

From

The Director General,
New & Renewable Energy Department Haryana & HAREDA
Akshay Urja Bhawan, Sector-17, Panchkula

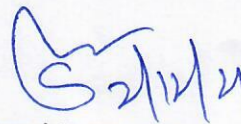
To

M/s Shakti Pumps (India) Ltd.
Plot no.-401, 402 & 413 Sector-3
Industrial Area Pithampur Distt.Dhar, MP-454774
tenders@shaktipumps.com

Memo no. DNRE/Pumps-25/2021/13786 Dated: 02.12.2021

Subject:- Regarding acceptance of alternate MMS design.

In this regard it is informed that the competent authority has considered the Module Mounting Structure (MMS) offered by your firm duly tested from Department of Mechanical Engineering and Department of Civil Engineering Indian Institute of Technology, Indore of improved design as per comparison with MNRE-2019/EESL tender MMS Design provided by said Institute and has decided to allow your firm to supply these improved MMSs design with a condition that your firm shall be solely responsible for these MMSs. It is also informed that the other specifications related to material, galvanisation and other technical features of MMS shall be followed as per MNRE specifications.



(Sombir Singh)
Scientific Engineer (A)
for Director General, NRE&HAREDA
Haryana, Panchkula

CC:- Programmer, NRE to upload the new MMS design of said firm on website.

1361907/2021/ADMIN HAREDA



SPIL/HR/MMS/HAREDA P-3

DATE – 16.11.2021

HP
NARE
16/11/2021

CSE

To,
The Director General,
Department of New & Renewable Energy,
Haryana & HAREDA,
Panchkula, Haryana

Sub: - Regarding approval of Module Mounting Structural Design.

Ref: 1) Memo No. 820-825, Dated – 03/02/2020, 2) NIT/Bid document no. EESL/06/2019-20/KUSUM/SWPS/Phase-1/Off Grid/192007012, Dated-21.08.2019. 3) Memo No. 2385-2391, Dated – 18/05/2020, 4) NIT/Bid document no. EESL/06/2019-20/KUSUM/SWPS/Phase-1/10HP/Off Grid/192012030, Dated- 20.12.2019

Respected Sir,

It is hereby informed that now we are using improvement over existing design of structure (C-type purline replaced with Z-purline and increasing the dia of main pole for more strength) as we are submitting reports herewith for your reference and kind approval please.

Looking forward for your kind support & association.

Yours Faithfully,

For Shakti Pumps (India) Ltd.

Maresh Hedao
+91-7024212252

State Head
(Authorized Signatory)



SHAKTI PUMPS (INDIA) LIMITED

CIN: L29120MP1995PLC006327, Regd. Office & Works: Plot No. 401, 402 & 413, Industrial Area, Sector - 3, Pithampur - 454774, Dist. Dhar (M.P.) INDIA.
Tel.: +91 7292 410500, Fax: +91 7292 410645, E-mail: info@shaktipumps.com, sales@shaktipumps.com, Web: www.shaktipumps.com

To,
Shakti Energy Solutions Private Limited,
Plot # 155-156, Sector 3, Industrial growth centre, Pithampur,
M.P.-454774

Ref.: E-mail dated 25.05.2020 for Solar PV Module Mounting Structural Design Analysis.

Document Reference specification: Structure design provided in MNRE's Technical Specification of Solar Water Pumping System - July, 2019

Dear Sir/Madam,

We have performed structural analysis & compared the technical specifications of the module mounting structures designs & drawings provided by M/S Shakti Energy Solutions private limited. The structural designs submitted by M/S Shakti Energy Solutions private limited are safe and capable of withstanding basic wind speeds up to 150 kmph with adequate factor of safety to support 02, 06 and 10 nos. solar PV modules as per reference specification of MNRE-July 2019 Circular No.F.No.41/3/2018-spv Division dated 17/07/2019 (Clause 3.5.1)


The following design changes over MNRE approved drawings may be considered:

Sr. No.	MMS design approved by MNRE	Improved MMS design	Improvement over existing design
1	2- PV Module MMS (4800026166)	2- PV Module MMS (4800026385)	C-Type purlin replaced with Z-purlin for more strength.
2	6- PV Module MMS (4800024837)	6- PV Module MMS (4800026389)	C-Type purlin replaced with Z-purlin for more strength.
3	10- PV Module MMS (4800024839)	10- PV Module MMS (4800026383)	C-Type purlin replaced with Z-purlin for more strength.

Thanking you.
Sincerely,


Dr. Ankur Miglani
Assistant Professor
Department of Mechanical Engineering
Indian Institute of Technology Indore
Simrol, Khandwa Road, Indore 453 552, India

07 July 2021


Dr. Pavan Kumar Kankar
Associate Professor
Department of Mechanical Engineering
Indian Institute of Technology Indore


Dr. Sandeep Chaudhary
Professor
Department of Civil Engineering
Indian Institute of Technology Indore
Simrol, Indore 453552

Note: Changes/revisions if any can be found in the drawings

