

**BIDDING DOCUMENTS
FOR
FOR SUPPLY, INSTALLATION, TESTING
& COMMISSIONING OF SOLAR SYSTEM
(INVERTOR, PANELS, BATTERIES AND OTHER
ALLIED ITEMS) FOR DIFFERENT OFFICES/PUMPS**

Available on NATCO website (www.natco.gov.pk)

Northern Areas Transport Corporation Gilgit-Baltistan

**TERMS & CONDITIONS/EVALUATION CRITERIA FOR FIRMS/CONTRACTORS
TO APPEAR IN BIDDING PROCESS**

1. **Terms & Conditions:** (The terms and conditions mentioned in the advertisement are required to be fulfilled. In addition, following specific conditions shall also be applicable for evaluation of bidding process)
 - i. Firm or contractors are required to submit the mandatory documents specified in Serial No. 2 of the bid document to be eligible for the technical evaluation. Any firm or contractor that fails to provide the required documents shall not be considered eligible for the technical evaluation process.
 - ii. The technical evaluation shall be conducted in accordance with the criteria outlined in Serial No. 3 below.
 - iii. The financial proposal shall only be opened for those firms or contractors who have achieved a minimum of 60% marks in the technical proposal or bid evaluation. Firms or contractors failing to meet the required technical score will not be eligible for the opening of financial proposals and shall have their proposals returned unopened.
 - iv. Experience of one assignment/project shall be defined as a complete project of the same nature, including supply, fixing, installation, testing, and commissioning. Firms are required to provide a valid experience certificate or project/assignment completion certificate, which must be verifiable with the relevant department.
 - v. A supply order for the supply of single items falling within the scope of the required bid shall not be considered as valid experience for the purpose of this evaluation.
 - vi. Rates shall be indicated item-wise and in total, following the prescribed format. Firms/contractors are required to stamp and sign each page of the document. Any document missing the signature and stamp of the firm/contractor on each page shall be rejected.
 - vii. Rates quoted significantly higher or lower than the prevailing market rates or manufacturer's rates shall be deemed inappropriate and shall be rejected. Such discrepancies may indicate non-competitiveness or lack of alignment with market standards, leading to disqualification of the bid.

2. Mandatory Documents:

1.	Registration/Form-C of Firm
2.	CDR from Schedule Bank
3.	Non-Blacklisted Affidavit on Stamp Paper of Rs. 100/-

3. Technical Evaluation Criteria: (Total Marks = 70)

i.	Technical Bid	=	70
ii.	Financial Bid	=	30
	Total	=	100

Technical Bid	
Relevant Experience	Marks
Minimum 2 projects/assignments	15
Every additional Assignment/project will get 5 marks beyond 2 projects upto maximum of 30 marks	

Financial Soundness (Bank statement of one year from 1st January, 2024 to 31st December, 2024)	
Transaction of 5,000,000	20
Every additional credit transaction of Rs. 3 million will get 2 marks upto maximum of 40 marks	

(SHAHID ALI)
Manager Human Resource & Admin
PH: (05811:920419)

DETAIL OF LOCATION/OFFICE/STATION WISE REQUIRED ITEMS ALONGWITH SPECIFICATION (FOR FINANCIAL PROPOSAL)

A. NATCO HEAD OFFICE JUTIAL GILGIT

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	1	Supply, Installation, testing and commission of 8 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES Specifications: Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP65, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, Nitrox		
2	Solar Panel	16	Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology) Specifications: 570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box,3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty		
3	Batteries	2	INVEREX POWER WALL Lithium Ion 100 Ah-48 V, min 3000 cycles, with 5 years warranty		
4	Panel Mounting Structure	6	Supply, Fixing of 14 Guage Galvanized IRON L3/L2 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.		
5	Solar DC Cables, Breakers and Accessories	1 Job	Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change		

			<p>Over Switch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT, SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	AC/DC Earthing	1 Job	Earthing with copper earth plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt Complete in all aspect		
7	Transportation	1 Job	Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site		
8	Installation, Testing and Commissioning	1 Job	Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect		
9	Stabilizer	1	STABIMATIC 10 KW Automatic Voltage Regulator		

B. MANAGING DIRECTOR NATCO HOUSE JUTIAL GILGIT

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	1	<p>Supply, Installation, testing and commission of 6 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP65, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, Nitrox</p>		
2	Solar Panel	12	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box, 3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	2	<p>INVEREX POWER WALL Lithium Ion 100 Ah-48 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	4	<p>Supply, Fixing of 14 Guage Galvanized IRON L3 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT, SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	AC/DC Earthing	1 Job	<p>Earthing with copper earth plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt Complete in all aspect</p>		
7	Transportation	1 Job	<p>Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site</p>		
8	Installation, Testing and Commissioning	1 Job	<p>Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect</p>		
9	Stabilizer	1	<p>STABIMATIC 8 KW Automatic Voltage Regulator</p>		

C. NATCO WORKSHOP JUTIAL GILGIT

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	1	<p>Supply, Installation, testing and commission of 6 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP65, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, Nitrox</p>		
2	Solar Panel	12	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box,3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	2	<p>INVEREX POWER WALL Lithium Ion 100 Ah-48 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	4	<p>Supply, Fixing of 14 Guage Galvanized IRON L3 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT, SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	AC/DC Earthing	1 Job	<p>Earthing with copper earth plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt Complete in all aspect</p>		
7	Transportation	1 Job	<p>Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site</p>		
8	Installation, Testing and Commissioning	1 Job	<p>Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect</p>		
9	Stabilizer	1	<p>STABIMATIC 8 KW Automatic Voltage Regulator</p>		

D. NATCO MOUNTAIN FILLING STATION (MFS) JUTIAL GILGIT

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	2	<p>Supply, Installation, testing and commission of 6 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP65, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, Nitrox</p>		
2	Solar Panel	24	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box, 3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	4	<p>INVEREX POWER WALL Lithium Ion 100 Ah-48 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	8	<p>Supply, Fixing of 14 Guage Galvanized IRON L3 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job (2sets)	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT, SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	AC/DC Earthing	1 Job	<p>Earthing with copper earth plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt Complete in all aspect</p>		
7	Transportation	1 Job	<p>Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site</p>		
8	Installation, Testing and Commissioning	1 Job (2sets)	<p>Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect</p>		
9	Stabilizer	2	<p>STABIMATIC 8 KW Automatic Voltage Regulator</p>		

E. NATCO MOUNTAIN FILLING STATION (MFS) JUGLOTE

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	2	<p>Supply, Installation, testing and commission of 6 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP65, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, Nitrox</p>		
2	Solar Panel	24	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box, 3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	4	<p>INVEREX POWER WALL Lithium Ion 100 Ah-48 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	8	<p>Supply, Fixing of 14 Gauge Galvanized IRON L3 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job (2sets)	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT, SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	AC/DC Earthing	1 Job	<p>Earthing with copper earth plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt Complete in all aspect</p>		
7	Transportation	1 Job	<p>Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site</p>		
8	Installation, Testing and Commissioning	1 Job (2sets)	<p>Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect</p>		
9	Stabilizer	2	<p>STABIMATIC 8 KW Automatic Voltage Regulator</p>		

F. NATCO MOUNTAIN FILLING STATION (MFS) SOST HUNZA

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	2	<p>Supply, Installation, testing and commission of 6 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP65, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, Nitrox</p>		
2	Solar Panel	24	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box, 3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	4	<p>INVEREX POWER WALL Lithium Ion 100 Ah-48 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	8	<p>Supply, Fixing of 14 Gauge Galvanized IRON L3 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job (2sets)	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT, SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	AC/DC Earthing	1 Job	<p>Earthing with copper earth plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt Complete in all aspect</p>		
7	Transportation	1 Job	<p>Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site</p>		
8	Installation, Testing and Commissioning	1 Job (2sets)	<p>Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect</p>		
9	Stabilizer	2	<p>STABIMATIC 8 KW Automatic Voltage Regulator</p>		

G. NATCO MOUNTAIN FILLING STATION (MFS)/BOOKING OFFICE GHAKUCH GHIZER

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	2	<p>Supply, Installation, testing and commission of 6 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP65, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, Nitrox</p>		
2	Solar Panel	24	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box, 3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	4	<p>INVEREX POWER WALL Lithium Ion 100 Ah-48 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	8	<p>Supply, Fixing of 14 Guage Galvanized IRON L3 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job (2sets)	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT, SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	AC/DC Earthing	1 Job	<p>Earthing with copper earth plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt Complete in all aspect</p>		
7	Transportation	1 Job	<p>Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site</p>		
8	Installation, Testing and Commissioning	1 Job (2sets)	<p>Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect</p>		
9	Stabilizer	2	<p>STABIMATIC 8 KVA Automatic Voltage Regulator</p>		

H. NATCO MOUNTAIN FILLING STATION (MFS) BISHAM

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	2	Supply, Installation, testing and commission of 6 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES Specifications: Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP65, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, Nitrox		
2	Solar Panel	24	Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology) Specifications: 570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box, 3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty		
3	Batteries	4	INVEREX POWER WALL Lithium Ion 100 Ah-48 V, min 3000 cycles, with 5 years warranty		
4	Panel Mounting Structure	8	Supply, Fixing of 14 Guage Galvanized IRON L3 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.		
5	Solar DC Cables, Breakers and Accessories	1 Job (2sets)	Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper		

			<p>gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT,SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	AC/DC Earthing	1 Job	<p>Earthing with copper earth plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt Complete in all aspect</p>		
7	Transportation	1 Job	<p>Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site</p>		
8	Installation, Testing and Commissioning	1 Job (2sets)	<p>Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect</p>		
9	Stabilizer	2	<p>STABIMATIC 8 KVA Automatic Voltage Regulator</p>		

I. NATCO BOOKING OFFICE SHATYAL

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	1	<p>Supply, Installation, testing and commission of 2.5 KW SOLAR HYBRID INVERTER Single Phase, INVERIX VEYRON-II SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP21, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, VEYRON</p>		
2	Solar Panel	4	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box, 3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	1	<p>INVEREX POWER WALL Lithium Ion 100 Ah-24 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	2	<p>Supply, Fixing of 14 Guage Galvanized IRON L2 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT,SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	Transportation	1 Job	Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site		
7	Installation, Testing and Commissioning	1 Job	Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect		
8	Stabilizer	1	STABIMATIC 5 KVA Automatic Voltage Regulator		

J. NATCO BOOKING OFFICE KHAPULU, GHANCHE

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	1	<p>Supply, Installation, testing and commission of 2.5 KW SOLAR HYBRID INVERTER Single Phase, INVERIX VEYRON-II SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP21, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, VEYRON</p>		
2	Solar Panel	4	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box,3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Batter Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	1	<p>INVEREX POWER WALL Lithium Ion 100 Ah-24 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	2	<p>Supply, Fixing of 14 Guage Galvanized IRON L2 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT,SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	Transportation	1 Job	Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site		
7	Installation, Testing and Commissioning	1 Job	Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect		
8	Stabilizer	1	STABIMATIC 5 KVA Automatic Voltage Regulator		

K. NATCO BOOKING OFFICE HUNZA

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	1	<p>Supply, Installation, testing and commission of 3 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP21, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, NITROX</p>		
2	Solar Panel	6	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box, 3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Better Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	1	<p>INVEREX POWER WALL Lithium Ion 100 Ah-24 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	2	<p>Supply, Fixing of 14 Gauge Galvanized IRON L3 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT,SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	Transportation	1 Job	<p>Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site</p>		
7	Installation, Testing and Commissioning	1 Job	<p>Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect</p>		
8	Stabilizer	1	<p>STABIMATIC 5 KVA Automatic Voltage Regulator</p>		

L. NATCO MANAGER RESIDENCE & GUEST HOUSE, SOST HUNZA

S. No.	Item Name	Qty	Item Details / Specification	Per Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Solar Inverter	1	<p>Supply, Installation, testing and commission of 3 KW SOLAR HYBRID INVERTER Single Phase, INVERIX NITROX SERIES</p> <p>Specifications:</p> <p>Pure Sine Wave Solar Hybrid Inverter (UPS), Dual MPPT efficiency of 99.9%, Resistance to bad weather, Maximum Efficiency 97.6%, Dual input and Dual output, IP21, HEAT SINK, ingress protection, LCD Display, Smart Monitoring, Internal SPD, Operating temperature -25 to 60 Degree Centigrade, NITROX</p>		
2	Solar Panel	6	<p>Supply, Installation, testing and commission of JINKO/CANADIAN/JA SOLAR N-Type BIFICIAL (Topcon Technology)</p> <p>Specifications:</p> <p>570W-590W Tier-1, Grade A, Maximum Efficiency 21% or Above, Split junction Box, 3.2mm high transmission tempered glass, Back sheet of Composite film, Nominal Maximum Power 580W(STS), Better Shading tolerance, Low Temperature Coefficient, Higher Shade tolerance, Snow Load Capability, 12 years warranty</p>		
3	Batteries	1	<p>INVEREX POWER WALL Lithium Ion 100 Ah-24 V, min 3000 cycles, with 5 years warranty</p>		
4	Panel Mounting Structure	2	<p>Supply, Fixing of 14 Gauge Galvanized IRON L3 Fixed SOLAR MOUNTING STRUCTURE and accessories including all civil works i.e, concreting, drilling, Rawl Bolts etc complete in all respect as per directions of Engineer in charge.</p>		

5	Solar DC Cables, Breakers and Accessories	1 Job	<p>Supply, Installation, and testing of AC & DC CABLES, AC and DC Breakers Schneider, Panel Boxes and Change Over Swutch with PVC ducts & accessories. DC Cable of at least 6mm single Core & AC cable of at least 10mm as per needs. Stranded and flexible insulated copper wires copper gate, Pakistan cable/fast/newage cables</p> <p>Voltage drop not exceed 1% on DC side of the power inverter and 1.5% on AC side of the power inverter. The wiring that leads into the pole, protected in a PVC Spiral / Flexible conduit. External cables adapted to outdoor exposure as per IEC 60811. - The outer insulation: sunlight (UV)-resistant and weather. These works also include ABB, CHINT,SPDS, MC4 Connectors etc complete in all respect as per directions of Engineer/incharge</p>		
6	Transportation	1 Job	Transportation and Loading/Unloading of all Items from Vendor warehouse to Installation Site		
7	Installation, Testing and Commissioning	1 Job	Installation of Panels, Mounts, Distribution Boxes, Wiring, Inverter change-over etc. and commissioning. Installation of system must be carries out with professional finishing and standards, Complete in All aspect		
8	Stabilizer	1	STABIMATIC 5 KVA Automatic Voltage Regulator		

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