MAHARASHTRA STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED
CORPORATE OFFICE, BANDRA

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MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.
(A Govt. of Maharashtra Undertaking)
CIN : U40109MH2005SGC153645

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Ref. No. : ED(Infra)/Tech/No. 8290 **Date:** 26.03.2018

To,
The Secretary,
Ministry of New & Renewable Energy,
Govt. of India, New Delhi

Sub: Suggestion on draft guidelines for implementation of scheme for farmers for installation of solar pump and grid connected solar power plants.

Ref: GOI:MNRE Office Memorandum F.No.32/645/2017-SPV Dn. dtd 13.03.2019

Govt. of India has recently approved ***"Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM) Scheme"*** for farmers for installation of solar pumps and grid connected solar power plants.

MNRE has send draft guidelines for consultations and requested to submit suggestion for implementation of KUSUM scheme vide letter under reference. Suggestions are enclosed here with in prescribed format as Annexure 'A'.

Thanks & Regards

Encl: As above

(Prasad Reshme)
Executive Director (Infra)
MSEDCL, Mumbai

Copy s.w.rs to

1. The Principle Secretary (Energy), GoM, Mantralaya, Mumbai

Copy s.w.r. to:

1. The Director (Projects/Operations), Corporate office, Mumbai.
2. The Executive Director (Dist./Infra/IT), Corporate office, Mumbai.
3. The Jt.MD/Regional Director, Aurangabad/Konkan/Nagpur/Pune.

Copy w.c.s. to:

1. The Chief Engineer, All O&M Zone

Annexure A

Suggestion on Kusum Scheme

Sr No	Paragraph	Comment
1	Component A: Page 2 : Under this component, solar or other renewable energy based power plants (REPP) of capacity 500 kW to 2 MW will be setup by individual farmers/ group of farmers/ cooperatives/ panchayats/ Farmer Producer Organisations	1) Distribution companies on their own or through PPA with GENCO and IPP should be allowed in addition to these allowed groups. 2) At present capacity allowed is upto 2 MW. Solar or other renewable energy based power plants (REPP) of capacity upto 10 MW should be allowed. (500 kW to 10 MW) due to following reasons: a) Most of the MSEDCL sub-stations have transformer installed capacity of 10 MW. b) The power evacuation cost would become affordable.
2	Component A, Page 4, Point c, : The selected RPG will be responsible for laying of transmission line from REPP to 33/11 kV sub-station.	Scope of maintenance of evacuation line is not mentioned. It is requested to incorporate the clause stating that the maintenance of transmission line will be in scope of RPG.
3	Component C, Page 12: Further, the CFA will be limited to Solar PV capacity up to two times of pump capacity in kW or 15 kW, whichever is lower. Solarisation of Pumps of capacity higher than 7.5 HP may be allowed, however, the CFA will be limited to the CFA applicable for pump of 7.5 HP.	1) In case Soalr PV capacity is 2 times of pump capacity, the generated units are 111% more than the requirement of the pump. Whereas in case of 1.5 times capacity the generated units are 58% more than the requirement of the pump. 2) The average working hour of Solar pump is 4.5 hrs per day whereas the Solar generation is 8 hours per day. Hence, Solar PV capacity should be limited to 1.5 times instead of 2 times of Pump capacity in KW (Calculation sheet is enclosed).
4	Component A: State Nodal Agency	MSEDCL may be nominated as State Nodal Agency for Component A in Maharashtra

Chief Engineer (Infra)

Calculation Sheet for Component			
Sr No	**Particulars**	**If Solar PV capacity is 1.5 times of pump capacity**	**If Solar PV capacity is 2 times of pump capacity**
A	Avg. connected load	5HP	5HP
B	Solar panel capacity	7.5KW	10KW
C	Annual Solar Generation considering 15 % CUF in Units	7.5Kw x 0.15 x 24 Hrs x 365 day	10Kw x 0.15 x 24 Hrs x 365 day
		9855 Units	13140 Units
D	Annual consumption of AG pump 1243kWh/Hp/Year	5HP x 1243	5HP x 1243
		6215 Units	6215 Units
E	Energy Exported to grid in units	(C)-(D)	(C)-(D)
		3640 Units	**6925 Units**

From the above, it can be seen that the quantum of energy exported to grid for ratio of 1:2 is much higher as compared to the ratio of 1:1.5. Hence in order to stabilize the 11KV grid, it is suggested to finalize ratio of 1:1.5 for grid connected pump under component C