Institute for Defence Studies and Analysis
No 1, Development Enclave , Rao Tula Ram Marg,
Delhi Cantt-110010.

No : IDSA/075/2014 **Date : 20/03/2014.**

Corrigendum No 1 to Tender for Solar PhotoVoltaic Lighting system at IDSA

Dear Tenderer(s).

This is to bring to the notice of all concerned that the detailed specification has been modified , Accordingly Notice Inviting Tender at page No 15 & 16 of the Tender document may please be read as given below .

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Hemant Kumar
Estate Manager.

DETAILED SPECIFICATIONS

1	Nominal DC Array Input voltage	550 V	
2.	DC array input operating voltage	-20%+15% of the DC array input voltage in Sr No 1 Above	
3.	Type of solar charge controller	Should have 3 MPPTs	
4	Switching Device	MOSFET /IGBT BASED	
5	Continuous inverter output rating	10 KVA	
6.	Output wave form	Pure Sine wave output	
7.	Total harmonic distortion	< 3 % with resistive load	
8	Output Voltage	400 +3% in case of 3 phase PCU	
9	Output frequency	50 HZ +(-) 5% Hz	
10	Power factor	>0.9	
11	PCU efficiency	>96 % at nominal voltage & power	
12	Idle current	< 4 % of rated capacity	
13	Regulation	Line regulation and load regulation-2%	
14	Cooling	Forced air cooling with temperature controlled cooling fan	
16	Operating Temperature	-20 to 70 0C	
17	Relative Humidity	95% Maximum	
18	LED/ LCD display : Indications	Display shall indicate system functional parameters and protection functional indicators	
19	Data Monitor and display controls	RS 485, Ethernet or RS 232 connectivity	
20	Protections	1) Input over voltage	2) Low / High Frequency
		3) Short circuit	4) Under / over output voltage
		5) Over Temperature	6) Grid Input under voltage / over voltage with auto recovery
		7) DC disconnect device	8) DC reverse polarity
		9) Anti Islanding protection as per the standard	
21	Enclosure Protection	IP 65 for outdoor protection	
22	Safety	1. IEC 62103 2. IEC 62109 Part 1 & 2	
23	System Details	10 Kwp Grid – Tie Solar PV System	
24	Proposed PV Module Type	Make/Model – PV-Powertech / Vikram Solar / Waree – 250 Wp Quantity – 40 Wattage – 250 Wp No of Cells – 60 Voc/Isc – 37.5 V / 8.72 A Vmp / Imp – 30 V / 8.42A	

		Dimensions – 1639*989*35 (mm) Weight – 20 Kg Operating conditions – 40 to +85 C Maximum System Voltage – 1000 DC
25	Mounting Type	Galvanized Steel with fixed tilted direct mounting on rooftop of parking shed and security cabin
26	Inverter Type	Grid tied inverters with monitoring system of reputed make Quantity – 10 Kw – 1 Nos Output voltage – 400 V, 50 Hz AC Efficiency - >90 % Power Connections – 3 Phase Approved by MNRE like SMA, Ingeteam emersion, refusol. Kindly mention your make clearly if it is equivalent to above. In Built Data logger for minimum 3 months data storage. Surge arrestor at Input and output with Type III surge arrestor.
27	Electrical Accessories	Cables will confirm to IS694 and shall be of 650 V/1.1 Kv grade. Inter connections – array to junction boxes, junction boxes to inverter etc will be selected to keep voltage drop & losses to the minimum. The bright annealed 99.97 % pure bare copper conductors result in lower heating thereby increasing cable fire & efficiency. These wires are insulated with a special grade PVC compound formulated manufactured in house. Temperature Range – 15 deg C to +70 deg C Sizes & colours – Suitable Red, Yellow, Blue, Black