



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

Service Request Form No: 05 **(Solar Water Pumping System)**

1.	File No. (To be filled by office)	
2.	Job No. (To be filled by office)	
3.	Requested By (Name)	
	Address of Company /Individuals (in Caps)	
	Contact No.	Email id: Mobile: Landline:
	PAN:	GST:
4.	a) Manufactured By	Pump: Motor: Controller: Solar Panels:
	b) Date of Submission of Samples	
	c) Condition of samples on receipt	
	d) Testing procedure / Standards	
	e) Services and type of test requested	
5.	Name of Authorized Contact Person with Mobile Number, Email id:	Name: Mobile: Email ID:



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

Sir/Madam,

We hereby place an order on you for the Performance testing of Solar Water Pumping System as below:

2. Details of test and Fee:

S. No.	Type of Testing	Testing Fees per sample / PV Panel (₹)	No. of Sample / PV Panel	Total	Tentative no of days
1	Performance Testing of Solar Water Pumping System excluding PV Panel [AC/DC up to 2 HP]	32,500.00			
2	Performance Testing of Solar Water Pumping System excluding PV Panel [AC/DC up to 3-5 HP]	45,500.00			
3	Performance Testing of Solar Water Pumping System excluding PV Panel [AC/DC up to 5-10 HP]	52,000.00			
4.	PV Panel Testing at STC	4550.00			
Sub-Total					
GST					
Grand Total					

Note:

1. Testing fee should be submitted in advance to NISE through Bank Draft/Electronic Transfer.
2. Installation of system at NISE for testing will be done by the manufacturer/company.
3. Under certain circumstances, tentative number of days may vary.



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

Testing Fees Details:

Name & address of issuing bank	
Name of the test	
Bank Draft No. & Date	
Bank Name	
Total Amount (Rs)	

Declaration: This is to certify that the information furnished in the service request form is true to the best of my knowledge and belief. National Institute of Solar Energy or its authorized nominee will be free to visit our works in order to assess the details provided above by giving advance notice in writing. We also accept the terms and conditions of the National Institute of Solar Energy annexed with this order.

Date:

Place:

Signature with Seal

Important Note: To be signed by the Company authority or Officer, not below the rank of G.M. / Equivalent.



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

General Terms & Conditions

1. One report will be issued to the customer on test (s) conducted by NISE.
2. The report shall contain all the parameters measured at NISE along with the parameters required as per the MNRE specifications and claims made by manufacturer the sample that has been tested.
3. The report contains the following disclaimer:
 - a) This is a report on measurements carried out on the product / samples no._____at the National Institute of Solar Energy.
 - b) The sample has been selected and submitted by customer.
 - c) The data contents in this report do not constitute a qualification certificate under any set of specifications.
 - d) The measurements made and results reported in this test report are valid at the time of and under stipulated conditions of measurement.
4. The test report if reproduced for any purpose, commercial or otherwise, should be reproduce in full. Reproduction of a part of the report or an abstract thereof is not permitted.
5. For identification purpose, all material supplied to the NISE for testing purpose shall be marked clearly and indelibly as per the standard.
6. National Institute of Solar Energy shall not be responsible for any loss or damage caused to the sample during tasting.
7. This test report is not a legal document and is not valid for any kind of legal formalities.
8. The sample should be taken back by customer within 90 days after completion of the test. After 90 days, NISE will not have any responsibility for the sample.

Declaration /Undertaking:

I have read the above measured General Terms and Condition carefully and agree with the same.

Date

Signature with Seal

Place

Important Notes: To be signed by the Company authority or Officer below the rank of G.M /Equivalent



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

Data required by Test Lab

1.	File No. (Generated by NISE)	
2.	Job No. (Generated by NISE)	
3.	Capacity/Rating (HP)	
4.	Total Head (meter)	
5.	Type of system (AC/DC) (Submersible/Surface) etc.	
6.	Date of Submission of Samples	
7.	Condition of samples on receipt	
8.	Testing procedure/ Standards	
9.	Services and type of test requested	
10.	Pass/ fail declaration in the report required	<input type="checkbox"/> Yes <input type="checkbox"/> No
11.	Customer wants to take sample back after testing	<input type="checkbox"/> Yes <input type="checkbox"/> No

Sample details and any other information required to be prepared by each lab:



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

Information required at the time of submission

1. Sample Details:

Sr. No	Equipment	Make (Name of Manufacturing Company)	Model No.	Serial No.	Technology	year of Make
1	Pump					
2	Motor					
3	Controller					
4	Solar Panel					

Details of the test conducted by Manufacturer (Enclose test results if available):

Sr. No	Description of Test	Status



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

CHECK –LIST (for Form No. 05)

Sr. No.	Particulars	Annexure	Page From	Page To
1	The PV modules, Controller/Inverter, Motor and Pump should have clear indelible markings: <ul style="list-style-type: none"> Name and logo (or symbol) of Manufacturer Type or model number serial number polarity of terminals or leads 			
2	Order form duly filled (as per the format)	I		
3	Remote Monitoring Details <ul style="list-style-type: none"> Controller must be assigned with a unique serial number and its live status must be observed remotely on online portal through login credentials. Live status must indicate whether controller is ON/ OFF <p>[Login ID and Password must be provided]</p>	II		
4	Modules should have qualification test certificate as per IS 14286: (Part 1 2019/2016) / IEC 61215: Year Specifications or equivalent National or International Standards. <p>[The report should not be more than one year old]</p>	III		
5	Modules must qualify to IS 61730 Part I and II for safety qualification testing. [BIS Accredited Lab report should be attached]	IV		

राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)



National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

6	The 'Module Efficiency' should be minimum 15 percent and 'Fill Factor' should be more than 70 percent. [Accredited Lab report shall be attached]	V		
7	In case the designed SPV array voltage in the System is more than 600 V D.C., Modules should qualify to IEC TS 62804-1:2015 for the detection of potential-induced degradation - Part 1: Crystalline silicon. [NABL Accredited Lab report shall be attached]	VI		
8	In case the SPV Water Pumping Systems are intended for use in coastal areas the Solar Modules must qualify to IEC TS 61701:2011 for salt mist corrosion test. [Accredited Lab report shall be attached]	VII		
9	The name plate shall conform the IS 14286. [Self - Declaration must be attached]	VIII		
10	Module to Module wattage mismatch in the SPV Array: Mismatch shall be within ± 3 percent. [Self - Declaration must be attached]	IX		
11	Variation in overall SPV array wattage from the specified wattages shall be within zero percent to +10 percent. [Self - Declaration must be attached]	X		
12	The PV Modules must be warranted for output wattage, which should not be less than 90% of the rated wattage at the end of 10 years and 80% of the	XI		



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

	rated wattage at the end of 25 years. [Self Declaration must be attached]			
13	The SPV water pumping systems may use any of the following types of motor pump sets: <ul style="list-style-type: none"> • Surface mounted motor-pump set • Submersible motor-pump set • Floating motor-pump set • Any other type of motor pump set after approval from Ministry. [Suitable Documents must be provided to justify] 	XII		
14	The pump and all external parts of motor used in submersible pump which are in Contact with water, should be of stainless steel of grade 304 or higher as required. The motor- pump set should have a 5 years warranty and therefore, it is essential that the construction of the motor and pump should be made using parts which have a much higher durability and do not need replacement or corrode for at least 5 years of operation after installation. [Suitable Documents must be provided to justify]	XIII		
15	The suction/ delivery pipe shall be of HDPE or uPVC column pipes of appropriate size, electric cables, floating assembly, civil work and other fittings required to install the Motor Pump set. In case of HDPE pipes the minimum pressure rating of 8 kg/sqcm-PE100 grade for pumps up to 3 HP, 10 kg/sqcm-PE100 grade for 5 HP pumps and further higher minimum pressure rating for above 5 HP as	XIV		



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

	appropriate shall be used. [Suitable Documents must be provided to justify]			
16	<p>Module Mounting Structures and Tracking System should withstand load of modules and high wind velocities up to 150 km per hour. The module mounting structure should be hot dip galvanized according to IS 4759:1996.</p> <p>Zinc content in working area of the hot dip galvanizing bath should not be less than 99.5% by mass. [Self - Declaration must be attached]</p>	XV		
17	<p>Antitheft bolts, Foundation SS 304 Grade. It should be decided as per the site and relevant IS i.e. IS 6403/456/4091/875{(1981, 2000, (1979), (1987))} should be referred for foundation design.</p> <p>[Self - Declaration must be attached]</p>	XVI		
18	<p>Controller/Inverter: IP - 65 Protection Certification from NABL accredited Lab.</p> <p>[Self - Declaration must be attached]</p>	XVII		
19	<p>Declaration must be provided for SPV Controller Protection against following:</p> <ul style="list-style-type: none"> • Dry running • Open circuit • Accidental output short circuit • Under voltage • Reverse polarity • SPD to arrest high current surge 	XVIII		



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

	<ul style="list-style-type: none"> Lightening arrestor <p>[Self - Declaration must be attached]</p>			
20	A good reliable DC Circuit Breaker as per IS/IEC 60947-2 suitable for switching DC power ON and OFF should be provided in the SPV Controller. [Self - Declaration must be attached]	XIX		
21	All cables used shall be as per IS 694. Selection of the cable shall be as per IS 14536. [Self - Declaration must be attached]	XX		
22	Earthing Arrangement of the motor shall be done as per IS 9283. [Self - Declaration must be attached]	XXI		
23	In case of uPVC/HDPE pipes used as discharge pipe, a separate non-corrosive, low resistance conductor from motor earth terminal to control panel earth terminal shall be provided for earthing. (Suitable Documents shall be provided to justify).	XXII		
24	Controller must have a back up to store the data locally (at least for 1 year). [Self - Declaration must be attached]	XXIII		
25	Bill of materials component wise.	XXIV		
26	Instruction manual for handling the Solar PV Water Pumping System [Printed in English & Local language]	XXV		



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

27	<p>Performance curves of Solar PV Water Pumping System for the submitted model:</p> <ul style="list-style-type: none"> • Input Power versus Wire to Water Efficiency at the desired head • Input Power versus Water Output at the desired head, • Head vs. Water Output 	XXVI		
28	<p>Copy of the registration of the Company as per Registration Act, 1956, joint venture/foreign Collaboration etc.</p>	XXVII		
29	<p>Warranty Card</p>	XXVIII		
30	<p>In house Test Report of the Solar PV Water Pumping System on the testing conducted by the manufacturer.</p>	XXIX		
31	<p>MARKING AND PARAMETERS TO BE DECLARED BY THE MANUFACTURER</p> <p>The motor pump-set and Controller used in SPV Water Pumping Systems shall be securely marked with the following parameters declared by the manufacturer:</p> <p>Motor Pump-set (Self certify)</p> <ul style="list-style-type: none"> • Manufacturer's name, logo or trade-mark; • Model, size and SI No of pump-set; 			



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

	<ul style="list-style-type: none"> • Motor Rating (kW / HP); • Total head, m, at the guaranteed duty point; • Capacity (LPD) at guaranteed head; • Operating head range, m; • Maximum Current (A); • Voltage Range (V) and; • Type - AC or DC Pump set; & • Photo Voltaic (PV) Array Rating in Watts peak (Wp) <p>Controller (Self certify)</p> <ul style="list-style-type: none"> • Manufacturer's name, logo or trade-mark; • Model Number; • Serial Number; • Voltage Range; • Power Range in kW for Controller; and • Current rating 			
32	<p>OPERATION AND MAINTENANCE MANUAL: An 'Operation and Maintenance Manual', in English and the local language, should be provided with the solar PV pumping system. The Manual should have information about solar energy, photovoltaic, modules, DC/AC motor pump set, tracking system, mounting structures, electronics and switches. It should also have clear instructions about mounting of PV module, DO's and DONT's and on regular maintenance and Trouble Shooting of the pumping system. Helpline number and Name and address of the Service Centre and contact number of authorized representative to be contacted in case of failure or complaint should also be provided. A warranty card for the modules and the motor pump set</p>	XXX		



राष्ट्रीय सौर ऊर्जा संस्थान

(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)

National Institute of Solar Energy

(An Autonomous Institute of Ministry of New and Renewable Energy, Govt. of India)

गुरुग्राम - फरीदाबाद मार्ग, ग्वाल पहाड़ी, गुरुग्राम – 122003, हरियाणा, भारत

Gurugram - Faridabad Road, Gwal Pahari, Gurugram – 122003, Haryana, India

	should also be provided to the beneficiary. (Manual should be provided).			
--	--	--	--	--

All the documents submitted by the company should be certified by the competent authority.

Test fees & other.

Application fee along with Service tax in the form of Demand Draft/Electronic transfer with Transaction details in favour of “National Institute of Solar Energy, Gurgaon.

Date:

Place:

Signature with Seal

- **Important Note: -**
- To be signed by competent authority or by officer not below the rank of G.M./Equivalent.
- Sample will be received at the Customer Service Cell of National Institute of Solar Energy till 04:00 any working day.