		Set	1				
9	**Battery Charger**							
9.1	220V Battery Chargers							
9.1.1	Set of Control Cards		Set	1				
9.1.2	Set of relays		Set	1				
9.1.3	Rectifier transformer		No.	1				
9.1.4	Thyristor/ Diode		Set	1				
9.1.5	Fuses of Thyristor with indicators		Set	6				
9.2	48V Battery Chargers							
9.2.1	Set of Control Cards		Set	1				
9.2.2	Set of relays		Set	1				
9.2.3	Rectifier transformer		No.	1				
9.2.4	Thyristor/ Diode		Set	1				
9.2.5	Fuses of Thyristor with indicators		Set	6				
10	**Relay & Protection**							
10.1	Line Protection Panel							
10.1.1	Numerical distance relay (1 no. of each type)		Set	1				
10.2	Transformer Protection Panel							
10.2.1	Transformer differential protection		No.	1				
10.2.2	Restricted earth fault protection relay with non-linear resistor		No.	1				
10.2.3	Directional over current & E/F Protection Relay		no	1				
10.3	COMMON SPARES							
103.1	Power supply module for Bus Bar protection.		No.	1				
10.3.2	Bay unit module		Set	1				
10.4	Breaker protection Relay							
10.4.1	Breaker failure relay		No.	1				
10.4.2	Trip circuit supervision relay		Nos.	2				
10.4.3	Self reset trip relay (relay of each type)		Set	1				
10.4.4	Hand reset trip relay(relay of each type)		Set	1				
10.4.5	Timer relay(relay of each type)		Set	1				
10.4.6	DC supervision relay(relay of each type)		Set	1				
10.4.7	Flag relays(relay of each type)		Set	1				
10.4.8	Auxiliary relays(relay of each type)		Set	1				

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
11	**Digital protection Coupler**		LS	1				
12	**Sub-Station Automation System**							
12.1	Bay control unit (IED) of each type		Set	1				
12.2	Ethernet switch of each type		Set	1				
13	**LT Transformer**							
13.1	Bushings (Each type)		Set	1				
13.2	Diaphragm for pressure relief vent		No.	1				
13.3	Silica gel container		No.	1				
13.4	Set of Valves (Each Type)		Set	1				
13.5	Buchholz relay (if applicable)		No.	1				
14	**Illumination System**		LS	1				
14.1	5% of each type of lighting fixture supplied							
15	**Erection Hardware**		LS	1				
15.1	5% spares of the actual quantities for Insulator strings & hardwares, clamps & connectors (including equipment connectors), spacers, corona bell and welding sleeves,		LS	1				
16	**Telecommunication Equipments**							
16.1	Transmission Equipment							
16.1.1	SDH Equipment (STM-4 MADM upgradable to STM - 16 upto 4 MSP protected directions)							
16.1.1.1	Common cards, Power supply cards, power cabling, other hardware & accessories (each)		Set	1				
16.2	Optical Interface/SFP for							
16.2.2	L4.1 SFP		No	1				
16.3	Tributary Cards							
16.3.1	E1 Interface card (Min.8 interfaces per card)		No.	1				
16.3.2	Giga -Ethernet Interface 10/100/1000 Mbps Base T with Layer-2 switching (Min 4 Interfaces per card)		No.	1				
17	**LT Indoor Switchgear**		LS	1				
17.1	Each type of MCB, MCCB, ELCB							
18	**MV Indoor Swtichgear**							

Item No.	Item description	Country of origin	Unit	Quantity	Unit Price		Total Price	Taxes and Duties
					Foreign Currency	CIP		Local Currency
1	2	3	4	5	6	7	8 = (7) x (5)	9
	(33) kV Switchgear							
18.1	33kV Vacuum Interrupter for Incomer and Outgoing		No.	3				
18.2	Tripping Coils		No.	3				
18.3	Closing Coils		Set	3				
18.4	Spring Charging Motor		Set	1				
18.5	Protection Relays							
18.5.1	3 phase Overcurrent Relay, for 33kV side one of each type		Nos.	1				
18.5.2	Ground Fault Relay, for33kV side, oe of each type		Nos.	1				
18.6	Ammeter, Nos one of each rating		Nos.	1				
18.7	Voltmeter, Nos		Nos.	1				
18.8	kVA Meter, each		Nos.	1				
18.9	CTs of each type		set	1				
18.10	Operating Handle		No.	1				
18.11	Indicating lamps and fuses (100% of used), Lot		LS	1				
19	**Fire Fighting**							
19.1	Recommended Spares		Set	1				
	SUB-TOTAL-C							
	Total For PART 3 Rahughat Substation [(Part-A+ Part-B+ Part C)]							
	Total for Schedule 1C (Total of column 8 & 9 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) 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.

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

NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

Dadakhet Rahughat132 kV Transmission Line Project

ELECTRICITY GRID MODERNIZATION PROJECT

PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substations

Part 1: Dadakhet Rahughat 132 KV Transmission Line

Bid Price Schedule No. 2A: Supply and Delivery of Plant and Equipment within the Employer's Country

S.N.	Description	Country of Origin	Quantity				Unit Price		Total EXW Price	VAT and other Taxes
			Unit	Quantity	Unit Wt. KG	Total Weiight (KG)/Quantity	Local Currency	EXW Price		Local Currency
1	2	3	3	4	5	6	7	8	9=6*8	10
1.0	TOWER AND LINE MATERIALS									
	Total of 1		KGS							
2.0	TOWER ACCESSORIES AND EARTHING									
	Total of 2									
3.0	LINE MATERIALS									
	Total of 3									
4.0	SUPPLY OF SPARES									
	Total of 4 (Spare)									
5.0	TOOLS AND TACKELS									
	Total of 5									
	GRAND TOTAL (Part 1_Price Schedule 2A)									

Name of Bidder:

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)

Date:

Nepal Electricity Authority

Project Management Directorate

Dadakhet Rahughat 132 KV Transmission Line Project

ELECTRICITY GRID MODERNIZATION PROJECT

PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substations

Part-2, Dadakhet 132/33 KV Substation

Bid Price Schedule No. 2B

PLANT & MANDATORY SPARE PARTS TO BE SUPPLIED FROM WITHIN THE EMPLOYER'S COUNTRY

Item No.	Description	*Unit*	Quantity	Unit Price		Total EXW Price	VAT and other Taxes
				Local Currency	EXW Price		
B	DADAKHET 132/33kV SUBSTATION						
1	ELECTRICAL WORKS						
	Total of Elecrical works (1)						
2	SUBSTATION AUTOMATION/ COMMUNICATION / SCADA (Based on IEC 61850)						
	Total of Communication (2)						
3	CIVIL AND ARCHITECTURAL WORKS (Design and Supply)						
	Total of Civil and Arichitectural Works (3)						
4	SPARE PARTS						
	Total of 4						
Grand Total (Part 2_Price Schedule 2B)							-

Name of Bidder: **Date:**

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)

NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

Dadakhet Rahughat 132 kV Transmission Line Project

Electricity Grid Modernization Project

PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substation

Part 3: Rahughat 220/132/33 KV GIS Substation

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

Item No.	Item description	Unit	Quantity	Unit Price		Total EXW Price	VAT and other taxes
				Local Currency	EXW Price		
1	2	3	4	5	6 = (4) x (5)	8=(4)x(7)	10
PART 3	Total for 220/132/11kV Rahughat Substation (I) (Part-A+ Part-B+ Part C)						
	Total for Schedule 2C (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.

\# 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:
Signature of Bidder:
(Printed Name) **Date:**
(Designation)
(Common Seal)

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Dadakhet Rahughat 132 kV Transmission Line Project
ELECTRICITY GRID MODERNIZATION PROJECT

PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substations

Part 1: Dadakhet Rahughat 132 KV Transmission Line

Part 2: Dadakhet 132/33kV Substation

Part 3: Rahughat 220/132/33kV GIS Substation

Bid Price Schedule No. 3: Design Services

S.No		Description	Unit	Quantity	Unit Rate		Total Price	
					Local Currency Portion	Foreign Currency	Local Currency Portion	Foreign Currency Portion
1		2	3	4	5	6	7=4*5	8=4*6
1	1.0	**PROTO TYPE TESTING OF TOWERS**						
	1.1	Tower Type DB with extension +9m	No.	1				
	1.2	Tower Type DC with extension +9m	No.	1				
	1.3	Tower Type DD with extension +9m	No.	1				
		Grand Total (Price Schedule No. 3)						-

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

NEPAL ELECTRICITY AUTHORITY
PROJECT MANAGEMENT DIRECTORATE
Dadakhet Rahughat 132 kV Transmission Line Project

ELECTRICITY GRID MODERNIZATION PROJECT
PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substations
Part 1: Dadakhet Rahughat 132 KV Transmission Line
Bid Price Schedule No 4A: Installation Services

Installation Charges and Civil Works

S No.	Description	Unit	Quantity			Unit Price		Total Price	
			Qty	Unit Weight In Kgs	Total Weight/Quantity	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6	7	8	9=6*7	10=6*8
1	**Survey**								
a	Check survey, tower spotting stacking of tower locations	KM			26.00				
b	Numbering and Marking of Trees along RoW	lot			1				
c	Preparation of Land Parcel Data from tower spotting for land acquisition	lot			1				
	Total of 1								
2	**Soil investigation**								
a	Soil test by SPT and auger boring up to 6 M depth including laboratory tests	Loc			80				
b	Soil test by SPT and auger boring up to 12 - 20 M depth including laboratory tests	Loc			10				
	Total of 2								
3	**Measurements of soil resistivity/ground resistance**	Loc			88				
	Total of 3								
4	**Erection of towers with its body and leg extensions (complete) including bolt & nuts, tack welding and supply and application of enamel & zinc rich paint**								
4.1	**Tension Tower DB**			Wt. KG					
a)	Stubs	Nos/Leg	**148**	83.75	12,395.00				
b)	Stubs- Raised Chimney (0.5M)	Nos/Leg	**48**	93.75	4,500.00				
c)	Stubs- Raised Chimney (1 M)	Nos/Leg	**40**	100.00	4,000.00				
d)	DB Basic Tower	Nos.	**59**	5160.00	304,440.00				
e)	DB View Member @ Basic Body	Nos.	**5**	250.00	1,250.00				
f)	DB 0m Girder/Body Extension	Nos.	**26**	1715.00	44,590.00				

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1	2	3	4	5	6	7	8	9=6*7	10=6*8
g)	DB 3m Girder/Body Extension	Nos.	-	2625.00	-				
h)	DB 6mGirder/Body Extension	Nos.	**14**	3460.00	48,440.00				
i)	DB 9m Girder/Body Extension	Nos.	**14**	4813.00	67,382.00				
j)	DB +1.5m Leg Ext	Nos.	**28**	100.00	2,800.00				
k)	DB +3m Leg Ext	Nos.	**37**	210.00	7,770.00				
l)	DB +4.5m Leg ext	Nos.	**64**	275.00	17,600.00				
m)	DB +6 m Leg Ext	Nos.	**38**	360.00	13,680.00				
n)	DB +7.5m Leg Ext	Nos.	**25**	475.00	11,875.00				
o)	DB +9m Leg Ext	Nos.	**43**	700.00	30,100.00				
4.2	**Tension Tower DC**								
a)	Stubs	Nos/Leg	**16**	102	1,632.00				
b)	Stubs- Raised Chimney (0.5M)	Nos/Leg	**8**	128	1,024.00				
c)	Stubs- Raised Chimney (1 M)	Nos/Leg	**12**	150	1,800.00				
d)	DC Basic Tower	Nos.	**9**	6,391	57,516.21				
e)	DC View Member @ Basic Body	Nos.	**1**	280	280.00				
f)	DC 0m Girder/Body Extension	Nos.	**3**	1,935	5,805.00				
g)	DC 3m Girder/Body Extension	Nos.	**-**	3,050	-				
h)	DC 6m Girder/Body Extension	Nos.	**1**	4,140	4,140.00				
i)	DC 9m Girder/Body Extension	Nos.	**4**	4,334	17,334.88				
j)	DC +1.5m Leg Ext	Nos.	**8**	120.00	960.00				
k)	DC +3m Leg Ext	Nos.	**4**	250.00	1,000.00				
l)	DC +4.5m Leg ext	Nos.	**8**	335.00	2,680.00				
m)	DC +6 m Leg Ext	Nos.	**6**	450.00	2,700.00				
n)	DC +7.5m Leg Ext	Nos.	**4**	560.00	2,240.00				
o)	DC +9m Leg Ext	Nos.	**6**	725.00	4,350.00				
4.3	**Tension Tower DD/DDE**								
a)	Stubs	Nos./Leg	**32**	160	5,120.00				
b)	Stubs- Raised Chimney (0.5M)	Nos./Leg	**6**	200	1,200.00				
c)	Stubs- Raised Chimney (1 M)	Nos./Leg	**10**	250	2,500.00				
d)	Basic Tower	Nos.	**12**	6,850	82,200.00				
e)	DD View Member @ Basic Body	Nos.	**-**	330	-				

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			Qty	Unit Weight In Kgs	Total Weight/Quantity	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6	7	8	9=6*7	10=6*8
f)	DD 0m Girder/Body Extension	Nos.	**4**	2,575	10,300.00				
g)	DD 3m Girder/Body Extension	Nos.	**2**	4,025	8,050.00				
h)	DD 6m Girder/Body Extension	Nos.	**3**	5,450	16,350.00				
i)	DD 9m Girder/Body Extension	Nos.	**3**	6,875	20,625.00				
j)	DD +1.5m Leg Ext	Nos.	**13**	196.00	2,548.00				
k)	DD +3m Leg Ext	Nos.	**6**	360.00	2,160.00				
l)	DD +4.5m Leg ext	Nos.	**8**	450.00	3,600.00				
m)	DD +6 m Leg Ext	Nos.	**2**	600.00	1,200.00				
n)	DD +7.5m Leg Ext	Nos.	**7**	750.00	5,250.00				
o)	DD +9m Leg Ext	Nos.	**12**	925.00	11,100.00				
4.4	**Tension Tower DDM**			Wt. KG					
a)	Stubs	Nos./Leg	**12**	260.00	3,120.00				
b)	Stubs- Raised Chimney (0.5M)	Nos./Leg	**6**	280.00	1,680.00				
c)	Stubs- Raised Chimney (1 M)	Nos./Leg	**6**	325.00	1,950.00				
d)	Basic Tower	Nos.	**6**	9,785.00	58,710.00				
e)	DDM View Member @ Basic Body	Nos.	**4**	350.00	1,400.00				
f)	DDM 0m Girder/Body Extension	Nos.	**-**	3,025.00	-				
g)	DDM 3m Girder/Body Extension	Nos.	**1**	4,685.00	4,685.00				
h)	DDM 6m Girder/Body Extension	Nos.	**-**	6,175.00	-				
i)	DDM 9m Girder/Body Extension	Nos.	**1**	7,995.00	7,995.00				
j)	DDM +1.5m Leg Ext	Nos.	**5**	210.00	1,050.00				
k)	DDM +3m Leg Ext	Nos.	**2**	400.00	800.00				
l)	DDM +4.5m Leg ext	Nos.	**7**	520.00	3,640.00				
m)	DDM +6 m Leg Ext	Nos.	**3**	690.00	2,070.00				
n)	DDM +7.5m Leg Ext	Nos.	**3**	875.00	2,625.00				
o)	DDM +9m Leg Ext	Nos.	**4**	1,100.00	4,400.00				

S No.	Description	Unit	Quantity			Unit Price		Total Price	
			Qty	Unit Weight In Kgs	Total Weight/Quantity	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6	7	8	9=6*7	10=6*8
4.5	**Erecion of following types of towers & tower extension parts complete with stubs setting template, step bolts, hangers, D-shackles, bolts & nuts etc but excluding tower accessories such as danger plates, number plates, phase plates, anti-climbing devices(220 KV LILO TOWERS-4 Nos)**		**2**	35,000.00	70,000.00				
4.6	Erection of steel structure for miscellaneous works on towers & tower extension parts				50,000.00				
	Total of 4				**1,060,612.09**		-		-
5	**Work associated with construction of tower foundations including stub setting**			**Per Loc.**	**Total**				
5.1	**Tower type DB (for all type of body and leg extensions)**		**59**						
a)	**Dry Soil**	Nos	10						
	Excavation	Cum		108.00	1080.00				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		11.96	119.64				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		2.92	29.16				
	Supply and placement of Reinforcement Steel	Kg		1296.10	12961.00				
b)	**Wet Soil**	Nos	10						
	Excavation	Cum		192.00	1920.00				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		18.33	183.28				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		5.48	54.76				
	Supply and placement of Reinforcement Steel	Kg		1851.87	18518.70				
c)	**Fully Submerged Soil**	Nos	10						
	Excavation	Cum		337.00	3370.00				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		30.33	303.30				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		10.00	100.00				
	Supply and placement of Reinforcement Steel	Kg		3088.74	30887.40				
d)	**Wet Fissured Rock**	Nos	28						

S No.	Description	Unit	Quantity			Unit Price		Total Price	
			Qty	Unit Weight In Kgs	Total Weight/Quantity	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6	7	8	9=6*7	10=6*8
	Excavation	Cum		173.28	4851.84				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		19.54	547.01				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		5.78	161.73				
	Supply and placement of Reinforcement Steel	Kg		1955.91	54765.48				
e)	**Hard Rock**	Nos	1						
	Excavation	Cum		6.00	6.00				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		4.66	4.66				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum			0.00				
	Supply and placement of Reinforcement Steel	Kg		409.33	409.33				
5.2	**Tower type DC (for all type of body and leg extensions)**		**9**						
a)	**Dry Soil**	Nos	1						
	Excavation	Cum		177.87	177.87				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		20.75	20.75				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		5.04	5.04				
	Supply and placement of Reinforcement Steel	Kg		2058.66	2058.66				
b)	**Wet Soil**	Nos	1						
	Excavation	Cum		288.12	288.12				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		30.90	30.90				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		8.46	8.46				
	Supply and placement of Reinforcement Steel	Kg		3052.70	3052.70				
c)	**Fully Submerged Soil**	Nos	2						
	Excavation	Cum		461.28	922.56				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		46.48	92.95				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		13.92	27.85				
	Supply and placement of Reinforcement Steel	Kg		4838.72	9677.44				
e)	**Wet Fissured Rock**	Nos	4						
	Excavation	Cum		288.12	1152.48				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		31.36	125.42				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		8.46	33.86				
	Supply and placement of Reinforcement Steel	Kg		3069.00	12276.00				
g)	**Hard Rock**	Nos	1						
	Excavation	Cum		7.26	7.26				

S No.	Description	Unit	Quantity			Unit Price		Total Price	
			Qty	Unit Weight In Kgs	Total Weight/Quantity	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6	7	8	9=6*7	10=6*8
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		5.90	5.90				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		0.05	0.05				
	Supply and placement of Reinforcement Steel	Kg		528.57	528.57				
5.3	**Tower type DD/DDE (for all type of body and leg extensions)**		**12**						
a)	**Dry Soil**	Nos	1						
	Excavation	Cum		312.12	312.12				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		36.95	36.95				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		9.22	9.22				
	Supply and placement of Reinforcement Steel	Kg		4354.85	4354.85				
b)	**Wet Soil**	Nos	2						
	Excavation	Cum		468.75	937.50				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		52.26	104.52				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		14.16	28.33				
	Supply and placement of Reinforcement Steel	Kg		6606.69	13213.38				
c)	**Fully Submerged Soil**	Nos	1						
	Excavation	Cum		693.12	693.12				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		75.29	75.29				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		21.32	21.32				
	Supply and placement of Reinforcement Steel	Kg		9672.00	9672.00				
e)	**Wet Fissured Rock**	Nos	7						
	Excavation	Cum		417.72	2924.04				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		51.31	359.17				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		13.92	97.47				
	Supply and placement of Reinforcement Steel	Kg		6536.61	45756.27				
g)	**Hard Rock**	Nos	1						
	Excavation	Cum		10.14	10.14				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		8.11	8.11				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum			0.00				

S No.	Description	Unit	Quantity			Unit Price		Total Price	
			Qty	Unit Weight In Kgs	Total Weight/Quantity	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6	7	8	9=6*7	10=6*8
	Supply and placement of Reinforcement Steel	Kg		794.46	794.46				
5.4	**Tower type DDM (for all type of body and leg extensions)**		**6**						
a)	**Dry Soil**	Nos	1						
	Excavation	Cum		374.54	374.54				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		44.34	44.34				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		11.06	11.06				
	Supply and placement of Reinforcement Steel	Kg		5225.82	5225.82				
b)	**Wet Soil**	Nos	1						
	Excavation	Cum		562.50	562.50				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		62.71	62.71				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		17.00	17.00				
	Supply and placement of Reinforcement Steel	Kg		7928.03	7928.03				
c)	**Fully Submerged Soil**	Nos	1						
	Excavation	Cum		831.74	831.74				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		90.35	90.35				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		25.58	25.58				
	Supply and placement of Reinforcement Steel	Kg		11606.40	11606.40				
e)	**Wet Fissured Rock**	Nos	3						
	Excavation	Cum		501.26	1503.79				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		61.57	184.72				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum		16.71	50.13				
	Supply and placement of Reinforcement Steel	Kg		7843.93	23531.80				
g)	**Hard Rock**	Nos	-						
	Excavation	Cum		12.17	0.00				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum		9.73	0.00				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum			0.00				
	Supply and placement of Reinforcement Steel	Kg		953.35	0.00				

S No.	Description	Unit	Quantity			Unit Price		Total Price	
			Qty	Unit Weight In Kgs	Total Weight/Quantity	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6	7	8	9=6*7	10=6*8
5.5	220 KV LILO TOWERS FOUNDATIONS ALL								
	Excavation	Cum			3000.00				
	M20 Lean Concrete Nominal Mix 1:1.5:3	Cum			400.00				
	M10 Lean Concrete Nominal Mix 1:3:6	Cum			100.00				
	Supply and placement of Reinforcement Steel	Kg			40000.00				
	TOTAL OF 5								
6	**Installation of tower accessories and earthing**								
6.1	**Tower accessories**								
a	Danger plate	No	90		90				
b	Number plate	No	90		90				
c	Anti climbing device	Sets	90		90				
d	Phase plate (sets of 3)	Sets	180		180				
e	Circuit plate (sets of 3)	Sets	180		180				
f	Aviation Signal	Sets	30		30				
g	Bird Guard	Sets	20		20				
6.2	**Installation of tower earthing materials**								
a	Tower grounding materials	Sets	20		20				
b	Counterpoise type								
i	Counterpoise type - 25M	Sets	60		60				
ii	Counterpoise type - 50M	Sets	15		15				
iii	Counterpoise type - 100M	Sets	15		15				
	Total of 6								
7	**Installation of line materials**								
7.1	**Stringing of conductor and ground wire**								
a	ACSR CARDINAL conductor including insulator Strings with hardware, armour rod, mid span joints, repair sleeves, etc (single wire)	KM	165.0		165.0				

S No.	Description	Unit	Quantity			Unit Price		Total Price	
			Qty	Unit Weight In Kgs	Total Weight/Quantity	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6	7	8	9=6*7	10=6*8
b	ACSR MOOSE conductor including insulator string with hardware,armour rod, mid span joints, repair sleeves, etc (single wire)	KM	15.0		15.0				
b	Steel ground wire with optical fibre (24 fiber) including intermediate splice boxes and necessary terminal splice boxes	KM	30.0		30.0				
c	Optical fibre termination equipment at dead end tower of both end substation	sets	2		2				
	Total of 7								
8	**Protection of tower footing**								
a	Random rubble stone masnory including excavation, stone soling and PCC (1:4 cement : concrete)	Cum	1,000		1,000				
b	Stone bound in galvanizing wire netting including excavation	Cum	2,000		2,000				
c	Back filling and leveling of volumes enclosed by revetment	Cum	1,000		1,000				
c	M15 concrete nominal mix 1:2:4 for top seal cover	Cum	1,000		1,000				
d	Slope cutting and revetment works	Cum	1,000		1,000				
	Total of 8								
9	**Benching Work including associated work complete**								
a	All kind of soil except fissured rock & hard rock	Cum	2,500		2,500				
b	Fissured Rock	Cum	2,500		2,500				
c	Hard Rock	Cum	500		500				
	Total of 9								
	GRAND TOTAL (Part 1_Price Schedule 4A) (Total of column 9 & 10 to be carried forward to Schedule 5: Grand Summary)								

Name of Bidder: **Date:**

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)

Nepal Electricity Authority

Project Management Directoriate

Dadakhet Rahughat 132kV Transmission Line Project

ELECTRICITY GRID MODERNIZATION PROJECT

PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV

Part 2: Dadakhet 132/33kV Substation

Bid Price Schedule No. 4B : INSTALLATION SERVICES AND CIVIL WORKS

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
B	**DADAKHET 132/33kV SUBSTATION**						
1	**ELECTRICAL WORKS**						
1.1	**Transformers**						
1.1.1(a)	132/33 kV, Single Phase 8/10 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 star/star/delta connected complete with all accessories (to form 24/30 MVA capacity using a bank of three 8/10 MVA single phase transformers)(without transformer oil),as specified in technical Specification	Set	4				
1.1.1(b)	Insulating oil for above Power Transformer	Lot	4				
1.1.1(c)	33 kV NCT for above Transformer	No	1				
1.1.2	33/0.4 kV, Three phase 200 kVA, ONAN Disribution Transformer with Off load Tap Changer delta/star connected complete with all accessories as specified	Set	1				
1.2	**Circuit breakers/Switchgears**						
1.2.1	145 kV, 1250 A, 3 phase, SF6 Circuit Breaker, Single pole operation type, complete with all accessories as per specification for four outgoing lines	Set	2				
1.2.2	145 kV, 2000 A, 3 phase, SF6 Circuit Breaker, three pole operation type, complete with all accessories as per specification for Bus Coupler	Set	1				

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
1.2.3	145 kV, 1250 A, 3 phase, SF6 Circuit Breaker, three pole operation type, complete with all accessories as per specification for 132/33 kV Transformer HT	Set	1				
1.2.4	36 kV, 1250 A, 3 phase, Vaccum Circuit Breaker, three pole operation type, complete with all accessories as per specification	Set	3				
1.3	**Disconnecting Switches**						
1.3.1	145 kV, 1250 A, 3 phase Center Break Disconnecting Switch without Grounding Switch complete with all accessories as per specification	Set	6				
1.3.2	145 kV, 2000 A, 3 phase Center Break Disconnecting Switch without Grounding Switch for bus coupler complete with all accessories as per specification	Set	2				
1.3.3	145 kV, 1250 A, 3 phase Disconnecting Switch with Grounding Switch complete with all accessories as per specification	Set	2				
1.3.4	36 kV, 1250 A, 3 phase Disconnecting Switch without Grounding Switch complete with all accessories as per specification	Set	3				
1.3.5	36 kV, 1250 A, 3 phase Disconnecting Switch with Grounding Switch complete with all accessories as per specification for Local Distribution	Set	1				
1.4	**Instrument Transformers**						
1.4.1	145 kV, 100 VA, 132/√3 /110/√3 kV, Class 0.2/3P Capacitor Voltage Transformer complete with all accessories as per specification	Nos.	12				
1.4.2	145 kV, 30 VA, 1200-900-600/1A, 5 core Current Transformer for Line bay and bus coupler complete with all accessories as per specification	Nos.	9				
1.4.3	145 kV, 30 VA, 600-300-150/1A, 5 core Current Transformer for HT transformer bay complete with all accessories as per specification	Nos.	3				

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
1.4.4	36 kV, 50 VA, 33/√3/110/√3 kV Voltage Transformer for busbar complete with all accessories as per specification	Nos.	6				
1.4.5	36 kV, 15 VA, 800-600/1A, 2 core Current Transformer for 132/33 kV HT transformer incomer complete with all accessories as per specification	Nos.	3				
1.4.6	36 kV, 15 VA, 400-200/1A, 2 core Current Transformer for 33/11kV transformer and 33kV outgoing feeder complete with all accessories as per specification	Nos.	6				
1.5	**Lightening Arrestor**						
1.5.1	120 kV, 10 kA Lightening Arrestor including Discharge Counter complete with all accessories as per specification	Nos.	12				
1.5.2	30 kV, 10 kA Lightening Arrestor complete with all accessories as per specification	Nos.	9				
1.6	**Control and relay panel (WITH AUTOMATION)**						
1.6.1	132/33 kV Transformer Control and Relay Panel complete with all accessories as per specification	Set	1				
1.6.2	132 kV Transmission Line Control and Relay Panel complete with all accessories as per specification	Set	2				
1.6.3	132 kV Bus Coupler Panel with Bus bar Protection Facilities	Set	1				
1.6.4	33/11 kV Transformer Control and Relay Panel complete with all accessories as per specification	Nos.					
1.6.5	33 kV Protection Control and Relay Panel complete with all accessories as per specification for Line Bays	Nos.	2				
1.7	**Grounding**						
1.7.1	Galvanized E.H.S. Steel wires of size 7/3.35 for Lightening Shield Wire in take off and internal structures, with accessories to complete the specified scope of works	Lot	1				

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
1.7.2	Earthing of substation with conductors, electrode grounding materials and accessories to complete the specified scope of works	Lot	1				
1.8	**Control and Power Cables**						
1.8.1	1.1 kV power and lighting cable for all works to complete the specified scope of work	Lot	1				
1.8.2	1.1 kV control cable to complete the specified scope of works	Lot	1				
1.90	**Erection Hardware and Miscellaneous material**						
1.9.1	145 kV Insulator Strings with necessary hardwares, Clamps for Substation Works and connection between Line Tower, Take Off Gantry and Internal Gantry structure, complete as per the specified scope of works	Lot	1				
1.9.2	36 kV Insulator Strings with necessary hardware, Clamps for Substation Works and connection between Line Tower, Take Off Gantry and Internal Strucutre, complete as per the specified scope of works	Lot	1				
1.9.3	ACSR "Cardinal" Conductors and Accessories to complete the specified scope of works including for Line Tower to Take Off and Internal Structure (including stringing of conductor between tower to gantry for 132 kV) .	Lot	1				
1.9.4	132 kV Tubular Bus (4 Inch Aluminium Pipe) and Bus Support Insulators including all other Accessories required to complete the specified scope of work	Lot	1				
1.9.5	145 kV Support Insulators including all other Accessories required to complete the specified scope of work	Lot	1				
1.9.6	33 kV Tubular Busand Bus Support Insulator including all other accessories required to complete the specified scope of work	Lot	1				

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
1.9.7	33 kV take off gantry structure for cable termination at LV side of transformer and 33 kV take off tower for outgoing line complete as per Technical Specification	Lot	1				
1.9.8	Switchyard Lighting (including lighting for internal road), Control room building illumination and Air Conditioning works for Control Building	Lot	1				
1.9.9	33 kV 3 core XLPE Cable and 33 kV Power Fuse with Support Structure for connection of Station Transformer from 33/11kV Transformer Incomer, 400V Main Swithboard, 400V ACDB, 400V MLDB, 400V Emergency LDB.	Lot	1				
1.10	**Battery / Battery Charger**						
1.10.1	220 V 600 Ah Maintenance Free Lead Acid Battery complete with all accessories	Set	2				
1.10.2	48 V 600Ah Maintenance Free Lead Acid Battery complete with all accessories	Set	1				
1.10.3	Dual Mode (Main and Standby)Battery Charger for 220 V battery complete with all accessories	Set	2				
1.10.4	Dual Mode (Main and Standby)Battery Charger for 48 V battery complete with all accessories	Set	2				
1.10.5	220 V DC Distribution Board complete with all accessories	Set	1				
1.10.6	48 V DC Distribution Board complete with all accessories	Set	1				
	Total of Elecrical works (1)						
2	**SUBSTATION AUTOMATION/ COMMUNICATION / SCADA (Based on IEC 61850)**						
2.1	**SUBSTATION AUTOMATION**						

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
a.	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	Nos.	4				
ii	33kV system	Nos.	3				
b.	Integration of all 132/33/11kV Bays under present scope with the SCADA of SIEMENS (SINAUT Spectrum) at Load Dispatch Centre, Kathmandu including supply of Hardware, Software, accessories etc. as per TS Section Project.	Lot	1				
2.1.2	**COMMUNICATION / SCADA**						
1	SDH Equipment (STM-4 upgradable to STM - 16, MADM upto 5 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, patch cord, DDF etc fully equiped excluding (ii) & (iii) below	Nos.	1				
(ii)	Optical Interface Cards/SFP						
(a)	L4.1 SFP(To be modified as per link budget calculation)	Nos.	2				
(iii)	Tributary cards						
(a)	E1 Interface card (Min.8 interfaces per card)	Set	2				
(b)	Giga -Ethernet Interface 10/100/1000 Mbps Base T with Layer-2 switching (Min 8 Interfaces per card)	Nos.	2				
2	Equipment Cabinets	No.	1				
3	VOIP telephone instrument with one common POE+ switch (min. 8 port)	Nos.	2				
4	Digital Protection Coupler	Nos.	2				
5	Optical Distribution Frame complete in all respects as per technical specifications	Lot	2				

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
6	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				
	Total of Communication (2)						
3	**CIVIL AND ARCHITECTURAL WORKS (SUPPLY)**						
3.1	**Steel structure for post, beam and equipment supporting frame complete with bolts, nuts and all accessories**						
3.1.1	Rail Structure for 132/33 kV Power Transformer including access from Internal Road	Lot	1				
3.1.2	132 kV Take Off Gantry structure for Two line bays, bus coupler bay & one transformer bay including internal gantry tower & beam structures as per scope of Contract	Lot	1				
3.1.3	132 kV SF6 Circuit Breaker	Set	4				
3.1.4	132 kV Disconnecting Switch with Earth Switch	Set	2				
3.1.5	132 kV Disconnecting Switch without Earth switch	Set	8				
3.1.6	132 kV Capacitive Voltage Transformer	Nos.	12				
3.1.7	132 kV Current Transformer	Nos.	12				
3.1.8	120 kV Lightening Arrestor	Nos.	9				
3.1.9	132 kV Bus Post Insulator	Lot	1				
3.1.10	133 kV Support Insulator	Lot	1				
3.1.11	33 kV Vaccum Circuit Breaker	Set	3				
3.1.12	33 kV Disconnecting Switch with Earth Switch	Set	1				
3.1.13	33 kV Disconnecting Switch without Earth Switch	Set	3				
3.1.14	33 kV Current Transformer	Nos.	9				
3.1.15	33 kV Voltage Transformer	Nos.	6				
3.1.16	30 kV Lightening Arrestor	Nos.	9				
3.1.17	33 kV Bus Support Insulator	Lot	1				
3.1.18	Earth mast	Lot	1				

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
3.1.19	33 kV take off and internal gantry structure as per scope of contract	Lot	1				
3.1.20	11 kV outdoor type cable termination/sealing-end and all accessories complete	Lot	1				
3.1.21	Switchyard Fence as per Specifications (including Fence with Gate for 132 kV switchyard)	Rm	300				
3.1.22	Switchyard Fence as per Specificaitons (including Fence with Gate for 33 kV switchyard)	Rm	250				
3.1.23	Identification plate, danger notice etc	Lot	1				
3.2	**Concrete Foundation for Equipment and Steel Structures complete with excavation, backfilling, form works, concrete works and reinforcement bars**						
3.2.1	132/33 kV , Single Phase 8/10 MVA, Power Transformer complete along with the Fire Wall and Rail Cum Road as specified	Set	4				
3.2.2	33/0.4 kV, Three phase , 200 kVA, ONAN Distribution Transformer	Set	2				
3.2.4	132 kV Take Off Gantry structure for four line bays, bus coupler & one transformer bays including internal gantry tower & beam structures as per scope of contract	Lot	1				
3.2.5	132 kV SF6 Circuit Breaker	Sets	6				
3.2.6	132 kV Disconnecting Switch with Earth Switch	Sets	4				
3.2.7	132 kV Disconnecting Switch without Earth switch	Set	12				
3.2.8	132 kV Capacitive Voltage Transformer	No.	18				
3.2.9	132 kV Current Transformer	No.	18				
3.2.10	120 kV Lightening Arrestor	No.	15				
3.2.11	132 kV Bus Post Insulator	Set	36				
3.2.12	33 kV Vaccum Circuit Breaker	Sets	3				
3.2.13	33 kV Disconnecting Switch with Earth Switch	Sets	1				
3.2.14	33 kV Disconnecting Switch without Earth Switch	Sets	3				
3.2.15	33 kV Current Transformer	Nos.	9				
3.2.16	33 kV Voltage Transformer	Nos.	3				

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
3.2.17	30 kV Lightening Arrestor	Nos.	6				
3.2.18	Switchyard Fence as per Specifications (including Fence with Gate for 132 kV switchyard)	Rm	300				
3.2.19	Switchyard Fence as per Specifications (including Fence with Gate for 33 kV switchyard)	Rm	250				
3.2.20	33 kV take off gantry structures & 33 kV, outdoor type cable termination structures / sealing-end and all accessories, Cable Trench, Duct Bank, Conduit and Handhole and Cable Tray as per required and spec	Lot	1				
3.2.21	132kV indoor/outdoor type Cable Trench, Duct Bank, Conduit and Handhole and Cable Tray as per spec	Lot	1				
3.2.21	Switchyard Drainage (running across and at sides of substation including subsurface) with RCC slab covering for efficient drainage in substation all complete as per specification	Lot	1				
3.2.22	132kV indoor/outdoor type Cable Trench, Duct Bank, Conduit and Handhole and Cable Tray as per spec	Lot	1				
3.3	**Construction of Control Building**						
3.3.1	Control building construction with all finishing works including eletrification, air conditioning, sanitary ,Doors, windows, False celing, Painting all etc. as specified (with a plinth area of)	sqm	430				
3.4	**Miscellaneous**						
3.4.1	Clearing and stripping of the substation Area	lot	1				
3.4.2	Exploration works for soil strength for foundations including laboratory tests	locations	6				
3.4.3	Soil Resistivity test	lot	1				
3.4.4	Site Surveying, Grading with earth cutting and filling by borrow pit earth, including compaction and leveling etc all complete for two levels of 132kV and 33kV Switchyard , Control Building And whole Substation compound Area	Lot	1				

Item No.	Description	*Unit*	Quantity	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	*3*	4	5	6	7=4*5	8=4*6
3.4.5	Crushed Rock Surfacing	cu.m.	500				
3.4.6	All black top (Bituminous/Ashphalt) road from main road to Substation and internal road including crossings with a slab culvert for drainage just outside substation area all complete as per Specifications	Rm	1000				
3.4.7	Reinforced Cement Concrete of Grade M25 (1:1.5:3) for other Miscellaneous works including excavation,reinforcement , formworks and all other associated works.	cum	100				
3.4.8	Making of Gabion Box including rolling, cutting, weaving and crate filling (Hexagonal mesh size 100x120mm with 10SWG and salvage wire 7 SWG Box Size 2.0x1.0x1.0m)	cum	1000				
3.4.9	PCC 1:3:6 for sub structure works	cum	500				
3.4.10	construction of stone masonary road drain with 1:4 cement sand mortar at the locations as indicated in drawing indicated by site engineer.	Rm	1000				
3.4.11	Random Rubble Masonary works with 1 : 4cement - sand mortar with all Materials, T&P, Machineries & Labours etc. for Retaining Wall or Pitching works including stone soling, excavation ,PCC	Cum	800				
Total of Civil & Architectural Works(3)							
Grand Total (Part 2_Price Schedule 4B)(Total of column 7 & 8 to be carried forward to Schedule 5:							

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

NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

Dadakhet Rahughat 132 kV Transmission Line Project

Electricity Grid Modernization Project

PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated

Part 3: Rahughat 220/132/33 KV GIS Substation

Bid Price Schedule No. 4C : Installation and Other Services

(i): Installation and Construction Charges

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
PART 1	**220/132/11kV GIS Rahughat Substation**							
	PART - A: OWNER ASSESSED QUANTITIES							
A1.1	**POWER TRANSFORMER**							
1	66.67MVA, 220/√3 / 132//√3 kV Single Phase Power Transformer (without transformer Oil)		Nos.	4				
2	Insulating oil for the above Power Transformer		Lot	4				
3.0	33kV Current transformer (NCT) for autotrasnformer		No	1				
A1.2	**POWER TRANSFORMER**							
1	24/30 MVA, 132 /11 kV Three Phase Power Transformer (without transformer Oil)		Nos.	1				
2	Insulating oil for the above Power Transformer		Lot	1				
C)	**LT Transformer**							
1	630KVA 33/0.400 kV with accessories to complete the scope of work		Nos.	2				
D	**245 kV EQUIPMENTS**							
D.1	**245 kV GIS Equipment**							
1.1	245kV, SF6 GIS Bus Bars Module [Module description as per Technical Project specification]		Sets	2				
1.2	245kV, SF6 GIS Bus Coupler bay Module [Module description as per Technical Project specification]		Sets	1				
1.3	245kV, SF6 GIS Line bay Module [Module description as per Technical Projet specification]		Sets	5				
1.4	245kV, SF6 GIS spare Line feeder bay Module as per section project		Sets	1				
1.5	2145kV, SF6 GIS ICT bay Module including switching arrangement for 1-ph spare transformer [Module description as per Technical Project specification]		Sets	1				
1.6	220 kV XLPE Cable alongwith associated support structure and accessories							
1.6.1	220 kV, 800 Sq. mm XLPE Power cable with the necessary Straight Joints, AIS termination kit, GIS Termination Kit and accessories required to complete the installation of the cable from Gantry terminal to GIS		Mtr.	3000				

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
1.6.2	220 kV, 500 Sq. mm XLPE Power cable with the necessary Straight Joints, AIS termination kit, GIS Termination Kit and accessories required to complete the installation of the cable from Power Transformer terminal to GIS		Mtr.	500				
1.7	245 kV Auxiliary Bus to connect spare unit of Transformer [Module description as per Technical specification and Section Project Specific Requirement]		Set	1				
D.2	**245KV Outdoor Equipment**							
1.1	216 KV Surge Arrester (1-phase)		Nos.	19				
1.2	245kV Capactive Voltage Transfromer		Nos.	21				
1.3	245kV Bus Post Insulator (1-Phase) (Except for wave trap)		Nos.	21				
E	**145kV Equipment**							
E.1	**145KV GIS Equipment**							
1.1	145kV, SF6 GIS Bus Bars Module [Module description as per Technical Project specification]		Sets	2				
1.2	145kV, SF6 GIS Bus Coupler bay Module [Module description as per Technical Project specification]		Set	1				
1.3	145kV, SF6 GIS Line bay Module [Module description as per Technical Projet specification]		Sets	3				
1.4	145kV, SF6 GIS ICT feeder bay Module for 220/132 kV Transformer including switching arrangement for 1-ph spare transformer [Module description as per Technical Project specification]		Sets	1				
1.5	145kV, SF6 GIS ICT feeder bay Module for 132/11 kV 3-ph Transformer [Module description as per Technical Project specification]		Sets	1				
1.6	132 kV XLPE Cable including support structure and associated accessories							
1.6.1	132 kV, 500 Sq. mm XLPE Power cable with the necessary Straight Joints, AIS termination kit, GIS Termination Kit and accessories required to complete the installation of the cable from Gantry terminal to GIS and 220/132 Power Transformer to 132 KV GIS Terminal		Mtr.	1200				
1.6.2	132 kV, 240 Sq. mm XLPE Power cable with the necessary Straight Joints, AIS termination kit, GIS Termination Kit and accessories required to complete the installation of the cable from 132/33 KV Power Transformer terminal to GIS		Mtr.	500				
1.7	245 kV Auxiliary Bus to connect spare unit of Transformer [Module description as per Technical specification and Section Project Specific Requirement]		Set	1				
1.8	145kV, SF6/Air Bushing for Connecting GIS to AIS alongwith support structure							
1.8.1	1250A, 31.5kA, 1sec single phase		Set	16				
E.2	**145kV EQUIPMENT (AIS)**							
1.0	120 kV Surge Arrestors (1-Phase)		Nos.	16				
2.0	8800pF, 145 kV Capacitive Voltage Transformer (1-Phase)		Nos.	15				

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
3.0	145KV Bus Post Insulator		Nos.	15				
F	**33 kV EQUIPMENT**							
1.1	30 kV Surge Arrester (1 ph.)		Nos	15				
1.2	33 kV, 630A Isolators with out earth switch (3-phase, DBR type)		No.	1				
1.3	36 kV BPI		Nos.	3				
1.4	36 kV HG Fuse along with support insulator (1-phase)		Nos.	3				
G	**33kV, 25 kA (3 Phase) Indoor switch gear panel**							
1.0	**33 kV Indoor VCB Switchgear**							
1.1	33kV 2500A Incomer		Nos	1				
1.2	33kV 1250A Outgoing		Nos	2				
1.3	33kV 2500A Buscoupler		Nos	1				
1.4	33 KV Station Transformer		Nos	1				
H	**Testing & Maintenance Equipment for GIS**							
1.1	SF6 Gas processing Unit		Set	1				
1.2	Partial Discharge Monitoring System		Set	1				
1.3	EOT crane for 220kV GIS Hall		Set	1				
1.4	EOT crane for 132kV GIS Hall		Set	1				
I	**RELAY PANELS (WITH AUTOMATION)**							
1	**245kV**							
1.1	Line Control and Protection Panel		Nos.	5				
1.2	Transformer Control and Protection Panel (For both HV & MV side)		Nos.	1				
1.3	Bus Coupler Control and Protection Panel		Nos.	1				
1.4	Bus Bar Protection Panel		Set	1				
2	**145kV**							
2.1	Line Control and Protection Panel		Nos.	3				
2.2	Transformer Control and Protection Panel (For both HV & MV side)		Nos.	1				
2.3	Bus Coupler Control and Protection Panel		Nos.	1				
2.4	Bus Bar Protection Panel		Set	1				
3	Other/Common equipments Pertaining to C & R System							
3.1	Time Synchronisation Equipment		No.	1				
3.2	Relay Test kit		No.	1				
J	**SUBSTATION AUTOMATION**							
1	Substation Automation System as per Technical Specification:							
1.1	220kV System		Nos.	6				
1.2	132 kV System		Nos.	4				
1.3	BCU for auxilary system		set	1				
1.4	33 kV HT Indoor Switchgear		Nos.	5				

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
K	**DIgital Protection Coupler & PBAX**							
1	Digital Protection Coupler		Nos	6				
2	PBAX with per TS		Set	1				
3	Optical Distribution Frame complete in all respects as per technical specifications		Lot	1				
4	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				
L	**LT Switchgear (As per Technical specification)**							
1	400V Main switchboard		Set	1				
2	400V ACDB		Set	1				
3	400V MLDB		Set	1				
4	400V Emergency LDB		Set	1				
5	220V DCDB		Sets	1				
6.0	48V DCDB		Set	1				
M	**Batteries**							
1	220V							
1.1	220 V 600 Ah Maintenance Free Lead Acid Battery complete with all accessories		Set	2				
2	48V							
2.1	48 V 600Ah Maintenance Free Lead Acid Battery complete with all accessories		Nos	2				
N	**Float Cum Boost Battery Charger**							
1	Dual Mode (Main and Standby)Battery Charger for 220 V battery complete with all accessories							
1.1	80A/80A		Nos	2				
2	Dual Mode (Main and Standby)Battery Charger for 48 V battery complete with all accessories							
2.1	80A/80A		Nos	2				
O	**Diesel Generator with control Panel**							
1	250 kVA		Set	1				
P	**Fire Protection System**							
1	Portable /Trolley/Wheel mounted extinguishers							
1.1	9 litre water type		Nos	2				
1.2	50 litre foam type		Nos	2				
1.3	4.5 kg CO_2 type		Nos	6				
1.4	4.5 kg Dry Chemical Power (DCP) type		Nos	2				
2.0	Smoke detection system		Set	1				
3.0	Fire detection and Alarm System		Set	1				

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
Q	**Cables along with clamps, glands, lugs and straight joints etc.**							
1.0	33kV HT 3C, 400 Sq.mm Aluminum Cable alongwith accessories and termination equipments for termination of 33 kV Line		KM	2				
2.0	33kV HT 3C, 400 Sq.mm Aluminum Cable alongwith accessories and termination equipments for termination of 33 kV LT Transformer		KM	0.5				
3.0	33kV HT Cable (1CX800 SQmm) Copper for 33 kV side of 132/33 kV Transformer alongwith accessories and termination equipments		KM	1				
4	Power Cables - (1.1kV grade)							
4.1	3.5Cx300 sqmm (XLPE) cable for filter Machine along with 2 nos outdoor receptacles - 250A		KM	0.5				
R	**Air conditioning**							
1	High wall type split AC unit of 2 TR capacities for control room, relay room and battery room		Nos.	25				
T	**Communication Equipment (detail as per TS)**							
	Telecommunication Equipments							
2.1	SDH Equipment (STM-4 upgradable to STM - 16, MADM upto 5 MSP protected directions)							
2.1	Base Equipment (Common cards, Cross Connect/control cards, optical base cards, power supply cards, power cabling, other hardware and accessories including sub racks, patch cord, DDF etc fully equiped excluding (ii) & (iii) below and integration with existing Communication equipments at Dana and Kusma 220 kV S/s		**Nos.**	**1**				
(ii)	Optical Interface Cards/SFP							
(a)	L4.1 SFP(To be modified as per link budget calculation)		**Nos.**	**6**				
(b)	Tributary cards							
(c)	E1 Interface card (Min.8 interfaces per card)		**Set**	**2**				
(iii)	Giga -Ethernet Interface 10/100/1000 Mbps Base T with Layer-2 switching (Min 8 Interfaces per card)		**Nos.**	**2**				
2.2	Equipment Cabinets		**No**	**1**				
2.3	VOIP telephone instrument with one common POE+ switch (min. 8 port)		**set**	**2**				
2.2	Equipment Cabinets		No	1				
2.1	VOIP telephone instrument with one common POE+ switch (min. 8 port)		Set	2				
	SUB TOTAL PART-A							
	PART-B: VENDOR ASSESSED QUANTITIES							

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
A	Erection Hardware :-Insulator strings, Disc Insulators, Hardware, conductor, bus-bar materials, cable trays, clamps, spacers, connectors including conectors for Auto Transformer , Junction box, earthwire, earthing material risers, buried cable trenches/pipe of equipment & lighting, all accessories etc. for the following:							
1	**220 kV DM-type layout for GIS termination arrangement**							
1.1	Line Bay		Set	5				
1.2	Transformer Bay		Sets	1				
2	**132 kV DM-type layout for GIS termination arrangement**							
2.1	Line Bay		Sets	3				
2..2	Transformer Bay		Sets	1				
B	Bus post insulators, Spacers, equipment support structures, conductor(s), Al tube, clamp, connectors required for arrangement of Neutral formation for one transformer bank for making connection arrangement to connect spare unit in place of any other unit without physical shifting complete in all respect		Sets	1				
C	**Air conditioning & ventilation System**							
1	Ventilation & Airconditioning system (as per technical specification)							
1.1	220kV GIS Hall		LS	1				
1.2	132 kV GIS Hall		LS	1				
D	**Illumination System**							
1.1	Substation Lighting							
1.1.1	Control Room cum administrative building illumination		LS	1				
1.1.2	220kV GIS Building		LS	1				
1.1.3	132kV GIS Building		LS	1				
1.2	Security Room		LS	1				
1.3	fire Fighting Room		LS	1				
1.4	Outdoor Switchyard Lighting		LS	1				
1.5	Street Lighting		LS	1				
1.6	Occupancy sensor		LS	1				
1.7	Township Area Lighting		LS	1				
E	**Fire Protection System per technical Specification)**							
1	Pumping arrangement for HVW system & hydrant system, complete with all piping, valves, fittings,etc. inside pump house		set	1				
2	Hydrant system, complete U/G piping and accessories etc. outside the Pump House.		set	1				
3	HVW spray system, Hydrant system and complete U/G & O/G piping and accessories etc. out side the pump house for Transformer :							
3.1	53.33/66.67 MVA, 220/132 kV Single Phase Auto Transformer		nos	4				

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
3.2	24/30 MVA,132/33 kV Three phase transformer		nos	1				
F	**POWER & CONTROL CABLES**							
1	**1.1 kV LV Cables**							
1.1	Power Cables(PVC)- (1.1kV grade)		LS	1				
1.2	Control Cable (PVC)- (1.1kV grade)		LS	1				
1.3	Cable glands, lugs & straight through joints for Power & Control cables		LS	1				
G	Visual Monitoring System for watch & ward as per technical specification		LS	1				
H	Earthing and lightning protection including necesaary connectors/connections, risers etc. complete in all respect(but excluding LM structures for Lightning protection)							
1.0	Earth Conductor (copper)		LS	1				
2.0	Earth Rod (copper clad steel)		LS	1				
3.0	Equipment for lightning protection		LS	1				
I	**SUBSTATION AUTOMATION**							
1	Integration of all 220/132kV Bays under present scope with the SCADA of SIEMENS (SINAUT Spectrum) at Load Dispatch Centre, Kathmandu including supply of Hardware, Software, accessories etc. as per TS Section Project.		LS	1				
	SUB TOTAL PART-B							
	PART-C: Civil Works							
	CIVIL AND ARCHITECTURAL WORKS ERECTION)							
1	**Steel structure for post, beam and equipment supporting frame complete with Foundation bolts,bolts, nuts and all accessories required to complete the scope of works**							
1.1	Rail Structure for 220/132 kVand 132/33 kV Power Transformer including access from Internal Road		Lot	1				
1.3	220 kV Take Off Gantry structure for Five line bays including internal gantry tower & beam structures as per scope of Contract		Lot	1				
1.4	132 kV Take Off Gantry structure for Three line bays including internal gantry tower & beam structures as per scope of Contract		Lot	1				
1.5	220 kV Capacitive Voltage Transformer		Nos	21				
1.6	220 kV Lightening Arrestor		Nos	19				
1.7	220 kV Bus Post Insulator		Nos	**21**				
1.8	132 kV Capacitive Voltage Transformer		Nos	**15**				
1.9	120 kV Lightening Arrestor		Nos	**16**				
1.1	132 kV Bus Post Insulator		Nos	**18**				
1.11	33 kV Disconnecting Switch without Earth Switch		Set	1				

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
1.12	30 kV Lightening Arrestor		Nos	15				
1.13	33 kV Bus Support Insulator		Nos	12				
1.14	Earth mast		**Lot**	**1**				
1.16	Switchyard Fence as per Specifications (including Fence with Gate for 220kV switchyard)		RM	**400**				
1.17	Switchyard Fence as per Specificaitons (including Fence with Gate for132kV switchyard)		RM	**325**				
1.18	Identification plate, danger notice etc		**Lot**	**1**				
2	**Concrete Foundation for Equipment and Steel Structures complete with excavation, backfilling, form works, concrete works and reinforcement bars and all other necessary materials and works as per the specifications to complete the required scope of works**							
2.1	220/132 kV , Single Phase 53.33/66.67 MVA, Power Transformer complete along with the Stone filling over grating(40mm size),Fire Wall and Rail Cum Road as specified		Set	4				
2.2	132/33 kV , Three Phase 24/30 MVA, Power Transformer complete along with the Stone filling over grating(40mm size),Fire Wall and Rail Cum Road as specified		Set	1				
2.3	33/0.4 kV, Three phase , 630 kVA, ONAN Distribution Transformer		Set	2				
2.4	220 kV Take Off Gantry structure for five line bays including internal gantry tower & beam structures as per scope of Contract		Lot	1				
2.5	132 kV Take Off Gantry structure for three line bays, bus coupler & one transformer bays including internal gantry tower & beam structures as per scope of contract		Lot	**1**				
2.6	220 kV Capacitive Voltage Transformer		No.	**21**				
2.7	220 kV Lightening Arrestor		No.	**19**				
2.8	220 kV Bus Post Insulator		Set	**21**				
2.9	132 kV Capacitive Voltage Transformer		Set	**15**				
2.10	132 kV Lightening Arrestor		Set	**16**				
2.11	132 kV Bus Post Insulator		Set	**18**				
2.12	33 kV Disconnecting Switch without Earth Switch		Sets	**1**				
2.13	30 kV Lightening Arrestor		Nos.	**15**				
2.14	Switchyard Fence as per Specifications (including Fence with Gate for 132 kV switchyard)		Rm	**400**				
2.15	Switchyard Fence as per Specifications (including Fence with Gate for 33 kV switchyard)		Rm	**325**				
2.16	33 kV take off gantry structures & 33 kV, outdoor type cable termination structures / sealing-end and all accessories, Cable Trench, Duct Bank, Conduit and Handhole and Cable Tray as per spec		Lot	**1.00**				
3	**Miscellaneous**							
3.1	Clearing and stripping		lot	1.00				
3.2	Exploration works for soil strength for foundations including laboratory tests		locations	6.00				

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
3.3	Geological Investigation for exploring the stability of soil mass and earth crust including but not limited to the age of mass movement, depth and location of underlying rocks, seismic hazards and acquifer.		LS	1.00				
3.4	Ground anchor works with or without RCC retaining/breast wall of appropriate size for protecting ground with interlocking up to underlying rocks using high yield steel bars fy=830 to 1030 MPA and 32 mm dia with grout.		No.	6.00				
3.5	Soil Resistivity test		lot	1.00				
3.6	Site Surveying, Grading with earth cutting and filling by borrow pit earth, including compaction and leveling etc all complete for all levels of 220 kV, 132kV and 33kV Switchyard ,Control Building,Staff Quarter, Guard House and all other locations		Lot	1.00				
3.7	All black top (Bituminous/Ashphalt) road from main road to Substation and internal road including crossings with a slab culvert for drainage just outside substation area all complete as per Specifications		Rm	1500				
3.8	Making of Gabion Box including rolling, cutting, weaving and crate filling (Hexagonal mesh size 100x120mm with 10SWG and salvage wire 7 SWG Box Size 2.0x1.0x1.0m)		cum	**1000**				
3.9	Excavation in all types of soil and rock including backfilling disposal etc. for all leads and lifts		Cu.M	5,000				
3.10	Providing and laying of Plain Cement Concrete (PCC) (1:4:8)		Cu.M	500				
3.11	Providing and laying of Plain Cement Concrete (PCC) (1:2:4)		Cu.M	250				
3.12	Providing and laying of Reinforced Cement Concrete Design Mix M25 including pre cast, shuttering, Grouting of pockets & underpinning but including steel reinforcement		Cu.M	200				
3.13	Providing and laying Plain Cement Concrete 1:5:10 (1 cement : 5 sand : 10 Stone aggregate)		Cu.M	200				
3.14	Misc. Structural steel including embedments, edge protection angles, gratings etc.		MT	25				
3.15	Supplying and installation of reinforcement bars in miscellaneous works as required in RCC Works		MT	20				
3.16	Stone spreading including antiweed treatment in switchyard excluding PCC		Sq. M.	5000				
3.17	Switchyard Drainage (running across and at sides of substation including subsurface) with RCC slab covering for efficient drainage in substation all complete as per specification		Lot	**1.00**				
4.0	**BUILDINGS**							
4.1	**CONTROL ROOM BULIDING**							
	All Civil works including internal and external finishing, internal cable trench, etc. complete as per technical specification and approved drawings,including excavation,Stone soling, PCC, RCC,form works and reinforcement steel (Including 33kV switchgear room)							
	Ground floor including foundation works		Sq. M.	375				
	First floor including stair case covering and ladder		Sq. M.	375				
4.2	**PRE ENGINEERED BUILDING**							

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
4.2.1	**220 KV GIS HALL**							
a.	220 KV GIS HALL		Sq. M.	450				
b.	AHU Room		Sq. M.	127				
c.	Panel Room		Sq. M.	38				
4.2.2	**132 KV GIS HALL**							
	All civil works related to pre-engineered 132 kV GIS Hall to be supplied as per schedule 1 including external and internal finishing,foundation, internal cable trench, excavation, PCC, RCC and reinfircement etc. complete to erect the building as per approved drawings and technical specification							
a.	132 KV GIS HALL		Sq. M.	400				
b.	AHU Room		Sq. M.	98				
c.	Panel Room		Sq. M.	37				
5.0	All civil works for following structures as per technical specification and approved drawings including internal and external finishing, excavation, PCC, RCC and reinforcement steel (Fe-500), etc							
5.1	Fire fighting pump house building		Sq. M.	98				
5.2	Water Tank		LS	1				
5.3	Staff Quarter including furnishingmaterials as specified							
5.3.1	Ground floor including foundation		Sq. M.	210				
5.3.2	First Floor		Sq. M.	210				
5.3.3	Second floor including stair case covering, parapet wall and roof top finishing works		Sq. M.	210				
5.4	Security Room(Guard House)		Sq. M.	36				
5.5	Parking Shed (for 5 Cars)		LS	1				
6.0	Concrete road as per specification including reinforcement & concrete							
	(a) Road 3.75m wide		Rm	400				
	(b) Road 5.5m wide		Nil					
7.0	Septic tank and soak pit complete as per technical specification and approved drawing including concrete & reinforcment							
	For 10 users(Control Building)		LS	2				
	For 50 users(Staff Quarter)		LS	1				
	For 5 users(Guard House)		LS	1				
8.0	Supplying and erecting dewatering pumps							
8.1	5 HP		Nos.	2				
8.2	0.5 HP		Nos.	2				
9.0	External water supply from borewell/main water supply point to Fire water Tank, control room building, Staff Quarter buildings,Guard House							
9.1	80 mm Dia GI pipe		RM	100				
9.2	50 mm Dia GI pipe		RM	80				

Sl. No.	Item Description	Installation Charges						
		Country of Origin	Unit	Quantity	Unit Price		Total Price	
					Local Currency	Foreign Currency	Local Currency	Foreign Currency
1	2	3	5	6	7	8	9=6*7	10=6*8
9.3	40mm Dia GI pipe		RM	60				
9.4	25mm Dia GI pipe		RM	40				
10.0	External sewerage system including all item such as excavation, piping, pipe fittings, manholes, gali trap, gali chamber etc.							
10.1	250 mm Dia.		RM	100				
10.2	150 mm Dia.		RM	150				
11.0	Construction of retaining wall with random rubble masonary 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.including excavation, PCC (1:2:4 & 1:4:8)		Cu. M	2100				
12.0	Construction of retaining wall with reinforced Cement Concrete (RCC) in 1:1.5:3 Cement ,Sand ,aggregate including excavation for foundation with lead and lift ,dry stone soling, leveling up with nominal concrete providing weep holes with necessary filter materials,reinforcement bars and coping on the top of Wall		Cu.M	3500				
13.0	Stone Masonry Drains in cement mortar 1:4 in foundation complete including excavation,PCC as per Drawing and Technical Specifications		R.m	3000				
14.0	Local sand filling around and under DG set foundation and other foundations as applicable		Cu.M	600				
15.0	Stone soling below foundations whereever specified in aproved drawings during detailed Engineering		Cu.M	600				
	SUB-TOTAL-C							
	Total for 220 /132/33kV Rahughat Substation (I) (Part-A+ Part-B+ Part C)							
	Total for Schedule 4(Total of column 9 and 10 to be carried forward to Schedule 5: Grand Summary)							

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

NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

Dadakhet Rahughat 132 kV Transmission Line Project

Electricity Grid Modernization Project

PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substation

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

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

Sl. No.	Description	Item for which training is to be imparted.	Country where training is to be imparted	Nos. of Trainee	Training duration in days	Total Training Charges	
						Currency	Total Training Charges
1	2		3	4	5	6	7 = 4x5 x 6
A	Training to Owners personnel on Design , testing and Maintenance aspect as per Section Project, Technical Specification at manufacturer's works	i) Control & Protection and Substation Automation System		3	5 days		
		ii) GIS		3	5 days		
		iii) Telecommunication Equipment (SDH ,MUX & NMS (Craft Terminal))		3	5 days		
		iv)Transformer		3	5 days		
	Total for Training Charges						
	Total for Schedule 4 (Total of column 7 to be carried forward to Schedule 5: Grand Summary)						

REMARKS:

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

NEPAL ELECTRICITY AUTHORITY

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Dadakhet Rahughat 132 KV Transmission Line Project

Electricity Grid Modernization Project

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

(iii):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	
					Unit rate	Total Training Charges
1	2	3	4	5	6	7 = 4x 6
a)	On Job training on operation, maintenance and testing & commissioning aspectat at one Location in Nepal as per section Project, Technical Specification	i) Control & Protection	5			
		ii) Substation Automation System including integration aspect of existing SCADA (of Siemens suppliedSINAUT Spectrum Software) at Load Dispatch Center	5			
		iii. GIS	5			
		iv) Telecommunication Equipment (SDH ,MUX & NMS (Craft Terminal))	5			
		v. TRANSFORMERS	5			
	Total for Training Charges					
	Total for Schedule 4 (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.

Date:

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

NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

Dadakhet Rahughat 132 KV Transmission Line Project

Electricity Grid Modernization Project

PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substation

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

(iv): Maintenance Charges

S.No	Description	Unit	Qty.	Unit Price		Total Price	
				Local Currency	Foreign Currency	Local Currency	Foreign Currency
	1	2	3	4	5	6=3*4	7=3*5
1	Maintenance Charges for Communication Equipments including SDH & MUX. for Six (6) years after Warranty period	Year	6				
	Total Maintenance Charges for Communication Equipment Package (Total Schedule 4c)						
	Total for Price Schedule 4(iv) (Total of column 6 & 7 to be carried forward to Schedule 5: Grand Summary)						-

Name of Bidder: **Date:**

Signature of Bidder:

(Printed Name)

(Designation)

(Common Seal)

NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

Dadakhet Rahughat 132 KV Transmission Line Project

Electricity Grid Modernization Project
PMD/EGMP/DRTLSS-077/78-01:Design, Supply, Installation ,Testing and Commissioning of Dadakhet Rahughat 132 kV Transmission Line and Associated Substation

Bid Price Schedule No. 5: Grand Summary

Sl. No.	Description	Total Price	
		Foreign Currency	Local Currency
1	**TOTAL PRICE 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.		
	Part 1: A. Dadakhet Rahughat 132kV Transmission Line		
	Part 2: B. Dadakhet 132kV Substation		
	Part 3: C. Rahughat 220/132/33kV GIS Substation		
	Total of Schedule No.1		
2	**TOTAL PRICE SCHEDULE NO. 2**		
	Plant and Equipment including Mandatory Spares Parts to be supplied from within Nepal including Type Test Charges		
	Part 1: A. Dadakhet Rahughat 132kV Transmission Line		
	Part 2: B. Dadakhet 132kV Substation		
	Part 3: C. Rahughat 220/132/33kV GIS Substation		
	Total of Schedule No.2		
3	**TOTAL PRICE SCHEDULE NO. 3**		
	Design Services		
	Total of Schedule No. 3		
4	**TOTAL PRICE SCHEDULE NO. 4**		
	i. Installation Charges		
	Part 1: A. Dadakhet Rahughat 132kV Transmission Line		
	Part 2: B. Dadakhet 132kV Substation		
	Part 3: C. Rahughat 220/132/33kV GIS Substation		
	ii. Training Charges for Training to be imparted abroad		
	iii. Training Charges for Training to be imparted in Nepal		
	iv. Maintenance charges		
	v. Type test charges to be conducted abroad		
	Total of Schedule No. 4		
	GRAND TOTAL		

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

NEPAL ELECTRICITY AUTHORITY

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Dadakhet Rahughat 132 KV Transmission Line Project

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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	Total No. of Sets to be provided	Unit Price	Total Price	Remarks

Date:

Signature: _____

Printed Name: _____

Designation: _____

Common Seal: _____