



JAMIA HAMDARD

(Deemed to be University)

Accredited by NAAC in 'A' Category

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HAMDARD NAGAR
NEW DELHI - 110062

Ref. No. JH/RO/OO/2021/10/01
Date: 03/03/2022

M/s. Continual Renewable Energy Pvt, Ltd.
F-904, 9th Floor, Empire Square,
Next to Auto Cluster,
Chinchwad, Pune
Maharashtra - 411019

Work Order

On the recommendation of the constituted Committee, the Competent Authority of Jamia Hamdard has been pleased to accept your offer for the Design, Supply, Installation, Testing & Commissioning of Roof Top Solar Power System grid connected (Net Metering) of 465 KWp Under CAPEX Model at the same terms conditions and scope of works as stipulated in the Tender documents dated 12.11.2021 and also with the following conditions:

1. The total value of the work will be Rs. 4,30,45,602.00 including GST (Four Crores Thirty Lakhs Forty Five Thousand Six Hundred and Two Rupees only). However, the billing will be made as per actual quantity and measurement executed.
2. All the works will be carried over as per CPWD norms and following the prevailing Delhi Electricity Rules and DERC.
3. The materials used will be of the same specification given in the Tender Document (BOQ/list of approved makes).
4. All safety norms as per existing safety Rules and Covid-19 guidelines issued shall be strictly followed.
5. Payment will be made as per terms & conditions stipulated in the tender document.

You are advised to visit the office of the Executive Engineer for further processing and direction.

Received by.

Gaurav Kumar
4/03/2022

(S.S. Akhtar)
3-3-22
Registrar

C.C. to:

- Secretary, HNF-HECA
- Secretary to the V.C.
- Secretary to the Registrar
- Secretary to the Finance Officer
- Executive Engineer
- All AEs

Building wise proposed Solar roof top plant capacity.

Building Name	Proposed Capacity in KW peak
HARC Building	95.55 KWp
Central Library Building	100.10 KWp
JLN International Hostel	33.80 KWp
Ibn e Batuta Hostel	50.05 KWp
Ibn E Sina Girls Hostel	39.00 KWp
Porta Cabin (Extension of Ibn e Sina Girls Hostel)	145.60 KWp
TOTAL	464.10 KWp

Average saving from solar power plant of capacity 465KW peak.

1	Plant Capacity	465	KW
2	Cost of BSES electricity	12.5	per unit
3	Average Annual Units generated from 465Kwp solar plant	627750	units
4	Average Annual Units Consumed in the Jamia Hamdard Campus including HAHCH &HIMSR	1,00,00,000	units
5	Average Annual Units Consumed in the Jamia Hamdard Campus excluding HAHCH &HIMSR	40,00,000	units
6	Approximate saving unit in percentage, when HAHCH & HIMSR is included	6.27%	
7	Approximate saving unit in percentage, when HAHCH & HIMSR is not included	15.69%	

Building wise BOQ for reference:

1. For HARC Building

S.No.	Item & Description	Qty
1	Panasonic HIT Panel 325 watt Providing ,fixing, testing and commissioning of HIT MODULES 325 Watt PV CELLS on the ms structure as per norms	294
2	Providing ,fixing, testing and commissioning of INVERTERS for the same solar system as per Norms (Core 1)	2
3	DC cable 4 Sqmm with Cable routing with Wiremesh Cable tray with cover, bend and other accessories	2,000.00
4	Supply and laying of AC armoured CABLES complete with cable end terminations as required as per norm 4Cx 50 mm ² AL	80
5	Supply and laying of AC armoured CABLES complete with cableend terminations as required as per norm 4Cx 120 mm ² AL	60
6	CABLE TRAY Wiremesh type cable tray of GI with accessories. 100X55 mm * 3.9 mm wire gauge for sprinkler system	200
7	CABLE TRAY Perforated type cable tray of GI with coupler plates 200X60mm * 0.7 mm thick for AL armoured cable routing	90
8	SPRINKLER TYPE MODULE CLEANING SYSTEM complete with CPVC piping with accessories and water pump of 2HP(2nos) to be attached with the structure of the module etc. complete	1
9	Supply, fixing, testing and commissioning of Interceptor rod type LIGHTING ARRESTOR complete as per norms.As per IEC 62305.	2
10	Earthing Kit - 25 mm dia. CU bonded (250 micron), 3mtr long, UL listed (Chemical Earthing with Clamps) with Accessories Providing and laying of required EARTHING SYSTEM for whole solar system GI /Copper (GI earthing for equipment & structure, Cu earthing for from module to module with complete earth pits per requirements and as per norms)OBO	4-
11	Solar Mounting Structure With Accessories Providing ,fabrication and fixing of Hot dipped GI STRUCTURES with 80- 120 micron zinc coating capable of withstanding wind speed of 170km/hr plus Accessories and including civil work as required etc in all respects complete	4,000.00
12	Supply and laying of Armoured fiber cables end terminations as required as per norms. Make D-Link	150
13	Supply for Smart DCDB Monitoring Box 12 IN 12 OUT PANEL as per given BOM 6 nos SPD Type 1+2, Class B+C Solar 1000 DC SPD brand (OBO), with remote signaling contact plus SPD for SMC card,Fuse plus holder (Mersen), Power Supply(230 AC, O/p 12/24 DC) Omoron,String Monitoring card(Kernel),Terminals(Connect well),End stopper(Connect well), Gland(OBO),Transparent Box(IP65)(RSS/HENSEL)	2
14	AC Combiner Box with outdoor Housing with 2 nos 100 Amps MCCB AL bus bar etc. complete (IP 65) with Class B+C SPD for Power line protection, Uc:320V,3P+NPE	1
15	ACDB with Outdoor Housing with MCCB MCCB 200Amps (Make SCHNEIDER /L&T)	1
16	Solar Check Meter	1
17	GI strip 30x3mm	250
18	Supply and Laying of 100x55 x3.9m mm wire mesh cable tray with all accessories like bend, tee, elbow, clamp, cover etc. for DC stringing	250

2. For Central Library Building

S.No.	Item & Description	Qty
1	Panasonic HIT Panel 325 watt Providing ,fixing, testing and commissioning of HIT MODULES 325 Watt PV CELLS on the ms structure as per norms	308
2	Providing ,fixing, testing and commissioning of INVERTERS for the same solar system as per Norms(Core 2)	1
3	DC cable 4 Sqmm with Cable routing with Wiremesh Cable tray with cover, bend and other accessories	2,000.00
4	supply and laying of AC armoured CABLES complete with cable end terminations as required as per norm 4Cx 120 mm ² AL	100
5	CABLE TRAY Wiremesh type cable tray of GI with accessories. 100X55 mm * 3.9 mm wire gauge for sprinkler system	250
6	CABLE TRAY Perforated type cable tray of GI with coupler plates 200X60mm * 0.6 mm thick for cable routing	50
7	SPRINKLER TYPE MODULE CLEANING SYSTEM complete with CPVC piping with accessories and water pump of 3HP(1nos) to be attached with the structure of the module etc. complete	1
8	Supply, fixing , testing and commissioning of Interceptor rod type LIGHTING ARRESTOR complete as per norms .As per IEC 62305.	3
9	Earthing Kit - 25 mm dia. CU bonded (250 micron), 3mtr long, UL listed (Chemical Earthing with Clamps) with Accessories Providing and laying of required EARTHING SYSTEM for whole solar system GI /Copper (GI earthing for equipment & structure, Cu earthing for from module to module with complete earth pits per requirements and as per norms)OBO	4
10	Solar Mounting Structure With Accessories Providing ,fabrication and fixing of Hot dipped GI STRUCTURES with 80- 120 micron zinc coating capable of withstanding wind speed of 170km/hr plus Accessories and including civil work as required etc in all respects complete	4,500.00
11	Supply and laying of Armoured fiber cables end terminations as required as per norms. Make D-Link	150
12	Supply for Smart DCDB Monitoring Box 24 IN 24 OUT PANEL as per given BOM 12 nos SPD Type 1+2, Class B+C Solar 1000 DC SPD, with remote signaling contact(OBO) plus SPD for SMC card,Fuse plus holder (Mersen), Power Supply(230 AC, O/p 12/24 DC) Omoron,String Monitoring card(Kernel),Terminals(Connectwell),End stopper(Connectwell), Gland(OBO),Transparent Box(IP65)(RSS/HENSEL)	1
13	AC Combiner Box with outdoor Housing with 200amps MCCB(Schenider/L&T) AL bus bar etc. complete (IP 65) with Class B+C SPD for Power line protection, Uc:320V,3P+NPE	1
14	ACDB with Outdoor Housing with MCCB MCCB 200Amps (Make SCHNEIDER /L&T)	1
15	Solar Check Meter	1
16	GI strip 30x3mm	320
17	Supply and Laying of 100x55 x3.9mm wire mesh cable tray with all accessories like bend, tee, elbow, clamp, cover etc. for stringing	500

3. For JLN International Hostel

S. No.	Item & Description	Qty
1	Panasonic HIT Panel 325 watt Providing ,fixing, testing and commissioning of HIT MODULES 325 Watt PV CELLS on the ms structure as per norms	104
2	Providing ,fixing, testing and commissioning of INVERTERS for the same solar system as per Norms(STP 15KW)	1
3	Providing ,fixing, testing and commissioning of INVERTERS for the same solar system as per Norms(STP 20KW)	1
4	Module stringing 1C x 4 SQMM CU Supply and laying of following DC CABLEs in wall trunking complete with cable end terminations as required as per norms	800
5	AJB TO INVERTER 4C x 16 SQMM CU Unarmored	10
6	supply and laying of AC armoured CABLES complete with cable end terminations as required as per norm4Cx 25 mm ² AL	120
7	CABLE TRAY Wiremesh type cable tray of GI with accessories. 100X55 mm * 3.9 mm wire gauge for sprinkler system	120
8	CABLE TRAY Perforated type cable tray of GI with coupler plates 200X60mm * 0.6 mm thick for cable routing	20
9	SPRINKLER TYPE MODULE CLEANING SYSTEM complete with CPVC piping with accessories and water pump of 1HP(2nos) to be attached with the structure of the module etc. complete	1
10	Supply ,fixing , testing and commissioning of Interceptor rod type LIGHTING ARRESTOR complete as per norms. As per IEC 62305.	3
11	Earthing Kit - 25 mm dia. CU bonded (250 micron), 3mtr long, UL listed (Chemical Earthing with Clamps) with Accessories Providing and laying of required EARTHING SYSTEM for whole solar system GI /Copper (GI earthing for equipment & structure, Cu earthing for from module to module with complete earth pits per requirements and as per norms)OBO	6
12	Solar Mounting Structure With Accessories Providing ,fabrication and fixing of Hot dipped GI STRUCTURES with 80- 120 micron zinc coating capable of withstanding wind speed of 170km/hr plus Accessories and including civil work as required etc in all respects complete	1,500.00
13	Supply and laying of Armoured fiber cables end terminations as required as per norms. Make D-Link	120
14	Supply for Smart DCDB Monitoring Box 4 IN 4 OUT PANEL as per given BOM 2 nos SPD Type 1+2, Class B+C Solar 1000 DC SPD with remote signaling contact brand(OBO) plus SPD for SMC card, Fuse plus holder (Mersen), Power Supply(230 AC, O/p 12/24 DC) Omoron,String Monitoring card(Kernel),Terminals(Connectwell),End stopper(Connect well), Gland(OBO),Transparent Box(IP65)(RSS/HENSEL)	2
15	AC Combiner Box with outdoor Housing with 63 Amps MCCB(Schenider/L&T) AL bus bar etc. complete (IP 65) with Class B+C SPD for Power line protection, Uc:320V,3P+NPE	2
16	Solar Check Meter	1
17	GI strip 30x3mm	200
18	Supply and Laying of 100x55 x3.9m mm wire mesh cable tray with all accessories like bend, tee, elbow, clamp, cover etc. for stringing	150

4. For Ibn e Batuta Hostel

S.No	Item & Description	Qty
1	Panasonic HIT Panel 325 watt Providing ,fixing, testing and commissioning of HIT MODULES 325 Watt PV CELLS on the ms structure as per norms	154
2	Providing ,fixing, testing and commissioning of INVERTERS for the same solar system as per Norms(Core 1)	1
3	Module stringing 1C x 4 SQMM CU Supply and laying of following DC CABLEs in wall trunking complete with cable end terminations as required as per norms	1,500.00
4	AC CABLE AL ARMOUD 4CX50SQMM	120
5	CABLE TRAY Wiremesh type cable tray of GI with accessories. 100X55 mm * 3.9 mm wire gauge for sprinkler system	150
6	CABLE TRAY Perforated type cable tray of GI with coupler plates 200X60mm * 0.6 mm thick for cable routing	50
7	SPRINKLER TYPE MODULE CLEANING SYSTEM complete with CPVC piping with accessories and water pump of 2HP(1nos) to be attached with the structure of the module etc. complete	1
8	Supply, fixing, testing and commissioning of Interceptor rod type LIGHTING ARRESTOR complete as per norms.As per IEC 62305.	2
9	Earthing Kit - 25 mm dia. CU bonded (250 micron), 3mtr long, UL listed (Chemical Earthing with Clamps) with Accessories Providing and laying of required EARTHING SYSTEM for whole solar system GI /Copper (GI earthing for equipment & structure, Cu earthing for from module to module with complete earth pits per requirements and as per norms)OBO	3
10	Solar Mounting Structure With Accessories Providing ,fabrication and fixing of Hot dipped GI STRUCTURES with 80- 120 micron zinc coating capable of withstanding wind speed of 170km/hr plus Accessories and including civil work as required etc in all respects complete	2,500.00
11	Supply and laying of Armored fiber cables end terminations as required as per norms. Make D-Link	120
12	Supply for Smart DCDB Monitoring Box 12 IN 12 OUT PANEL as per given BOM 6 nos SPD Type 1+2, Class B+C Solar 1000 DC SPD with remote signaling contact brand (OBO), plus SPD for SMC card, Fuse plus holder (Mersen), Power Supply(230 AC, O/p 12/24 DC) Omoron,String Monitoring card(Kernel),Terminals(Connectwell),End stopper(Connectwell), Gland(OBO),Transparent Box(IP65)(RSS/HENSEL)	1
13	AC Combiner Box with outdoor Housing with 100 Amps MCCB(Schenider/L&T) AL bus bar etc. complete (IP 65) with Class B+C SPD for Power line protection, Uc:320V,3P+NPE	1
14	ACDB with Outdoor Housing with MCCB MCCB 100Amps (Make SCHNEIDER /L&T)	1
15	Solar Check Meter	1
16	GI strip 30x3mm	120
17	Supply and Laying of 100x55 x3.9m mm wire mesh cable tray with all accessories like bend, tee, elbow, clamp, cover etc. for stringing	150

5. For Ibn E Sina Girls Hostel

S.No.	Item & Description	Qty
1	Panasonic HIT Panel 325 watt Providing ,fixing, testing and commissioning of HIT MODULES 325 Watt PV CELLS on the ms structure as per norms	120
2	Providing ,fixing, testing and commissioning of INVERTERS for the same solar system as per Norms(STP 20KW)	2
3	Module stringing 1C x 4 SQMM CU Supply and laying of following DC CABLES in wiremesh cable tray mentioned below complete with cable end terminations as required as per norms	1,000.00
4	AJB TO INVERTER 4C x 16 SQMM CU Unarmoured	15
5	AC CABLE AL ARMOUD 4CX16SQMM	50
	AC CABLE AL ARMOUD 4CX50SQMM	50
6	CABLE TRAY Wiremesh type cable tray of GI with accessories. 100X55 mm * 3.9 mm wire gauge for sprinkler system	150
7	SPRINKLER TYPE MODULE CLEANING SYSTEM complete with CPVC piping with accessories and water pump of 2HP(Inos) to be attached with the structure of the module etc. complete	1
8	Supply, fixing , testing and commissioning of Interceptor rod type LIGHTING ARRESTOR complete as per norms.As per IEC 62305.	2
9	Earthing Kit - 25 mm dia. CU bonded (250 micron), 3mtr long, UL listed (Chemical Earthing with Clamps) with Accessories Providing and laying of required EARTHING SYSTEM for whole solar system GI /Copper (GI earthing for equipment & structure, Cu earthing for from module to module with complete earth pits per requirements and as per norms)OBO	3
10	Solar Mounting Structure With Accessories Providing ,fabrication and fixing of Hot dipped GI STRUCTURES with 80- 120 micron zinc coating capable of withstanding wind speed of 170km/hr plus Accessories and including civil work as required etc in all respects complete	1,500.00
11	Supply and laying of Armoured fiber cables end terminations as required as per norms. Make D-Link	120
12	Supply for Smart DCDB Monitoring Box 5 IN 5 OUT PANEL as per given BOM 2 Nos SPD Type 1+2, Class B+C Solar 1000 DC SPD, with remote signaling contact plus one spd for SMC card,Fuse plus holder (Mersen), Power Supply(230 AC, O/p 12/24 DC) Omoron,String Monitoring card(Kernel),Terminals(Connectwell),End stopper(Connectwell), Gland(OBO),Transparent Box(IP65)(RSS/HENSEL)	2
13	AC Combiner Box with outdoor Housing with 2 nos 63 Amps MCCB(Schenider/L&T) AL bus bar etc. complete (IP 65) with Class B+C SPD for Power line protection, Uc:320V,3P+NPE	1
14	ACDB with Outdoor Housing with MCCB MCCB 100 Amps (Make SCHNEIDER /L&T)	1
16	Solar Check Meter	1
15	GI strip 30x3mm	180
16	Supply and Laying of 100x55 x3.9m mm wire mesh cable tray with all accessories like bend, tee, elbow, clamp, cover etc. for stringing	200

6. For Porta Cabin (Extension of Ibn e Sina Girls Hostel)

Part-A

S.No	Item & Description	Qty
1	Panasonic HIT Panel 325 watt Providing ,fixing, testing and commissioning of HIT MODULES 325 Watt PV CELLS on the ms structure as per norms	140
2	Providing ,fixing, testing and commissioning of INVERTERS for the same solar system as per Norms(STP 20KW)	1
3	Providing ,fixing, testing and commissioning of INVERTERS for the same solar system as per Norms(STP 25KW)	1
4	DC cable 4 Sqmm with Cable routing with Wiremesh Cable tray with cover, bend and other accessories	1,000.00
5	AC CABLE CU UNARMOUD 4CX16 SQMM	30.00
6	supply and laying of AC armoured CABLES complete with cable end terminations as required as per norm 4Cx 50 mm ² AL	50
7	CABLE TRAY Wiremesh type cable tray of GI with accessories. 100X55 mm * 3.9 mm wire gauge for sprinkler system	200
8	SPRINKLER TYPE MODULE CLEANING SYSTEM complete with CPVC piping with accessories and water pump of 2HP(1nos) to be attached with the structure of the module etc. complete	1
9	Supply, fixing, testing and commissioning of Interceptor rod type LIGHTING ARRESTOR complete as per norms. As per IEC 62305.	1
10	Earthing Kit - 25 mm dia. CU bonded (250 micron), 3mtr long, UL listed (Chemical Earthing with Clamps) with Accessories Providing and laying of required EARTHING SYSTEM for whole solar system GI /Copper (GI earthing for equipment & structure, Cu earthing for from module to module with complete earth pits per requirements and as per norms)OBO	3
11	Solar Mounting Structure With Accessories Providing ,fabrication and fixing of Hot dipped GI STRUCTURES with 80- 120 micron zinc coating capable of withstanding wind speed of 170km/hr plus Accessories and including civil work as required etc in all respects complete	2,000.00
12	Supply and laying of Armored fiber cables end terminations as required as per norms. Make D-Link	120
13	Supply for Smart DCDB Monitoring Box 6 IN 6 OUT PANEL as per given BOM 4 nos SPD Type 1+2, Class B+C Solar 1000 DC SPD, with remote signaling contact(OBO) plus SPD for SMC card,Fuse plus holder (Mersen), Power Supply(230 AC, O/p 12/24 DC) Omoron,String Monitoring card(Kernel),Terminals(Connectwell),End stopper(Connectwell), Gland(OBO),Transparent Box(IP65)(RSS/HENSEL)	2
14	AC Combiner Box with outdoor Housing with (63+63) Amps MCCB(Schenider/L&T) AL bus bar etc. complete (IP 65) with Class B+C SPD for Power line protection, Ue:320V,3P+NPE	1
15	ACDB with Outdoor Housing with MCCB MCCB 100Amps	1
16	Solar Check Meter	1
17	GI strip 30X3 mm	100
18	Supply and Laying of 100x55 x3.9m mm wire mesh cable tray with all accessories like bend, tee, elbow, clamp, cover etc. for DC stringing	100
19	For fixing and installation of solar check meter within building	1