



VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY,
South Ambazari, Road, NAGPUR – 440 010 (INDIA)

DEPARTMENT OF CIVIL ENGINEERING

AGT 377 /CE 5993/ 1581

Date: 07 APR 2022

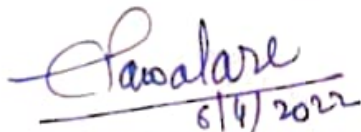
This is to certify that the MMS structure drawing 3HP 9 – Module Solar Pump (copy enclosed) supplied by **Emmvee Photovoltaic Power Pvt. Ltd.** (Vendor Name) is evaluated at our structural Engineering Department facility at Visvesvaraya National Institute of Technology Nagpur and it is found superior to the MMS structure specified in the Specification of Solar Water Pumping System notified by the Ministry of New and Renewable Energy (MNRE) vide F.No. 41/3/2018-SPV Division dt 17.07.2019.

The following are the changes when compared to the MNRE's MMS suggestive design: -

S.No.	Part	According to the MNRE MMS	According to the vendor MMS
1	Assembly	6 + 4 Modules for 3 HP	9 Modules for 3 HP
2	Main Pole	139 X 1500 X 4 mm	114.3 X 2108 X 4.5 mm (bottom 900mm to be fixed in concrete)
3	Foundation	Open Shallow Type	Pile foundation - M25 grade concrete suitable for black cotton soil

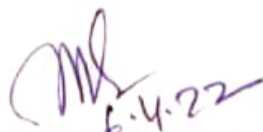
These are the following improvements in the MMS design submitted by the vendor over the MNRE's MMS suggestive design: -

1. Optimized design parameters for structural components
2. Main pole strengthening
3. Reinforcement for additional strength of pile foundation
4. Optimized design for all joinery components


6/4/2022

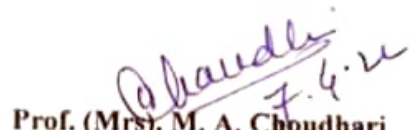
Dr. Abhay Tawalar

Asst. Professor & Coordinator


6.4.22

Prof. Y.B. Katpatal

Head of the Department


7.4.22

Prof. (Mrs) M. A. Choudhari

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