No. IV-21011/18/2010-Prov-I
भारत सरकार/Government of India
गृह मंत्रालय/Ministry of Home Affairs
पुलिस आधुनिकीकरण प्रभाग /Police Modernization Division
संभरण-I डेस्क /Prov.I Desk

26, Man Singh Road, Jaisalmer House,
New Delhi, the 5 December, 2014

To,

The DsG: AR (through LOAR), BSF, CISF, CRPF, ITBP, SSB, NSG & BPR&D.

Subject: Trial Directives of Solar Battery Charger for Radio Set.

The undersigned is directed to refer to the subject mentioned above and to say that the Trial Directive in respect of Solar Battery Charger for Radio Set as per Annex-I have been approved by the competent authority in MHA.

2. Henceforth, all the CAPFs should trial evaluate the above items strictly as per the laid down QRs/Specifications issued vide letter of even number dated 13.12.2010.

3. Concerned CAPF will be accountable for the correctness of Trial Directives.

Yours faithfully,

(P. K. Srivastava)
Under Secretary to the Govt. of India

Encl: As above.

Copy forwarded for necessary action to:

SO (IT), MHA - with the request to host the Trial Directives of Solar Battery Charger for Radio Set on official website of MHA (under the page of Organizational Set up, Police Modernization Division-Communication Equipment). Soft copy is being sent through email also.

(R. K. Soni)
Section officer (Prov-I)

Copy to: DDG (Procurement), MHA

~~Appx "A"~~ Annex-I

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TRIAL DIRECTIVES OF SOLAR BATTERY CHARGER FOR RADIO SET

Trial of foldable solar battery charger will be conducted by a Board of Officers (B.O.O.) in the presence of representative of Firm to assess actual performance of the solar charger.

2. **Methodology:** - All parameter / Specifications mentioned in the QRs will be checked by board of officers by ascertaining /verifying following check.

i) Physical Checks: In this category specifications of the equipment will be checked physically as per QRs.

ii) Functional Check: - The vendors will show all features/ configuration of the equipment to the board of officers during technical evaluation.

iii) Submission of certificates: - Specification which cannot be checked due to lack of testing facilities/ expertise, a certificate of test shown against each will be provided by the firm from any Government approved accredited Laboratory during physical trial of the equipment and will be acceptable to B.O.O.

SI No.	PARAMETERS	SPECIFICATION FOR		TRIAL PROCEDURE
		FOLDABLE	FOLDABLE & F LEXIBLE	
1.	Solar Panel Cell Material	Mono-Polycrystalline	Amorphous silicon	B.O.O will check it physically as well as supplier will produce certificate issued by govt. accredited laboratory.
2.	Solar battery Charging voltage should be field selectable	6V/12V	6V/12V	B.O.O. will measure practically by using the standard measuring instrument during full sun light.
3.	Nominal peak power	60 W ± 2W	60 W ± 2W	
4.	Peak power voltage while selected at 12 Volt	15 to 17 Volt	15 to 17 Volt	
5.	Short Circuit Current while selected at 12 Volt	3.70 Amp	3.70 Amp	
6.	Peak Power Current while selected at 12 Volt	3 4 To 3.5 Amp	3 4 To 3.5 Amp	
7.	Peak open Circuit voltage while selected at 12 Volt	20 Volt ±2V	20 Volt ±2V	
8.	Maximum Size while folded	405 x 385 x 88 (mm)	280 x 245 x 61 (mm)	B O O will measure size with the help of measuring tape/scale.
9.	Maximum dimension while unfolded	1625 x 385 x 22 (mm)	1500 x 1095(mm)	
10.	Solar Panel Weight	≤ 8.5 kg	≤ 2 Kg	B.O.O will measure weight with the help of weighing machine.
11.	Operating Temperature	- 10°C to +55°C	- 10°C to +55°C	Firm will produce certificate issued by govt. accredited Laboratory.
12.	Charging lead	Should be provided	Should be provided	B.O.O. will check it practically by connecting battery with solar panel
13.	LED Indication	Charging and Discharging State	Charging and Discharging State	
14.	There should be option of load controller for connecting load also online			B.O.O will check it practically by connecting load with solar panel.

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15	General Tolerance other than Power and Vmp ± 10%	B.O.O. will check physically / practically by connecting various types of battery one by one with solar panel and will ensure that battery is being charged properly.
16	Manpack/ compact, Portable, light in weight & convenient to carry portable type (with folding) solar battery charging system for mobile use , charging of Ni-Mh /Lithium-ion battery(7.5 V 2000 to 2500 mAh), SMF/ Ni-Mh / Lithium-ion btys 12 V, 7-15 Ah of HF Manpack Set Model- LHP-265, 2110M & VX-1210 (BEL, CODAN & Vertex make)	
17	Proper plug / coupling arrangement must be provided for charging of batteries of Motorola, ICOM, Vertex, Kenwood make hand held radio sets and Sealed Maintenance Free/ NI-mH / Lithium-ion batteries 12 V 7-15 Ah .for HF Manpack Set Model- LHP-265 & VX-1210 (BEL & Vertex make) and battery of Laptop & Mobile phone (3.7 V 1000 m Amp Li-ion)	B.O.O. will check physically /practically by connecting various types of battery one by one with solar panel through proper connector/ coupling arrangement and will ensure that battery is being charged properly.
18	Inbuilt protection against low voltage, short circuiting, over charge & deep discharge of battery should be provided.	B.O.O will check all practically and ensure their workability.

(SI/E Sohrab Ansari, CISF)

(M S Yadav, AC, CRPF)

(R.K. Kumbhare, AC, SSB)

(U.C Joshi, AC, BSF)

(Major Rahul J Rane, Sqn Comdr, NSG)

(Sumit Gupta, PSO (E), BPR&D)

(Virendra Agrawal, DIG(Eqpt), CRPF)

(Mahesh Kumar, DIG (Comn), CRPF)

(Shailendra Kumar, IG (Comn), CRPF) 23/9/13

Approved/ ~~Not approved~~

30/9

(Dilip Trivedi, IPS)
DG, CRPF