

# NEPAL ELECTRICITY AUTHORITY

(An Undertaking of Government of Nepal)  
Project Management Directorate



## STANDARD BIDDING DOCUMENT FOR

### Procurement of Plant

#### For

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**Design, Engineering, Supply, Construction, Erection, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Jumla, Dolpa and Humla Karnali Province of Nepal**

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#### Single-Stage: Two-Envelope Bidding Procedure Volume III

**Issued on: 5th July 2023**

**Invitation for Bids No.:**

**OCB No.:**

**Employer:**

**Nepal Electricity Authority**

**Country:**

**Nepal**



## **Bill of Quantities for four sites at Mugu, Jumla, Dolpa and Humla**

The contractor is expected to provide the BoQ for each site separately. There are five schedules for each site.

The schedules are as follows:

### **Jumla site:**

**Schedule 1:** Plant and Equipment including Mandatory Spares to be supplied from abroad

**Schedule 2:** Plant and Equipment including Mandatory Spares Parts to be supplied from Nepal

**Schedule 3:** Design Services

**Schedule 4:** Installation and Other Services

4a: Installation and Construction Charges

4b: Training Charges for training to be imparted abroad

4c: Training Charges for training to be imparted to Employer's Personnel by Bidder's Instructor in Nepal

4d: Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods

4e: Social Safeguard and Environment Management Plan

**Schedule 5:** Grand Summary for each site

### **Mugu, Dolpa and Humla:**

**Schedule 1:** Plant and Equipment including Mandatory Spares to be supplied from abroad

**Schedule 2:** Plant and Equipment including Mandatory Spares Parts to be supplied from Nepal

**Schedule 3:** Design Services

**Schedule 4:** Installation and Other Services

4a: Installation and Construction Charges

4b: Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods

4c: Social Safeguard and Environment Management Plan

**Schedule 5:** Grand Summary for each site

At the end the contractor must provide a grand total for the entire project comprising all the three sites.



## 1. JUMLA

### NEPAL ELECTRICITY AUTHORITY PROJECT MANAGEMENT DIRECTORATE Karnali Solar Energy Project

#### Solar with battery storage project

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

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

LC: Local Currency, FC: Foreign Currency

Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	<b>Part-A: EMPLOYER ASSESSED QUANTITIES</b>								
<b>PART 1.1</b>	<b>Solar PV Plant, JUMLA</b>								
1	<b>PV modules with accessories all complete</b>		kWp	1045					
	Individual module of minimum capacity of 400 Wp, dual glass PERC bi-facial mono-crystalline half-cut cell, with minimum module efficiency 20%), Solar Panels for 950kW (AC) plant at Jumla (As specified at section 6: employer's requirements)								
2	<b>PV inverters with accessories all complete</b>		kVA	950					
	String inverters with multiple MPPTs, DC input not more than 10kWp per MPPT, Minimum euro efficiency 98%, Maximum nominal AC rating of inverter should be 50kVA and maximum DC/AC ratio to be less than 1.1 (As specified at section 6: employer's requirements)								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
3	<b>Power Transformer with accessories all complete</b>		Set	1					
	Transformer: 3 phase, 3000kVA, 0.4/11kV. It should be manufactured as per IEC 60076-1: 2011 and supplied with the first filling of oil in accordance with IEC 60296: 2020 and all accessories including differential protection, auxiliary transformer and other requirements to complete the project. (As specified at section 6: employer's requirements)								
4	<b>Containerized switchgear and LV Panel with accessories all complete</b>		Set	1					
	LV panel: shall be fitted with suitable rating & size copper bus, required number of air circuit breaker, isolator indicators for all incoming and outgoing terminals according to the number of inverters to be connected. Ingress protection rating must be IP65 or more.(As specified at section 6: employer's requirements)								
	Switchgear (LV & MV): Switchgears must comply with all standards and codes specified in the bid document (As specified at section 6: employer's requirements)								
	Container/s: IP protection as required for switchgear and Panel (As specified at section 6: employer's requirements)								
5	<b>Meteorological station with accessories all complete</b>		Set	1					
	Meteorological station must comply with all standards and codes specified in the bid document (sub section 3.2.7 under section 6: employer's requirements)								
6	<b>PV mounting systems – mounting structure, hardware and foundations with accessories all complete</b>		MT	35					
	Solar PV Module mounting structure, hardware, hot dipped galvanized iron (HDGI) structure with 'stainless steel' (SS) nut bolts. The minimum thickness galvanized coating shall be 120 microns (As specified at section 6: employer's requirements)								

Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
<b>PART 1.2</b>	<b>Battery Energy Storage System, JUMLA</b>								
1	<b>Li-ion battery storage system in container/s with BMS &amp; accessories all complete</b>		kWh	3800					
	Li-ion Battery storage system in container with BMS, minimum 6000 cycles, Maximum Depth of Discharge 80%, Round trip efficiency 85%, 3.8 MWh at Jumla (As specified at section 6: employer's requirements)								
2	<b>Battery inverters with accessories all complete</b>		kVA	2000					
	2000 kVA bi-directional Battery inverters with grid forming capability for AC coupled system, 3 Phase, AC 400V, 50Hz, Minimum rated efficiency 95% (As specified at section 6: employer's requirements)								
3	<b>Hybrid plant power control and monitoring system (PCMS) and accessories with all complete</b>		Set	1					
	It shall be designed in accordance with ISO / IEC 27002, ISA 99 or equivalent standards. (As specified at section 6: employer's requirements)								
	<b>Sub-Total Part-A</b>								
	<b>Part-B: CONTRACTOR ASSESSED QUANTITIES</b>								
1	<b>DC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	DC cables, String cables, DC combiner boxes with IP65 protection, double pole non-polarized DC isolators, gPV fuses, DC surge protection devices type 2, all complete up to the inverter with accessories to fulfill all the requirements of the								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	project								
2	<b>AC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	AC armored cables with HDPE pipes, route markers and termination kit, MCCBs/Isolators, Surge protection devices, AC Combiner boxes with IP 65 protection, Main Combiner Box, all complete up to the transformer connection with accessories to fulfill all the requirements of the project								
3	<b>System protection and safety devices with accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	Complete earthing system with earth pits for equipotential bonding of PV structure, functional earthing for all electrical and electronic equipment, lightning protection system with appropriate earthing and all other protection devices with accessories to fulfill all the requirements of the project								
4	<b>Electrical Balance of System for BESS as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	Balance of System including all Equipment's, Materials, Accessories, Grounding, Lighting, Lightning, Safety & Fire Fighting System etc. to fulfill all the requirements of the project								

Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
5	<b>CCTV surveillance system as per requirement of Vol.2 section 6 – Employers Requirements</b> - Closed circuit TV with wide angle camera for live monitoring, recording and storing of video images for at least six months to be installed for surveillance of the entire PV plant and control room, BESS housing, all major electrical and mechanical equipment with accessories to fulfill all the requirements of the project		LS	1					
6	<b>Auxiliary Supply as per requirement of Vol.2 section 6 – Employers Requirements:</b> UPS with Battery to power the PCMS in absence of the main source (As specified at section 6: employer's requirements) with accessories to fulfill all the requirements of the project		LS	1					
7	<b>Panel cleaning system as per requirement of Vol.2 section 6 – Employers Requirements:</b> Water storage facility with minimum pipe network to supply water on the spot for cleaning of PV modules with accessories to fulfill all the requirements of the project (civil work to be paid separately) with 2HP 1Ph pump; HDPE pipe with accessories, Hose Pipe and accessories all complete		LS	1					
8	<b>Lighting System as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
a.	Internal and peripheral pathways								
b.	Entry points								
c.	Indoor lighting wherever necessary								
	All lighting equipment shall be LED luminaries. They must comply with IES LM 79-08 and IES LM 80—15 standards								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
9	Containerized control room cum office as per requirement of Vol.2 section 6 – Employers Requirements: ISO standard container with IP55 or above protection rating. The container/s must be provided with an external cladding, appropriate partition all complete.		LS	1					
10	Furniture and office equipment as per requirement of Vol.2 section 6 – Employers Requirements: For control room - electrical fitments, Round table with 6 office chairs, 1 large steel cupboard and for Supervisor's cabin - 1 Office desk with chair, electrical fitments etc.		LS	1					
11	11kV Cable with all accessories complete		LS	1					
	11kV aluminum XLPE cable of appropriate size with HDPE pipe and termination kit from transformer to breaker, breaker to nearest point of connection of NEA 11kV line with all accessories all complete								
12	Any other equipment required to fulfill requirement as per Vol.2 section 6 – Employers Requirements		LS	1					
	Including all Equipment's, Materials, Spares, Accessories, Grounding, Lightning, Safety & Fire Fighting System etc.								
	<b>Sub-Total Part-B</b>								
	<b>Part-C: Mandatory Spares</b>								
A	<b>Mandatory Spare List</b>								
1	PV modules with accessories including clamps, nuts, bolts, cable connectors etc.		Sets	20					





Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
2	PV inverters with accessories		Sets	3					
3	Other Electrical connectors		Pairs	5 of each type					
4	DC string fuses		Nos	20					
5	Spare parts for battery storage system		Sets	3					
	Includes all BMS Auxiliary Systems, interconnectors, fuses, sensors for fire operation system								
6	Tool kit (screwdriver, plier, crimping tools, spanner set, hammer, clamp on meter with DC current measurement and other equipment as required), Safety Material (Danger Board, safety charts, fire blanket, safety gloves and shoes for 11 kV; 11 kV rubber mat)		Lot	1					
7	Battery Modules		Nos	5					
8	HVAC sensors, filters, and other accessories		Sets	3					
	Sub-Total Part-C								
	Total For PART 1 JUMLA [(Part-A + Part-B + Part-C)]								
	Total for Schedule 1 (Total of column 9 to be carried								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	forward to Schedule 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 equipment 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:**



**NEPAL ELECTRICITY AUTHORITY**  
PROJECT MANAGEMENT DIRECTORATE  
**Karnali Solar Energy Project**

**Solar with battery storage project**

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

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

**LC: Local Currency (ALL Price in Local Currency)**

Item No.	Item description	Unit	Quantity	Ex Factory Price (Excluding VAT) in LC		Transportation to site in LC		Total Amount (Excluding Taxes)	Custom, VAT and other taxes
				Unit Rate	Amount	Unit Rate	Amount		
1	2	3	4	5	6 = (4) x (5)	7	8=(4)x(7)	9=6+8	10
<b>PART 1</b>	<b>Solar PV + BESS Plant at JUMLA</b>								
	<b>Part-A: EMPLOYER ASSESSED QUANTITIES</b>								
	<b>Part-B: CONTRACTOR ASSESSED QUANTITIES</b>								
	<b>Part-C: Mandatory Spares</b>								
	<b>Total For PART 1 JUMLA [(Part-A+ Part-B+ Part C)]</b>								
	<b>Total for Schedule 2 (Total of column 9 to be carried forward to Schedule 5: Grand Summary)</b>								

Note:



- 1) Bidder is required to quote prices in this Schedule for all the items in Schedule 1 which they wish to supply from within Nepal.
- 2) The Prices of equipment are inclusive of type test charges.

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

\* Strike-out whichever is not applicable.

<sup>a</sup> Specify currency in accordance with ITB 19.1 of the BDS.

<sup>b</sup> 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:**

**Date:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**



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**Schedule No.3: Design Services**

**LC: Local Currency, FC: Foreign Currency**

Item No.	Item Description	Estimated		Unit Prices		Total Prices	
				Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
		Quantity	Unit	NRs	Currency	LC	FC
1	2	3	4	5	6	7=3x5	8=3x6
PART 1	<b>Solar PV + BESS Plant at JUMLA</b>						
	Pre construction survey, Detail Design & Engineering optimizing solar path and considering shadow analysis in bifacial panels to optimally place solar panels for better output of the complete hybrid power plant systems for Solar PV and BESS at Jumla.	1	LS				
	<b>Total for Schedule 3 (Total of column 7 &amp; 8 to be carried forward to Schedule 5: Grand Summary)</b>						

NOTE: The design cost for equipment is included in schedule 1.

**Name of Bidder:**

**Signature of Bidder:**

**Date:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**



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**Schedule No. 4: Installation and Other Services**

**(a): Installation and Construction Charges**

Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
	<b>Solar PV + BESS Plant at JUMLA</b>									
<b>Part-A:</b>	<b>EMPLOYER ASSESSED QUANTITIES</b>									
1	PV modules with accessories all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
2	PV inverters with accessories all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
3	Power Transformer and Containerized switchgear with LV Panel including all accessories, protections and auxiliary transformer all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
4	Meteorological station with accessories all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
5	PV mounting systems – mounting structure, hardware, and foundations with accessories all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
6	Containerized Battery Energy Storage System all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
	<b>Sub-total Employer assessed quantities</b>									
<b>Part-B:</b>	<b>CONTRACTOR ASSESSED QUANTITIES</b>									

Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
1	DC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
2	AC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
3	System protection and safety devices with accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
4	CCTV surveillance system with accessories as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
5	Panel cleaning system with accessories as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
6	Lighting System as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
7	Containerized control room cum office all complete			LS	1					
	<b>Sub-total Contractor assessed quantities</b>									
<b>Part-C: Boundary Wall, Water Tank, Solar Plant, Guard house, Store house, Containers, Septic tank and soak pit</b>										
1	Earth Works: -									
1.01	Site Preparation and Clearance works including cutting & uprooting shrubs, thick herbs & vegetables, top soil cutting, dismantling deducing the salvage value of reusable materials, levelling & removal of waste, transporting to the specified place as per instruction by site engineer all complete before and after construction.			LS	1					
1.02	Earthwork and Excavation in all types of soil for all lift including timbering, pumping out water from the foundations, back filling the excavated clean & grub of soil in layers, disposing the excess soil for all lead as per instruction & specification all complete.			Cum	11000					
1.03	Earthwork in filling with local sand in layers as per specification and instruction all complete including royalties, taxes etc.			Cum	350					



Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
2	Soling Works:									
2.01	Stone Soling Works as per instruction & specification all complete.			Cum	520					
3	Concrete Works:									
3.01	Providing and Laying of Plain Cement Concrete PCC (1:2:4)			Cum	300					
3.02	Providing and Laying of Reinforced Cement Concrete RCC M20 (1:1.5:3) including precast, shuttering, Grouting of Pockets & underpinning but excluding steel Reinforcement.			Cum	570					
4	Providing and fixing in position Fe 500 steel Reinforcement of various diameter confirming to standard code in RCC works including straightening, cutting, bending, binding with 20 SWG annealed wire for tying the bars (Binding wire shall not be measured separately) including all waste and cut pieces, provisions of adequate spacers, chairs, providing and placing cement cover blocks all complete as per drawings, specifications, and instruction of the engineer. (Lap Length shall not be measured for the payment)			Kg	56000					
5	Masonry Works									
5.01	Random Rubble Masonry Works (1:4)			Cum	650					
5.02	First Class Brick Masonry Works (1:4)			Cum	200					
5.03	Flushed ruled cement Pointing Works in outside of Stone Masonry (1:2)			Sqm	1100					
5.04	Plaster Works (1:4)									
	1:4 C/S plastering with specified mortar mix ratio in any level, size and shape etc. as required including racking, watering cleaning of base, plastering to plumb, line, level, smoothness etc. and including curing and cost of necessary scaffoldings works all complete as per drawings and specifications.			Sqm	300					
5.05	Cement Punning Work (3mm)			Sqm	300					
6	Barbed Compound Fencing with interlock GI mesh, fencing wires supported by angle section including gate as per approved drawings (2.5 m High) including Steel Gate all complete			Rm	350					





Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
7	All Civil Works for following structures as per TS and approved Drawings but excluding earthworks, PCC, RCC(M20), Masonry and Reinforcement Steel only which shall be measured and paid separately under respective items of BPS;									
7.01	Guard House (As per attached drawing)			LS	1					
7.02	Store House (plinth area 40 sq.m)			LS	1					
7.03	Septic Tank and Soak Pit (20 user) all complete			LS	1					
8	Detailed Survey, Contour Mapping as per TS			LS	1					
9	Geotechnical Investigations as per TS			LS	1					
10	Dismantling of the structures deducting the salvage value of reusable materials			LS	1					
11	Miscellaneous Structural Steel (Mild Steel), accessories with required paintings all complete			kg	500					
	<b>Sub-total Civil works</b>									
	<b>Total for Schedule 4 (Total of column 9 and 11 to be carried forward to Schedule 5: Grand Summary)</b>									

# Specify currency in accordance with ITB Clause 19.1 and corresponding BDS clauses, Vol. I of the Bidding Documents.

**Name of Bidder:**

**Signature of Bidder:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**

**Date:**



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**Schedule No. 4: Installation and Other Services**

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

Sl. No.	Description	Item for which training is to be imparted.	Country where training is to be imparted	Nos. of Trainee	Training duration in days	Currency	Total Training Charges	
							Unit rate	Total Training Charges
1	2		3	4	5	6	7	8 = 4x5 x 7
A	Training to Owners personnel on Design, testing, Operation and Maintenance as per Technical Specification at manufacturer's works including per diem of US\$ 75 per day, accommodation, economic air travel and other logistics as required.	i) Monitoring and Operation of complete plant facility		3	5			
		ii) Equipment (PV panels, BESS, Transformers, PCMS, EMS, etc.)		3	7			
		iii) Locate and troubleshoot system faults and other trainings as required in the Vol. II		3	7			
	<b>Total for Training Charges (total of column 8 to be carried forward to Schedule 5: Grand summary)</b>							

**Name of Bidder:**

**Signature of Bidder:**

**Date:**

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**Schedule No. 4: Installation and Other Services**

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

Sl. No.	Description of the Test	Item for which training is to be imparted.	Training duration in days	Currency	Training Charges for Contractors Trainers	
					Unit rate	Total Training Charges
1	2	3	4	5	6	7 = 4x 6
a)	On Job training by representative of the manufacturer on operation, maintenance, and testing & commissioning aspect at site as per Technical Specification	i) Panel operation, maintenance, and testing & commissioning	5			
		ii) PCMS operation, maintenance, and testing & commissioning	3			
		iii) Fault detection and response procedures	5			
		iv) BESS operation, maintenance, and testing & commissioning	7			
		v) Spare parts & Inventory management, understanding Standard Operating Procedure and using available data	3			
		vi) Power Transformer with Switchgear - operation, maintenance, and testing & commissioning	5			
		vii) Inverter operation, maintenance, and testing & commissioning	5			
		vii) All other equipment - operation, maintenance and testing & commissioning	5			
	<b>Total for Training Charges (Total of column 7 to be carried forward to Schedule 5: Grand Summary)</b>					

**Remarks:** On Job Training in Nepal: The traveling and living expenses of Owner's personnel for the training program conducted in Nepal shall be borne by the Owner

**Name of Bidder:**

**Signature of Bidder:**

**Date:**




**NOTE:** To and fro charges and accommodation for the instructor (Trainer), premises for conducting the training and Training material for the Trainees shall be included in the prices quoted by the bidder. However, arrangements for trainees shall be arranged by OWNER.



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**Karnali Solar Energy Project**

**Solar with battery storage project**

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

**Schedule No. 4: Installation and Other Services**

**(d): Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods**

Sl. No.	Description of Tests	Testing Location	TEST CHARGES	
			Currency #	Amount
1	2	3	4	5
<b>Solar PV plant</b>				
	<b>PV modules</b>			
1	Complete routine test - Sample testing (1 piece from each site)			
<b>BATTERY ENERGY STORAGE SYSTEM</b>				
	<b>Li-ion battery storage system</b>			
1	Complete routine test - Sample testing (1 piece from each site)			
	<b>Total of Tests charges (Total of column 5 to be carried forward to Schedule 5: Grand Summary)</b>			

**Note:** The Bidder shall get the prior approval from the employer for finalization of the testing standard.

**Name of Bidder:**

**Signature of Bidder:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**

**Date:**




**NEPAL ELECTRICITY AUTHORITY**  
PROJECT MANAGEMENT DIRECTORATE  
**Karnali Solar Energy Project**

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**Schedule No. 4: Installation and Other Services**

**(e): Social Safeguard and Environment Management Plan (as per Vol.2 Employer's Requirements)**

Sl. No.	Description		Testing Location	TEST CHARGES	
				Currency #	Amount
1	2		3	4	5
1	Preparation and Execution of Social Safeguard and Environmental Plan including fulfillment of all the requirements of Annexure II for JUMLA				
			LS		
	Total of Type Tests charges (Total of column 5 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  
**Karnali Solar Energy Project**

**Solar with battery storage project**

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

**Schedule No. 5: Grand Summary**

Sl. No.	Description (JUMLA)	Total Price Foreign	Total Price Local
		<b>1</b>	<b>2</b>
<b>1</b>	<b>TOTAL SCHEDULE NO. 1</b>		
	Plant and Equipment including Mandatory Spares to be supplied from abroad.		
<b>2</b>	<b>TOTAL SCHEDULE NO. 2</b>		
	Plant and Equipment including Mandatory Spares Parts to be supplied from within Nepal		
<b>3</b>	<b>TOTAL SCHEDULE NO. 3</b>		
	Design Services		
<b>4</b>	<b>TOTAL SCHEDULE NO. 4</b>		
	(a) Installation and construction charges		
	(b) Training charges for training to be imparted abroad		
	(c) Training charges for training to be imparted in Nepal		
	(d) Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods		
	(e) Social Safeguard and Environment Management Plan (as per Vol.2 Employer's Requirements)		
	<b>GRAND TOTAL [1+2+3+4]</b>		



## 2. GAMGADI, MUGU

### NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

Karnali Solar Energy Project

#### Solar with battery storage project

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

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

LC: Local Currency, FC: Foreign Currency

Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	<b>Part-A: EMPLOYER ASSESSED QUANTITIES</b>								
<b>PART 1.1</b>	<b>Solar PV Plant, GAMGADI</b>								
1	<b>PV modules with accessories all complete</b>		kWp	400					
	Individual module of minimum capacity of 400 Wp, dual glass PERC bi-facial mono-crystalline half-cut cell, with minimum module efficiency 20%), Solar Panels for 360kW (AC) plant at Gamgadi (As specified at section 6: employer's requirements)								
2	<b>PV inverters with accessories all complete</b>		kVA	360					
	String inverters with multiple MPPTs, DC input not more than 10kWp per MPPT, Minimum euro efficiency 98%, Maximum nominal AC rating of inverter should be 50kVA and maximum DC/AC ratio to be less than 1.1 (As specified at section 6: employer's requirements)								





Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
3	<b>Power Transformer with accessories all complete</b>		Set	1					
	Transformer: 3 phase, 2000kVA, 0.4/11kV. It should be manufactured as per IEC 60076-1: 2011 and supplied with the first filling of oil in accordance with IEC 60296: 2020 and all accessories including differential protection, auxiliary transformer and other requirements to complete the project. (As specified at section 6: employer's requirements)								
4	<b>Containerized switchgear and LV Panel with accessories all complete</b>		Set	1					
	LV panel: shall be fitted with suitable rating & size copper bus, required number of air circuit breaker, isolator indicators for all incoming and outgoing terminals according to the number of inverters to be connected. Ingress protection rating must be IP65 or more. (As specified at section 6: employer's requirements)  Switchgear (LV & MV): Switchgears must comply with all standards and codes specified in the bid document (As specified at section 6: employer's requirements)  Container/s: IP protection as required for switchgear and Panel (As specified at section 6: employer's requirements)								
5	<b>Meteorological station with accessories all complete</b>		Set	1					
	Meteorological station must comply with all standards and codes specified in the bid document (sub section 3.2.7 under section 6: employer's requirements)								
6	<b>PV mounting systems – mounting structure, hardware and foundations with accessories all complete</b>		MT	14					
	Solar PV Module mounting structure, hardware, hot dipped galvanized iron (HDGI) structure with 'stainless steel' (SS) nut bolts. The minimum thickness galvanized coating shall be 120 microns (As specified at section 6: employer's requirements)								
<b>PART 1.2</b>	<b>Battery Energy Storage System, GAMGADI</b>								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
1	<b>Li-ion battery storage system in container/s with BMS &amp; accessories all complete</b>		kWh	2200					
	Li-ion Battery storage system in container with BMS, minimum 6000 cycles, Maximum Depth of Discharge 80%, Round trip efficiency 85%, 2.2 MWh at Gamgadi (As specified at section 6: employer's requirements)								
2	<b>Battery inverters with accessories all complete</b>		kVA	1000					
	1000 kVA bi-directional Battery inverters with grid forming capability for AC coupled system, 3 Phase, AC 400V, 50Hz, Minimum rated efficiency 95% (As specified at section 6: employer's requirements)								
3	<b>Hybrid plant power control and monitoring system (PCMS) and accessories with all complete</b>		Set	1					
	It shall be designed in accordance with ISO / IEC 27002, ISA 99 or equivalent standards. (As specified at section 6: employer's requirements)								
	<b>Sub-Total Part-A</b>								
	<b>Part-B: CONTRACTOR ASSESSED QUANTITIES</b>								
1	<b>DC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	DC cables, String cables, DC combiner boxes with IP65 protection, double pole non-polarized DC isolators, gPV fuses, DC surge protection devices type 2, all complete up to the inverter with accessories to fulfill all the requirements of the project								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
2	<b>AC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	AC armored cables with HDPE pipes, MCCBs/Isolators, Surge protection devices, AC Combiner boxes with IP 65 protection, Main Combiner Box, all complete up to the transformer connection with accessories to fulfill all the requirements of the project								
3	<b>System protection and safety devices with accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	Complete earthing system with earth pits for equipotential bonding of PV structure, functional earthing for all electrical and electronic equipment, lightning protection system with appropriate earthing and all other protection devices with accessories to fulfill all the requirements of the project								
4	<b>Electrical Balance of System for BESS as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	Balance of System including all Equipment's, Materials, Accessories, Grounding, Lighting, Lightning, Safety & Fire Fighting System etc. to fulfill all the requirements of the project								
5	<b>CCTV surveillance system as per requirement of Vol.2 section 6 – Employers Requirements</b> - Closed circuit TV with wide angle camera for live monitoring, recording and storing of video images for at least six months to be installed for surveillance of the entire PV plant and control room, BESS housing, all major electrical and mechanical equipment with accessories to fulfill all the requirements of the project		LS	1					
6	<b>Auxiliary Supply as per requirement of Vol.2 section 6 – Employers Requirements:</b> UPS with Battery to power the PCMS in absence of the main source (As specified at section 6: employer's requirements) with accessories to fulfill all the requirements of the		LS	1					



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	project								
7	<b>Panel cleaning system as per requirement of Vol.2 section 6 – Employers Requirements:</b> Water storage facility with minimum pipe network to supply water on the spot for cleaning of PV modules with accessories to fulfill all the requirements of the project (civil work to be paid separately) with 2HP 1Ph pump;HDPE pipe with accessories, Hose Pipe and accessories all complete		LS	1					
8	<b>Lighting System as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
a.	Internal and peripheral pathways								
b.	Entry points								
c.	Indoor lighting wherever necessary								
	All lighting equipment shall be LED luminaries. They must comply with IES LM 79-08 and IES LM 80—15 standards								
9	<b>Furniture and office equipment as per requirement of Vol.2 section 6 – Employers Requirements:</b> For control room –appropriate partition all complete, electrical fitments, Round table with 6 office chairs, 1 large steel cupboard and for Supervisor's cabin - 1 Office desk with chair, electrical fitments etc.		LS	1					
10	<b>11kV Cable with all accessories complete</b>		LS	1					
	11kV aluminum XLPE cable of appropriate size with HDPE pipe and termination kit from transformer to breaker, breaker to nearest point of connection of NEA 11kV line with all accessories all complete								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
11	Any other equipment required to fulfill requirement as per Vol.2 section 6 – Employers Requirements		LS	1					
	Including all Equipment's, Materials, Spares, Accessories, Grounding, Lightning, Safety & Fire Fighting System etc.								
	<b>Sub-Total Part-B</b>								
	<b>Part-C: Mandatory Spares</b>								
A	<b>Mandatory Spare List</b>								
1	PV modules with accessories including clamps, nuts, bolts, cable connectors etc.		Sets	10					
2	PV inverters with accessories		Sets	1					
3	Other Electrical connectors		Pairs	5 of each type					
4	DC string fuses		Nos	10					
5	Spare parts for battery storage system		Sets	1					
	Includes all BMS Auxiliary Systems, interconnectors, fuses, sensors for fire operation system								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
6	Tool kit (screw driver, plier, crimping tools, spanner set, hammer, clamp on meter with DC current measurement and other equipment as required), Safety Material (Danger Board, safety charts, fire blanket, safety gloves and shoes for 11 kV; 11 kV rubber mat)		Lot	1					
7	Battery Modules		Nos	2					
8	HVAC sensors, filters and other accessories		Sets	1					
	Sub-Total Part-C								
	Total For PART 1 GAMGADI [(Part-A + Part-B + Part-C)]								
	Total for Schedule 1 (Total of column 9 to be carried forward to Schedule 5: Grand Summary)								

Note:

- 4) Bidder is required to quote prices in this Schedule for all the individual items/sub-items.
- 5) The Prices of equipment are inclusive of type test charges.
- 6) 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:

Date:



(Printed Name)  
(Designation)  
(Common Seal)



**NEPAL ELECTRICITY AUTHORITY**  
PROJECT MANAGEMENT DIRECTORATE  
**Karnali Solar Energy Project**

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

**LC: Local Currency (ALL Price in Local Currency)**

Item No.	Item description	Unit	Quantity	Ex Factory Price (Excluding VAT) in LC		Transportation to site in LC		Total Amount (Excluding Taxes)	Custom, VAT and other taxes
				Unit Rate	Amount	Unit Rate	Amount		
1	2	3	4	5	6 = (4) x (5)	7	8=(4)x(7)	9=6+8	10
<b>PART 1</b>	<b>Solar PV + BESS Plant at GAMGADI</b>								
	<b>Part-A: EMPLOYER ASSESSED QUANTITIES</b>								
	<b>Part-B: CONTRACTOR ASSESSED QUANTITIES</b>								
	<b>Part-C: Mandatory Spares</b>								
	<b>Total For PART 1 Gamgadi [(Part-A+ Part-B+ Part C)]</b>								
	<b>Total for Schedule 2 (Total of column 9 to be carried forward to Schedule 5: Grand Summary)</b>								

Note:

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





4) The Prices of equipment are inclusive of type test charges.

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

\* Strike-out whichever is not applicable.

<sup>a</sup> Specify currency in accordance with ITB 19.1 of the BDS.

<sup>b</sup> 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:**

**Date:**

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**Schedule No.3: Design Services**

**LC: Local Currency, FC: Foreign Currency**

Item No.	Item Description	Estimated		Unit Prices		Total Prices	
				Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
		Quantity	Unit	NRs	Currency	LC	FC
1	2	3	4	5	6	7=3x5	8=3x6
PART 1	<b>Solar PV + BESS Plant at GAMGADI</b>						
	Pre construction survey, Detail Design & Engineering optimizing solar path and considering shadow analysis in bifacial panels to optimally place solar panels for better output of the complete hybrid power plant systems for Solar PV and BESS at Gamgadi.	1	LS				
	<b>Total for Schedule 3 (Total of column 7 &amp; 8 to be carried forward to Schedule 5: Grand Summary)</b>						

NOTE: The design cost for equipment is included in schedule 1.

**Name of Bidder:**

**Signature of Bidder:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**

**Date:**




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**Schedule No. 4: Installation and Other Services**

**(a): Installation and Construction Charges**

Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
	<b>Solar PV + BESS Plant at GAMGADI</b>									
<b>Part-A:</b>	<b>EMPLOYER ASSESSED QUANTITIES</b>									
1	PV modules with accessories all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
2	PV inverters with accessories all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
3	Power Transformer and Containerized switchgear with LV Panel including all accessories, protections and auxiliary transformer all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
4	Meteorological station with accessories all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
5	PV mounting systems – mounting structure, hardware and foundations with accessories all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
6	Containerized Battery Energy Storage System all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
	<b>Sub-total Employer assessed quantities</b>									

Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
<b>Part-B:</b>	<b>CONTRACTOR ASSESSED QUANTITIES</b>									
1	DC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
2	AC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
3	System protection and safety devices with accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
4	CCTV surveillance system with accessories as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
5	Panel cleaning system with accessories as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
6	Lighting System as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
	<b>Sub-total Contractor assessed quantities</b>									
<b>Part-C:</b>	<b>Boundary Wall, Water Tank, Solar Plant, Guard house, Store house, Containers, Septic tank and soak pit</b>									
1	Earth Works: -									
1.01	Site Preparation and Clearance works including cutting & uprooting shrubs, thick herbs & vegetables, top soil cutting, dismantling deducing the salvage value of reusable materials, levelling & removal of waste, transporting to the specified place as per instruction by site engineer all complete before and after construction.			LS	1					
1.02	Earthwork and Excavation in all types of soil for all lift including timbering, pumping out water from the foundations, back filling the excavated clean & grub of soil in layers, disposing the excess soil for all lead as per instruction & specification all complete.			Cum	5000					
1.03	Earthwork in filling with local sand in layers as per specification and instruction all complete including royalties,			Cum	350					



Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
	taxes etc.									
2	Soling Works:									
2.01	Stone Soling Works as per instruction & specification all complete.			Cum	500					
3	Concrete Works:									
3.01	Providing and Laying of Plain Cement Concrete PCC (1:2:4)			Cum	250					
3.02	Providing and Laying of Reinforced Cement Concrete RCC M20 (1:1.5:3) including precast, shuttering, Grouting of Pockets & underpinning but excluding steel Reinforcement.			Cum	350					
4	Providing and fixing in position Fe 500 steel Reinforcement of various diameter confirming to standard code in RCC works including straightening, cutting, bending, binding with 20 SWG annealed wire for tying the bars (Binding wire shall not be measured separately) including all waste and cut pieces, provisions of adequate spacers, chairs, providing and placing cement cover blocks all complete as per drawings, specifications, and instruction of the engineer. (Lap Length shall not be measured for the payment)			Kg	33000					
5	Masonry Works									
5.01	Random Rubble Masonry Works (1:4)			Cum	600					
5.02	First Class Brick Masonry Works (1:4)			Cum	175					
5.03	Flushed ruled cement Pointing Works in outside of Stone Masonry (1:2)			Sqm	1100					
5.04	Plaster Works (1:4)									
	1:4 C/S plastering with specified mortar mix ratio in any level, size and shape etc. as required including racking, watering cleaning of base, plastering to plumb, line, level, smoothness etc. and including curing and cost of necessary scaffoldings works all complete as per drawings and specifications.			Sqm	350					



Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
5.05	Cement Punning Work (3mm)			Sqm	350					
6	Barbed Compound Fencing with interlock GI mesh, fencing wires supported by angle section including gate as per approved drawings (2.5 m High) including Steel Gate all complete			Rm	150					
7	All Civil Works for following structures as per TS and approved Drawings but excluding earthworks, PCC, RCC(M20), Masonry and Reinforcement Steel only which shall be measured and paid separately under respective items of BPS;									
7.01	Store House (plinth area 40 sq.m)			LS	1					
7.02	Septic Tank and Soak Pit (20 user) all complete			LS	1					
8	Detailed Survey, Contour Mapping as per TS			LS	1					
9	Geotechnical Investigations as per TS			LS	1					
10	Miscellaneous Structural Steel (Mild Steel), accessories with required paintings all complete			kg	500					
11	Dismantling of the structures deducting the salvage value of reusable materials			LS	1					
	<b>Sub-total Civil works</b>									
	<b>Total for Schedule 4 (Total of column 9 and 11 to be carried forward to Schedule 5: Grand Summary)</b>									

# Specify currency in accordance with ITB Clause 19.1 and corresponding BDS clauses, Vol. I of the Bidding Documents.

**Name of Bidder:**

**Signature of Bidder:**

**Date:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**




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**Schedule No. 4: Installation and Other Services**

**(b): Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods**

Sl. No.	Description of Tests	Testing Location	TEST CHARGES	
			Currency #	Amount
1	2	3	4	5
<b>Solar PV plant</b>				
	<b>PV modules</b>			
1	Complete routine test - Sample testing (1 piece from each site)			
<b>BATTERY ENERGY STORAGE SYSTEM</b>				
	<b>Li-ion battery storage system</b>			
1	Complete routine test - Sample testing (1 piece from each site)			
	<b>Total of Tests charges (Total of column 5 to be carried forward to Schedule 5: Grand Summary)</b>			

**Note:** The Bidder shall get the prior approval from the employer for finalization of the testing standard.

**Name of Bidder:**

**Signature of Bidder:**

**(Printed Name)**

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**Date:**




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**Schedule No. 4: Installation and Other Services**

**(c): Social Safeguard and Environment Management Plan (as per Vol.2 Employer's Requirements)**

Sl. No.	Description		Testing Location	TEST CHARGES	
				Currency #	Amount
1	2		3	4	5
1	Preparation and Execution of Social Safeguard and Environmental Plan including fulfillment of all the requirements of Annexure II for Gamgadi				
			LS		
	<b>Total of Type Tests charges (Total of column 5 to be carried forward to Schedule 5: Grand Summary)</b>				

**Name of Bidder:**

**Signature of Bidder:**

**Date:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**





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**Karnali Solar Energy Project**

**Solar with battery storage project**

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

**Schedule No. 5: Grand Summary**

Sl. No.	Description (GAMGADI)	Total Price Foreign	Total Price Local
		<b>1</b>	<b>2</b>
<b>1</b>	<b>TOTAL SCHEDULE NO. 1</b>		
	Plant and Equipment including Mandatory Spares to be supplied from abroad.		
<b>2</b>	<b>TOTAL SCHEDULE NO. 2</b>		
	Plant and Equipment including Mandatory Spares Parts to be supplied from within Nepal		
<b>3</b>	<b>TOTAL SCHEDULE NO. 3</b>		
	Design Services		
<b>4</b>	<b>TOTAL SCHEDULE NO. 4</b>		
	(a) Installation and construction charges		
	(b) Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods		
	(c) Social Safeguard and Environment Management Plan (as per Vol.2 Employer's Requirements)		
	<b>GRAND TOTAL [1+2+3+4]</b>		

### 3. DOLPA

## NEPAL ELECTRICITY AUTHORITY

PROJECT MANAGEMENT DIRECTORATE

Karnali Solar Energy Project

### Solar with battery storage project

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

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

LC: Local Currency, FC: Foreign Currency

Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	<b>Part-A: EMPLOYER ASSESSED QUANTITIES</b>								
<b>PART 1.1</b>	<b>Solar PV Plant, Dolpa</b>								
1	<b>PV modules with accessories all complete</b>		kWp	680					
	Individual module of minimum capacity of 400 Wp, dual glass PERC bi-facial mono-crystalline half-cut cell, with minimum module efficiency 20%, Solar Panels for 620kW (AC) plant at Dolpa (As specified at section 6: employer's requirements)								
2	<b>PV inverters with accessories all complete</b>		kVA	620					
	String inverters with multiple MPPTs, DC input not more than 10kWp per MPPT, Minimum euro efficiency 98%, Maximum nominal AC rating of inverter should be 50kVA and maximum DC/AC ratio to be less than 1.1 (As specified at section 6: employer's requirements)								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
3	<b>Power Transformer with accessories all complete</b>		Set	1					
	Transformer: 3 phase, 2000kVA, 0.4/11kV. It should be manufactured as per IEC 60076-1: 2011 and supplied with the first filling of oil in accordance with IEC 60296: 2020 and all accessories including differential protection, auxiliary transformer and other requirements to complete the project. (As specified at section 6: employer's requirements)								
4	<b>Containerized switchgear and LV Panel with accessories all complete</b>		Set	1					
	LV panel: shall be fitted with suitable rating & size copper bus, required number of air circuit breaker, isolator indicators for all incoming and outgoing terminals according to the number of inverters to be connected. Ingress protection rating must be IP65 or more. (As specified at section 6: employer's requirements)  Switchgear (LV & MV): Switchgears must comply with all standards and codes specified in the bid document (As specified at section 6: employer's requirements)  Container/s: IP protection as required for switchgear and Panel (As specified at section 6: employer's requirements)								
5	<b>Meteorological station with accessories all complete</b>		Set	1					
	Meteorological station must comply with all standards and codes specified in the bid document (sub section 3.2.7 under section 6: employer's requirements)								
6	<b>PV mounting systems – mounting structure, hardware and foundations with accessories all complete</b>		MT	23					
	Solar PV Module mounting structure, hardware, hot dipped galvanized iron (HDGI) structure with 'stainless steel' (SS) nut bolts. The minimum thickness galvanized coating shall be 120 microns (As specified at section 6: employer's requirements)								
<b>PART 1.2</b>	<b>Battery Energy Storage System, DOLPA</b>								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
1	<b>Li-ion battery storage system in container/s with BMS &amp; accessories all complete</b>		kWh	2000					
	Li-ion Battery storage system in container with BMS, minimum 6000 cycles, Maximum Depth of Discharge 80%, Round trip efficiency 85%, 2 MWh at Dolpa (As specified at section 6: employer's requirements)								
2	<b>Battery inverters with accessories all complete</b>		kVA	1000					
	1000 kVA bi-directional Battery inverters with grid forming capability for AC coupled system, 3 Phase, AC 400V, 50Hz, Minimum rated efficiency 95% (As specified at section 6: employer's requirements)								
3	<b>Hybrid plant power control and monitoring system (PCMS) and accessories with all complete</b>		Set	1					
	It shall be designed in accordance with ISO / IEC 27002, ISA 99 or equivalent standards. (As specified at section 6: employer's requirements)								
	<b>Sub-Total Part-A</b>								
	<b>Part-B: CONTRACTOR ASSESSED QUANTITIES</b>								
1	<b>DC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	DC cables, String cables, DC combiner boxes with IP65 protection, double pole non-polarized DC isolators, gPV fuses, DC surge protection devices type 2, all complete up to the inverter with accessories to fulfill all the requirements of the project								

Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
2	AC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements		LS	1					
	AC armored cables with HDPE pipes, MCCBs/Isolators, Surge protection devices, AC Combiner boxes with IP 65 protection, Main Combiner Box, all complete up to the transformer connection with accessories to fulfill all the requirements of the project								
3	System protection and safety devices with accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements		LS	1					
	Complete earthing system with earth pits for equipotential bonding of PV structure, functional earthing for all electrical and electronic equipment, lightning protection system with appropriate earthing and all other protection devices with accessories to fulfill all the requirements of the project								
4	Electrical Balance of System for BESS as per requirement of Vol.2 section 6 – Employers Requirements		LS	1					
	Balance of System including all Equipment's, Materials, Accessories, Grounding, Lighting, Lightning, Safety & Fire Fighting System etc. to fulfill all the requirements of the project								
5	CCTV surveillance system as per requirement of Vol.2 section 6 – Employers Requirements - Closed circuit TV with wide angle camera for live monitoring, recording, and storing of video images for at least six months to be installed for surveillance of the entire PV plant and control room, BESS housing, all major electrical and mechanical equipment with accessories to fulfill all the requirements of the project		LS	1					



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
6	<b>Auxiliary Supply as per requirement of Vol.2 section 6 – Employers Requirements:</b> UPS with Battery to power the PCMS in absence of the main source (As specified at section 6: employer's requirements) with accessories to fulfill all the requirements of the project		LS	1					
7	<b>Panel cleaning system as per requirement of Vol.2 section 6 – Employers Requirements:</b> Water storage facility with minimum pipe network to supply water on the spot for cleaning of PV modules with accessories to fulfill all the requirements of the project (civil work to be paid separately) with 2HP 1Ph pump; HDPE pipe with accessories, Hose Pipe and accessories all complete		LS	1					
8	<b>Lighting System as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
a.	Internal and peripheral pathways								
b.	Entry points								
c.	Indoor lighting wherever necessary								
	All lighting equipment shall be LED luminaries. They must comply with IES LM 79-08 and IES LM 80—15 standards								
9	<b>Containerized control room cum office as per requirement of Vol.2 section 6 – Employers Requirements:</b> ISO standard container with IP55 or above protection rating. The container/s must be provided with an external cladding, appropriate partition all complete.		LS	1					
10	<b>Furniture and office equipment as per requirement of Vol.2 section 6 – Employers Requirements:</b> For control room - electrical fitments, Round table with 6 office chairs, 1 large steel cupboard and for Supervisor's cabin - 1 Office desk with chair, electrical fitments etc.		LS	1					



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
11	11kV Cable with all accessories complete		LS	1					
	11kV aluminum XLPE cable of appropriate size with HDPE pipe and termination kit from transformer to breaker, breaker to nearest point of connection of NEA 11kV line with all accessories all complete								
12	Any other equipment required to fulfill requirement as per Vol.2 section 6 – Employers Requirements		LS	1					
	Including all Equipment's, Materials, Spares, Accessories, Grounding, Lightning, Safety & Fire Fighting System etc.								
	<b>Sub-Total Part-B</b>								
	<b>Part-C: Mandatory Spares</b>								
A	<b>Mandatory Spare List</b>								
1	PV modules with accessories including clamps, nuts, bolts, cable connectors etc.		Sets	15					
2	PV inverters with accessories		Sets	2					
3	Other Electrical connectors		Pairs	5 of each type					

Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
4	DC string fuses		Nos	15					
5	Spare parts for battery storage system		Sets	2					
	Includes all BMS Auxiliary Systems, interconnectors, fuses, sensors for fire operation system								
6	Tool kit (screwdriver, plier, crimping tools, spanner set, hammer, clamp on meter with DC current measurement and other equipment as required), Safety Material (Danger Board, safety charts, fire blanket, safety gloves and shoes for 11 kV; 11 kV rubber mat)		Lot	1					
7	Battery Modules		Nos	3					
8	HVAC sensors, filters, and other accessories		Sets	2					
	Sub-Total Part-C								
	Total For PART 1 DOLPA [(Part-A + Part-B + Part-C)]								
	Total for Schedule 1 (Total of column 9 to be carried forward to Schedule 5: Grand Summary)								

Note:

- 7) Bidder is required to quote prices in this Schedule for all the individual items/sub-items.
- 8) The Prices of equipment are inclusive of type test charges.
- 9) 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:**

A handwritten signature in black ink, appearing to be 'R. M.' or similar, written in a cursive style.

**NEPAL ELECTRICITY AUTHORITY**  
PROJECT MANAGEMENT DIRECTORATE  
**Karnali Solar Energy Project**

**Solar with battery storage project**

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

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

**LC: Local Currency (ALL Price in Local Currency)**

Item No.	Item description	Unit	Quantity	Ex Factory Price (Excluding VAT) in LC		Transportation to site in LC		Total Amount (Excluding Taxes )	Custom, VAT and other taxes
				Unit Rate	Amount	Unit Rate	Amount		
1	2	3	4	5	6 = (4) x (5)	7	8=(4)x(7)	9=6+8	10
<b>PART 1</b>	<b>Solar PV + BESS Plant at DOLPA</b>								
	<b>Part-A: EMPLOYER ASSESSED QUANTITIES</b>								
	<b>Part-B: CONTRACTOR ASSESSED QUANTITIES</b>								
	<b>Part-C: Mandatory Spares</b>								
	<b>Total For PART 1 Dolpa [(Part-A+ Part-B+ Part C)]</b>								
	<b>Total for Schedule 2 (Total of column 9 to be carried forward to Schedule 5: Grand Summary)</b>								

Note:



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

6) The Prices of equipment are inclusive of type test charges.

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

\* Strike-out whichever is not applicable.

<sup>a</sup> Specify currency in accordance with ITB 19.1 of the BDS.

<sup>b</sup> 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:**

**Date:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**



**NEPAL ELECTRICITY AUTHORITY**  
PROJECT MANAGEMENT DIRECTORATE  
**Karnali Solar Energy Project**

**Solar with battery storage project**

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

**Schedule No.3: Design Services**

**LC: Local Currency, FC: Foreign Currency**

Item No.	Item Description	Estimated		Unit Prices		Total Prices	
				Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
		Quantity	Unit	NRs	Currency	LC	FC
1	2	3	4	5	6	7=3x5	8=3x6
PART 1	<b>Solar PV + BESS Plant at DOLPA</b>						
	Pre construction survey, Detail Design & Engineering optimizing solar path and considering shadow analysis in bifacial panels to optimally place solar panels for better output of the complete hybrid power plant systems for Solar PV and BESS at Dolpa.	1	LS				
	<b>Total for Schedule 3 (Total of column 7 &amp; 8 to be carried forward to Schedule 5: Grand Summary)</b>						

NOTE: The design cost for equipment is included in schedule 1.

**Name of Bidder:**

**Signature of Bidder:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**

**Date:**




**NEPAL ELECTRICITY AUTHORITY**  
PROJECT MANAGEMENT DIRECTORATE  
**Karnali Solar Energy Project**

**Solar with battery storage project**

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

**Schedule No. 4: Installation and Other Services**

**(a): Installation and Construction Charges**

Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
	<b>Solar PV + BESS Plant at Dolpa</b>									
<b>Part-A:</b>	<b>EMPLOYER ASSESSED QUANTITIES</b>									
1	PV modules with accessories all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
2	PV inverters with accessories all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
3	Power Transformer and Containerized switchgear with LV Panel including all accessories, protections and auxiliary transformer all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
4	Meteorological station with accessories all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
5	PV mounting systems – mounting structure, hardware and foundations with accessories all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
6	Containerized Battery Energy Storage System all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
	<b>Sub-total Employer assessed quantities</b>									

Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
<b>Part-B:</b>	<b>CONTRACTOR ASSESSED QUANTITIES</b>									
1	DC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
2	AC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
3	System protection and safety devices with accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
4	CCTV surveillance system with accessories as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
5	Panel cleaning system with accessories as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
6	Lighting System as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
7	Containerized control room cum office all complete			LS	1					
	<b>Sub-total Contractor assessed quantities</b>									
<b>Part-C:</b>	<b>Boundary Wall, Water Tank, Solar Plant, Guard house, Store house, Containers, Septic tank and soak pit</b>									
1	Earth Works: -									
1.01	Site Preparation and Clearance works including cutting & uprooting shrubs, thick herbs & vegetables, top soil cutting, dismantling deducing the salvage value of reusable materials, levelling & removal of waste, transporting to the specified place as per instruction by site engineer all complete before and after construction.			LS	1					
1.02	Earthwork and Excavation in all types of soil for all lift including timbering, pumping out water from the foundations, back filling the excavated clean & grub of soil in layers, disposing the excess soil for all lead as per instruction &			Cum	6000					



Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
	specification all complete.									
1.03	Earthwork in filling with local sand in layers as per specification and instruction all complete including royalties, taxes etc.			Cum	350					
2	Soling Works:									
2.01	Stone Soling Works as per instruction & specification all complete.			Cum	580					
3	Concrete Works:									
3.01	Providing and Laying of Plain Cement Concrete PCC (1:2:4)			Cum	200					
3.02	Providing and Laying of Reinforced Cement Concrete RCC M20 (1:1.5:3) including precast, shuttering, Grouting of Pockets & underpinning but excluding steel Reinforcement.			Cum	450					
4	Providing and fixing in position Fe 500 steel Reinforcement of various diameter confirming to standard code in RCC works including straightening, cutting, bending, binding with 20 SWG annealed wire for tying the bars (Binding wire shall not be measured separately) including all waste and cut pieces, provisions of adequate spacers, chairs, providing and placing cement cover blocks all complete as per drawings, specifications and instruction of the engineer. (Lap Length shall not be measured for the payment)			Kg	43000					
5	Masonry Works									
5.01	Random Rubble Masonry Works (1:4)			Cum	550					
5.02	First Class Brick Masonry Works (1:4)			Cum	125					
5.03	Flushed ruled cement Pointing Works in outside of Stone Masonry (1:2)			Sqm	800					
5.04	Plaster Works (1:4)									



Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
	1:4 C/S plastering with specified mortar mix ratio in any level, size and shape etc. as required including racking, watering cleaning of base, plastering to plumb, line, level, smoothness etc. and including curing and cost of necessary scaffoldings works all complete as per drawings and specifications.			Sqm	220					
5.05	Cement Punning Work (3mm)			Sqm	220					
6	Barbed Compound Fencing with interlock GI mesh, fencing wires supported by angle section including gate as per approved drawings (2.5 m High) including Steel Gate all complete			Rm	400					
7	All Civil Works for following structures as per TS and approved Drawings but excluding earthworks, PCC, RCC(M20), Masonry and Reinforcement Steel only which shall be measured and paid separately under respective items of BPS;									
7.01	Store House (plinth area 40 sq.m)			LS	1					
7.02	Septic Tank and Soak Pit (20 user) all complete			LS	1					
8	Detailed Survey, Contour Mapping as per TS			LS	1					
9	Geotechnical Investigations as per TS			LS	1					
10	Dismantling of the structures deducting the salvage value of reusable materials			LS	1					
11	Miscellaneous Structural Steel (Mild Steel), accessories with required paintings all complete			kg	500					
	<b>Sub-total Civil works</b>									
	<b>Total for Schedule 4 (Total of column 9 and 11 to be carried forward to Schedule 5: Grand Summary)</b>									

# Specify currency in accordance with ITB Clause 19.1 and corresponding BDS clauses, Vol. I of the Bidding Documents.





**Name of Bidder:**

**Signature of Bidder:**

**Date:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**



**NEPAL ELECTRICITY AUTHORITY**  
PROJECT MANAGEMENT DIRECTORATE  
**Karnali Solar Energy Project**

**Solar with battery storage project**

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**Schedule No. 4: Installation and Other Services**

**(d): Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods**

Sl. No.	Description of Tests	Testing Location	TEST CHARGES	
			Currency #	Amount
1	2	3	4	5
<b>Solar PV plant</b>				
	<b>PV modules</b>			
1	Complete routine test - Sample testing (1 piece from each site)			
<b>BATTERY ENERGY STORAGE SYSTEM</b>				
	<b>Li-ion battery storage system</b>			
1	Complete routine test - Sample testing (1 piece from each site)			
	<b>Total of Tests charges (Total of column 5 to be carried forward to Schedule 5: Grand Summary)</b>			

**Note:** The Bidder shall get the prior approval from the employer for finalization of the testing standard.

**Name of Bidder:**

**Signature of Bidder:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**

**Date:**




**NEPAL ELECTRICITY AUTHORITY**  
PROJECT MANAGEMENT DIRECTORATE  
**Karnali Solar Energy Project**

**Solar with battery storage project**

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

**Schedule No. 4: Installation and Other Services**

**(e): Social Safeguard and Environment Management Plan (as per Vol.2 Employer's Requirements)**

Sl. No.	Description		Testing Location	TEST CHARGES	
				Currency #	Amount
1	2		3	4	5
1	Preparation and Execution of Social Safeguard and Environmental Plan including fulfillment of all the requirements of Annexure II for Dolpa				
			LS		
	<b>Total of Type Tests charges (Total of column 5 to be carried forward to Schedule 5: Grand Summary)</b>				

**Name of Bidder:**

**Signature of Bidder:**

**Date:**

**(Printed Name)**

**(Designation)**

**(Common Seal)**



**NEPAL ELECTRICITY AUTHORITY**  
PROJECT MANAGEMENT DIRECTORATE  
**Karnali Solar Energy Project**

**Solar with battery storage project**

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

**Schedule No. 5: Grand Summary**

Sl. No.	Description (DOLPA)	Total Price Foreign	Total Price Local
		<b>1</b>	<b>2</b>
<b>1</b>	<b>TOTAL SCHEDULE NO. 1</b>		
	Plant and Equipment including Mandatory Spares to be supplied from abroad.		
<b>2</b>	<b>TOTAL SCHEDULE NO. 2</b>		
	Plant and Equipment including Mandatory Spares Parts to be supplied from within Nepal		
<b>3</b>	<b>TOTAL SCHEDULE NO. 3</b>		
	Design Services		
<b>4</b>	<b>TOTAL SCHEDULE NO. 4</b>		
	(a) Installation and construction charges		
	(b) Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods		
	(c) Social Safeguard and Environment Management Plan (as per Vol.2 Employer's Requirements)		
	<b>GRAND TOTAL [1+2+3+4]</b>		

## 4. HUMLA

### NEPAL ELECTRICITY AUTHORITY PROJECT MANAGEMENT DIRECTORATE Karnali Solar Energy Project

#### Solar with battery storage project

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning and Operation & Maintenance support of (AC) Solar PV Power Plant with Battery Energy Storage System at Mugu, Dolpa, Jumla, and Humla, Karnali Province Nepal

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

LC: Local Currency, FC: Foreign Currency

Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	<b>Part-A: EMPLOYER ASSESSED QUANTITIES</b>								
<b>PART 1.1</b>	<b>Solar PV Plant, HUMLA</b>								
1	<b>PV modules with accessories all complete</b>		kWp	1095					
	Individual module of minimum capacity of 400 Wp, dual glass PERC bi-facial mono-crystalline half-cut cell, with minimum module efficiency 20%, Solar Panels for 995kW (AC) plant at Humla (As specified at section 6: employer's requirements)								
2	<b>PV inverters with accessories all complete</b>		kVA	995					
	String inverters with multiple MPPTs, DC input not more than 10kWp per MPPT, Minimum euro efficiency 98%, Maximum nominal AC rating of inverter should be 50kVA and maximum DC/AC ratio to be less than 1.1 (As specified at section 6: employer's requirements)								
3	<b>Power Transformer with accessories all complete</b>		Set	1					



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	Transformer: 3 phase, 3000kVA, 0.4/11kV. It should be manufactured as per IEC 60076-1: 2011 and supplied with the first filling of oil in accordance with IEC 60296: 2020 and all accessories including differential protection, auxiliary transformer and other requirements to complete the project. (As specified at section 6: employer's requirements)								
4	<b>Containerized switchgear and LV Panel with accessories all complete</b>		Set	1					
	LV panel: shall be fitted with suitable rating & size copper bus, required number of air circuit breaker, isolator indicators for all incoming and outgoing terminals according to the number of inverters to be connected. Ingress protection rating must be IP65 or more. (As specified at section 6: employer's requirements)  Switchgear (LV & MV): Switchgears must comply with all standards and codes specified in the bid document (As specified at section 6: employer's requirements)  Container/s: IP protection as required for switchgear and Panel (As specified at section 6: employer's requirements)								
5	<b>Meteorological station with accessories all complete</b>		Set	1					
	Meteorological station must comply with all standards and codes specified in the bid document (sub section 3.2.7 under section 6: employer's requirements)								
6	<b>PV mounting systems – mounting structure, hardware and foundations with accessories all complete</b>		MT	35					
	Solar PV Module mounting structure, hardware, hot dipped galvanized iron (HDGI) structure with 'stainless steel' (SS) nut bolts. The minimum thickness galvanized coating shall be 120 microns (As specified at section 6: employer's requirements)								
<b>PART 1.2</b>	<b>Battery Energy Storage System, HUMLA</b>								
1	<b>Li-ion battery storage system in container/s with BMS &amp; accessories all complete</b>		kWh	3000					



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	Li-ion Battery storage system in container with BMS, minimum 6000 cycles, Maximum Depth of Discharge 80%, Round trip efficiency 85%, 3 MWh at Humla (As specified at section 6: employer's requirements)								
2	<b>Battery inverters with accessories all complete</b>		kVA	2000					
	2000 kVA bi-directional Battery inverters with grid forming capability for AC coupled system, 3 Phase, AC 400V, 50Hz, Minimum rated efficiency 95% (As specified at section 6: employer's requirements)								
3	<b>Hybrid plant power control and monitoring system (PCMS) and accessories with all complete</b>		Set	1					
	It shall be designed in accordance with ISO / IEC 27002, ISA 99 or equivalent standards. (As specified at section 6: employer's requirements)								
	<b>Sub-Total Part-A</b>								
	<b>Part-B: CONTRACTOR ASSESSED QUANTITIES</b>								
1	<b>DC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	DC cables, String cables, DC combiner boxes with IP65 protection, double pole non-polarized DC isolators, gPV fuses, DC surge protection devices type 2, all complete up to the inverter with accessories to fulfill all the requirements of the project								
2	<b>AC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	AC armored cables with HDPE pipes, MCCBs/Isolators, Surge protection devices, AC Combiner boxes with IP 65 protection, Main Combiner Box, all complete up to the transformer connection with accessories to fulfill all								



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	the requirements of the project								
3	<b>System protection and safety devices with accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	Complete earthing system with earth pits for equipotential bonding of PV structure, functional earthing for all electrical and electronic equipment, lightning protection system with appropriate earthing and all other protection devices with accessories to fulfill all the requirements of the project								
4	<b>Electrical Balance of System for BESS as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
	Balance of System including all Equipment's, Materials, Accessories, Grounding, Lighting, Lightning, Safety & Fire Fighting System etc. to fulfill all the requirements of the project								
5	<b>CCTV surveillance system as per requirement of Vol.2 section 6 – Employers Requirements</b> - Closed circuit TV with wide angle camera for live monitoring, recording and storing of video images for at least six months to be installed for surveillance of the entire PV plant and control room, BESS housing, all major electrical and mechanical equipment with accessories to fulfill all the requirements of the project		LS	1					
6	<b>Auxiliary Supply as per requirement of Vol.2 section 6 – Employers Requirements:</b> UPS with Battery to power the PCMS in absence of the main source (As specified at section 6: employer's requirements) with accessories to fulfill all the requirements of the project		LS	1					





Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
7	<b>Panel cleaning system as per requirement of Vol.2 section 6 – Employers Requirements:</b> Water storage facility with minimum pipe network to supply water on the spot for cleaning of PV modules with accessories to fulfill all the requirements of the project (civil work to be paid separately) with 2HP 1Ph pump;HDPE pipe with accessories, Hose Pipe and accessories all complete		LS	1					
8	<b>Lighting System as per requirement of Vol.2 section 6 – Employers Requirements</b>		LS	1					
a.	Internal and peripheral pathways								
b.	Entry points								
c.	Indoor lighting wherever necessary								
	All lighting equipment shall be LED luminaries. They must comply with IES LM 79-08 and IES LM 80—15 standards								
9	<b>Containerized control room cum office as per requirement of Vol.2 section 6 – Employers Requirements:</b> ISO standard container with IP55 or above protection rating. The container/s must be provided with an external cladding, appropriate partition all complete.		LS	1					
10	<b>Furniture and office equipment as per requirement of Vol.2 section 6 – Employers Requirements:</b> For control room - electrical fitments, round table with 6 office chairs, 1 large steel cupboard and for Supervisor's cabin - 1 Office desk with chair, electrical fitments etc.		LS	1					
11	<b>11kV Distribution Cable with all accessories complete</b>		LS	1					
	11kV aluminum XLPE cable of appropriate size with HDPE pipe and termination kit from transformer to breaker, breaker to nearest point of connection of NEA 11kV line with all accessories all complete								
12	<b>Any other equipment required to fulfill requirement as per Vol.2 section 6 – Employers Requirements</b>		LS	1					



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
	Including all Equipment's, Materials, Spares, Accessories, Grounding, Lightning, Safety & Fire Fighting System etc.								
	<b>Sub-Total Part-B</b>								
	<b>Part-C: Mandatory Spares</b>								
A	<b>Mandatory Spare List</b>								
1	<b>PV modules with accessories including clamps, nuts, bolts, cable connectors etc.</b>		Sets	20					
2	<b>PV inverters with accessories</b>		Sets	3					
3	<b>Other Electrical connectors</b>		Pairs	5 of each type					
4	<b>DC string fuses</b>		Nos	20					
5	<b>Spare parts for battery storage system</b>		Sets	3					
	Includes all BMS Auxiliary Systems, interconnectors, fuses, sensors for fire operation system								
6	<b>Tool kit</b> (screwdriver, plier, crimping tools, spanner set, hammer, clamp on meter with DC current measurement and other equipment as required), Safety Material (Danger Board, safety charts, fire blanket, safety gloves and shoes for 11 kV; 11 kV rubber mat)		Lot	1					



Item No.	Item description	Country of origin	Estimated		CIP Project Site including insurance, clearing, forwarding and transportation to site (Excluding Taxes and Duties applicable in Nepal)			Total Amount (Excluding Taxes and Duties)	Custom, VAT and other taxes
			Unit	Quantity	FC			FC	LC
					Currency#	Unit Rate	Amount		
1	2	3	4	5	6	7	8 = (7) x (5)	9=8	10
7	Battery Modules		Nos	5					
8	HVAC sensors, filters, and other accessories		Sets	3					
	Sub-Total Part-C								
	Total For PART 1 HUMLA [(Part-A + Part-B + Part-C)]								
	Total for Schedule 1 (Total of column 9 to be carried forward to Schedule 5: Grand Summary)								

Note:

10) Bidder is required to quote prices in this Schedule for all the individual items/sub-items.

11) The Prices of equipment are inclusive of type test charges.

12) 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:**

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

**LC: Local Currency (ALL Price in Local Currency)**

Item No.	Item description	Unit	Quantity	Ex Factory Price (Excluding VAT) in LC		Transportation to site in LC		Total Amount (Excluding Taxes )	Custom, VAT and other taxes
				Unit Rate	Amount	Unit Rate	Amount		
1	2	3	4	5	6 = (4) x (5)	7	8=(4)x(7)	9=6+8	10
<b>PART 1</b>	<b>Solar PV + BESS Plant at HUMLA</b>								
	<b>Part-A: EMPLOYER ASSESSED QUANTITIES</b>								
	<b>Part-B: CONTRACTOR ASSESSED QUANTITIES</b>								
	<b>Part-C: Mandatory Spares</b>								
	<b>Total For PART 1 Humla [(Part-A+ Part-B+ Part C)]</b>								
	<b>Total for Schedule 2 (Total of column 9 to be carried forward to Schedule 5: Grand Summary)</b>								

Note:



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

8) The Prices of equipment are inclusive of type test charges.

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

\* Strike-out whichever is not applicable.

<sup>a</sup> Specify currency in accordance with ITB 19.1 of the BDS.

<sup>b</sup> 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.

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**Schedule No.3: Design Services**

**LC: Local Currency, FC: Foreign Currency**

Item No.	Item Description	Estimated		Unit Prices		Total Prices	
				Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
		Quantity	Unit	NRs	Currency	LC	FC
1	2	3	4	5	6	7=3x5	8=3x6
PART 1	<b>Solar PV + BESS Plant at HUMLA</b>						
	Pre construction survey, Detail Design & Engineering optimizing solar path and considering shadow analysis in bifacial panels to optimally place solar panels for better output of the complete hybrid power plant systems for Solar PV and BESS at Humla.	1	LS				
	<b>Total for Schedule 3 (Total of column 7 &amp; 8 to be carried forward to Schedule 5: Grand Summary)</b>						

NOTE: The design cost for equipment is included in schedule 1.

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**Schedule No. 4: Installation and Other Services**

**(a): Installation and Construction Charges**

Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
	<b>Solar PV + BESS Plant at HUMLA</b>									
<b>Part-A:</b>	<b>EMPLOYER ASSESSED QUANTITIES</b>									
1	PV modules with accessories all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
2	PV inverters with accessories all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
3	Power Transformer and Containerized switchgear with LV Panel including all accessories, protections and auxiliary transformer all complete- as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
4	Meteorological station with accessories all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
5	PV mounting systems – mounting structure, hardware and foundations with accessories all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
6	Containerized Battery Energy Storage System all complete - as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
	<b>Sub-total Employer assessed quantities</b>									

Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
<b>Part-B:</b>	<b>CONTRACTOR ASSESSED QUANTITIES</b>									
1	DC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
2	AC side electrical items and accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
3	System protection and safety devices with accessories all complete as per requirement of Vol.2 section 6 – Employers Requirements			LS	1					
4	CCTV surveillance system with accessories as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
5	Panel cleaning system with accessories as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
6	Lighting System as per requirement of Vol.2 section 6 – Employers Requirements all complete			LS	1					
7	Containerized control room cum office all complete			LS	1					
	<b>Sub-total Contractor assessed quantities</b>									
<b>Part-C:</b>	<b>Boundary Wall, Water Tank, Solar Plant, Guard house, Store house, Containers, Septic tank and soak pit</b>									
1	Earth Works: -									
1.01	Site Preparation and Clearance works including cutting & uprooting shrubs, thick herbs & vegetables, top soil cutting, dismantling deducing the salvage value of reusable materials, levelling & removal of waste, transporting to the specified place as per instruction by site engineer all complete before and after construction.			LS	1					





Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
1.02	Earthwork and Excavation in all types of soil for all lift including timbering, pumping out water from the foundations, back filling the excavated clean & grub of soil in layers, disposing the excess soil for all lead as per instruction & specification all complete.			Cum	22600					
1.03	Earthwork in filling with local sand in layers as per specification and instruction all complete including royalties, taxes etc.			Cum	350					
2	Soling Works:									
2.01	Stone Soling Works as per instruction & specification all complete.			Cum	860					
3	Concrete Works:									
3.01	Providing and Laying of Plain Cement Concrete PCC (1:2:4)			Cum	610					
3.02	Providing and Laying of Reinforced Cement Concrete RCC M20 (1:1.5:3) including precast, shuttering, Grouting of Pockets & underpinning but excluding steel Reinforcement.			Cum	525					
4	Providing and fixing in position Fe 500 steel Reinforcement of various diameter confirming to standard code in RCC works including straightening, cutting, bending, binding with 20 SWG annealed wire for tying the bars (Binding wire shall not be measured separately) including all waste and cut pieces, provisions of adequate spacers, chairs, providing and placing cement cover blocks all complete as per drawings, specifications and instruction of the engineer. (Lap Length shall not be measured for the payment)			Kg	50800					
5	Masonry Works									
5.01	Random Rubble Masonry Works (1:4)			Cum	1520					
5.02	Flushed ruled cement Pointing Works in outside of Stone Masonry (1:2)			Sqm	1600					
5.03	Plaster Works (1:4)									



Sl. No.	Item Description	Installation Charges								
		Country of Origin	Type & Designation	Unit	Qty.	Portion in Foreign Currency			Portion in Nepalese Currency (in NPR)	
						Currency#	Unit Rate	Total Charges	Unit Rate	Total Charges
	1:4 C/S plastering with specified mortar mix ratio in any level, size and shape etc. as required including racking, watering cleaning of base, plastering to plumb, line, level, smoothness etc. and including curing and cost of necessary scaffoldings works all complete as per drawings and specifications.			Sqm	660					
5.04	Cement Punning Work (3mm)			Sqm	660					
6	Barbed Compound Fencing with interlock GI mesh, fencing wires supported by angle section including gate as per approved drawings (2.5 m High) including Steel Gate all complete			Rm	650					
7	All Civil Works for following structures as per TS and approved Drawings but excluding earthworks, PCC, RCC(M20), Masonry and Reinforcement Steel only which shall be measured and paid separately under respective items of BPS;									
7.01	Guard House			LS	1					
7.02	Store House (plinth area 40 sq.m)			LS	1					
7.03	Septic Tank and Soak Pit (20 user) all complete			LS	1					
8	Detailed Survey, Contour Mapping as per TS			LS	1					
9	Geotechnical Investigations as per TS			LS	1					
10	Miscellaneous Structural Steel (Mild Steel), accessories with required paintings all complete			kg	500					
	<b>Sub-total Civil works</b>									
	<b>Total for Schedule 4 (Total of column 9 and 11 to be carried forward to Schedule 5: Grand Summary)</b>									

# Specify currency in accordance with ITB Clause 19.1 and corresponding BDS clauses, Vol.I of the Bidding Documents.



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**Signature of Bidder:**

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**Schedule No. 4: Installation and Other Services**

**(d): Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods**

Sl. No.	Description of Tests	Testing Location	TEST CHARGES	
			Currency #	Amount
1	2	3	4	5
<b>Solar PV plant</b>				
	<b>PV modules</b>			
1	Complete routine test - Sample testing (1 piece from each site)			
<b>BATTERY ENERGY STORAGE SYSTEM</b>				
	<b>Li-ion battery storage system</b>			
1	Complete routine test - Sample testing (1 piece from each site)			
	<b>Total of Tests charges (Total of column 5 to be carried forward to Schedule 5: Grand Summary)</b>			

**Note:** The Bidder shall get the prior approval from the employer for finalization of the testing standard.

**Name of Bidder:**

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**Schedule No. 4: Installation and Other Services**

**(e): Social Safeguard and Environment Management Plan (as per Vol.2 Employer's Requirements)**

Sl. No.	Description		Testing Location	TEST CHARGES	
				Currency #	Amount
1	2		3	4	5
1	Preparation and Execution of Social Safeguard and Environmental Plan including fulfillment of all the requirements of Annexure II for Humla				
			LS		
	<b>Total of Type Tests charges (Total of column 5 to be carried forward to Schedule 5: Grand Summary)</b>				

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**Schedule No. 5: Grand Summary**

Sl. No.	Description (HUMLA)	Total Price Foreign	Total Price Local
		<b>1</b>	<b>2</b>
<b>1</b>	<b>TOTAL SCHEDULE NO. 1</b>		
	Plant and Equipment including Mandatory Spares to be supplied from abroad.		
<b>2</b>	<b>TOTAL SCHEDULE NO. 2</b>		
	Plant and Equipment including Mandatory Spares Parts to be supplied from within Nepal		
<b>3</b>	<b>TOTAL SCHEDULE NO. 3</b>		
	Design Services		
<b>4</b>	<b>TOTAL SCHEDULE NO. 4</b>		
	(a) Installation and construction charges		
	(b) Routine Test Charges for Tests to be conducted at independent lab to verify quality of goods after delivery of goods		
	(c) Social Safeguard and Environment Management Plan (as per Vol.2 Employer's Requirements)		
	<b>GRAND TOTAL [1+2+3+4]</b>		

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**Grand Summary of total costs for all 4 sites combined**

Sl. No.	Description	Total Price Foreign	Total Price Local
		<b>1</b>	<b>2</b>
<b>1</b>	<b>SCHEDULE NO. 5 JUMLA</b>		
	Total value of Sch 1 to 4 for Jumla		
<b>2</b>	<b>SCHEDULE NO. 5 GAMGADI</b>		
	Total value of Sch 1 to 4 for Gamgadi		
<b>3</b>	<b>SCHEDULE NO. 5 DOLPA</b>		
	Total value of Sch 1 to 4 for Dolpa		
<b>4</b>	<b>SCHEDULE NO. 5 HUMLA</b>		
	Total value of Sch 1 to 4 for Humla		
	<b>GRAND TOTAL FOR THE ENTIRE PROJECT [1+2+3+4]</b>		