F. No. 41/06/2015-16-PVSE
Ministry of New & Renewable Energy

Testing procedure for solar pumps is being reviewed in quarterly review meetings of empanelled test labs under solar off-grid programme of the Ministry. Decisions taken in this regard during last few quarterly review meetings are attached at Annexure.

2. Representations have been received from different stakeholders requesting to issue standard test procedures for solar pumps. In this context suggestions/views are invited from stakeholders on standard procedure to be followed for testing of solar pumps both DC and AC.

3. The suggestions/views may please be sent through email (preferably in word format) by 8 December 2017 to:

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Annexure

Decisions taken in respect of solar pumps in the Quarterly Review Meeting with Test Labs empanelled under Solar Off- Grid Programme of MNRE

I. Meeting held in December 2016

1. The water pumps should be tested for the summer and winter radiation profile. In the order to pass the pump it should meet the requirement as per MNRE specs, for both the profiles. NISE would provide profiles detail to all test centers.
2. Suction head with realistic physical head of 7 meter only should be used for testing the pump. No simulation of suction head is allowed for testing of the pump.
3. A test report must have a concluding remark i.e. qualifies or does not qualify as per the MNRE specifications.
4. The report should include the module wattage and number of the modules. A Maximum variation of ± 3% in the module to module wattage and +5% in the overall capacity of the total array should be allowed.
5. All the test labs should provide the details of the remote monitoring parameters observed in the test report.
6. NISE will provide the test report format to all the test laboratories.

II. Meeting held in March 2017

1. The pump shall be tested for summer and winter profiles. Also the pump shall be tested under realistic field conditions by using the PV modules provided by the manufacturer. In order to qualify as per the MNRE specifications the pump shall meet the requirement under realistic field condition testing and with summer & winter profile. The test report shall contain the data achieved with realistic field condition testing, testing with summer profile and winter profile. The 'Test Charges' due to this additional test shall not be increased.
2. In view of the practical difficulties faced by the stakeholders (in marketing suitable series parallel combinations), it was decided that the overall capacity of the "total array" is allowed up to + 10% (instead of +5%)
3. NISE will initiate inter lab comparison testing of a PV pump by involving all the test labs. After completion of the inter lab comparison testing the results will be reviewed. All testing lab will submit the test results to NISE only without sharing among the test labs.
4. Test labs shall start the testing of Micro Solar Pumps with immediate effect.
5. The validity of a test report shall be for a period of three years from the date of issue or till the new specification is in force whichever is earlier.

III. Meeting held in July 2017

1. For the testing of surface pumps sea level factor need to be considered. NISE will cross check the reference IS: 1520-1977 for the suction lift correction factor (z factor) and will incorporate it in testing of surface pumps. The other factors which

need to be checked are velocity head at correction and ambient temperature conditions.

2. The real condition testing of solar pumps is mandatory. Reports issued after 1st April 2017 (later extended to 1st September 2017), without real condition testing are invalid.
3. Orientation of the flow meter should be as per the standard procedure to avoid any air bubble within the pump. NISE may look into the standards.
4. NISE will initiate the ILC with common (hot and cold) profile and circulate it with labs. NISE will coordinate the ILC program. After testing, the confidential data of testing will be shared with NISE only and the pump shall be transferred to another test lab.