

NEW & RENEWABLE ENERGY DEPARTMENT, HARYANA

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To

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Memo No/ DNRE//2019-20/ 8244-8252

Dated: 17.09.2019

Subject- 2nd REVISED EMPANELMENT LIST OF SUPPLIERS FOR SUPPLY, INSTALLATION AND COMMISSIONING OF 300 and 500 WATT SOLAR CHARGERS WITH INTERFACE CHARGE CONTROLLER TO CHARGE THE BATTERIES OF EXISTING INVERTERS

You are hereby informed that your firm has been technically qualified for empanelment for the supply, installation and commissioning of 300 and 500 watt Solar chargers with interface charge controller to charge the batteries of existing inverter in "Market Mode" with 5 years warranty of complete system including interface charge controller and with warranty of module for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.

- i. This empanelment shall be valid up to one year from the date of issue.
- ii. The indicative rates, quantity allocated and description of items shall be as per Annexure-I
- iii. The terms and conditions, technical specifications shall be as per Annexure-II and III..
- iv. This empanelment contains 9 pages including this page.

Annexures:

1. Annexure "I" - Description of item and indicative Prices including GST etc..
2. Annexure "II" - Terms & Conditions of the empanelment.
3. Annexure "III" - Technical specifications.

Sd/-
Project Officer,
for Director General, New and Renewable
Energy Deptt., Haryana.

Encl: As above

Description of Systems and indicative Prices including of GST etc

Sr. No.	Name of firms	Make of SPV modules and charge controller	Total number of systems allocated as per Security Deposited till date (nos.)	Indicative rates for supply, installation and commissioning of 300 Watt solar inverter chargers with 5 Years warranty (In Rs)	Indicative rates for supply, installation and commissioning of 500 Watt solar inverter chargers with 5 Years warranty (In Rs)
1.	M/s Kshitiz Solar Energy Pvt. Ltd. Faridabad	Module- WAAREE, Sunfuel and Himalayan make Charge controller- Kshitiz make	2800 Nos. (100 Nos.-1 st lot+ 2500 Nos. 2 nd lot+ 200 Nos. balance of 2 nd lot)	16500/-	21000/-
2.	M/s Lohia Sales, Rewari	Module- Himalayan make Charge controller- Lohia sales make	2800 Nos. (100 Nos.-1 st lot+ 2500 Nos. 2 nd lot+ 200 Nos. balance of 2 nd lot)	14750/-	21700/-
3.	M/s Mediez Solar Energy Pvt. Ltd, Sirsa (Haryana)	Module- Himalayan make Charge controller- Mediez make	2800 Nos. (100 Nos.-1 st lot+ 2500 Nos. 2 nd lot+ 200 Nos. balance of 2 nd lot)	15500/-	23500/-
4.	M/s Inixy Power Solution Pvt Ltd, Sonapat, Haryana (Earlier Sangwan Energy Systems Pvt. Ltd.)	Module- Himalayan make Charge controller- Sangwan/ INIXY make	2800 Nos. (100 Nos.-1 st lot+ 2500 Nos. 2 nd lot+ 200 Nos. balance of 2 nd lot)	16900/-	24700/-
5.	M/s Ritika Systems Pvt. Ltd. Noida (UP)	Module- Ritika make Charge controller- Ritika make	1000 nos.- 2 nd lot	19492/-	26674/-
6.	M/s SMARU Tech LLP (earlier M/s Smart Unified Utility solutions), Manesar, Gurugram	Module- Himalayan make Charge controller- SAMARU make	2700 Nos. (2500 Nos. 2 nd lot+ 200 Nos. balance of 2 nd lot)	17250/-	25500/-

7.	M/s Shree Shyam associates, Mohendergarh, Haryana	Module- Su-kam and Himalayan make Charge controller- Kshitiz make	2800 Nos. (100 Nos.-1 st lot+ 2500 Nos. 2 nd lot+ 200 Nos. balance of 2 nd lot)	14900/-	21900/-
8.	M/s Sunfuel Technologies LLP, Sonipat	Module- Sunfuel make Charge controller- Everon make	2800 Nos. (100 Nos.-1 st lot+ 2500 Nos. 2 nd lot+ 200 Nos. balance of 2 nd lot)	15750/-	21000/-
9.	M/s Ultimate Sun systems, Gurugaon	Module- ICON and Saatvik make Charge controller- Tritronic make	100 Nos.- 1 st lot	17500/-	24000/-

Note:-The above rates of systems are not approved rates. These rates are indicatives rates and beneficiaries can install the systems at their own choice from any bidders after having negotiation in rates.

1. SCOPE OF WORK

Supply, installation & commissioning of Solar Chargers of capacity 300 watt/ 500 watt in market mode at various locations in the State of Haryana, as per the technical specifications given in annexure-III with five years warranty of the complete system(s) from the date of commissioned and PV modules used in the power plant must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years as per latest

The scope of work shall include the following:

- a. Supply, installation & commissioning of Solar Chargers of capacity 300 watt/ 500 watt. The Solar Charger consists of Solar PV Modules, Interface Charge Controller, connecting wires & other mechanical as well as electric/ electronics components etc.
- b. Wiring up to the existing inverter from the Solar Panels will be in the scope of the bidder(s).
- c. Performance testing of the complete system.
- d. The installer shall undertake to supply spares free of cost for the maintenance of the offered items during the warranty period.
- e. After sales service , directly or through local service network
- f. A leaflet containing the details of the service centers shall be provided to each purchaser as well as to New & Renewable Energy Department.
- h. If the operation or use of the system proves to be unsatisfactory during the warranty period, the installer shall replace the faulty ones or carry out necessary repairs as per the warranty terms and conditions.

2. GUIDELINES FOR IMPLEMENTATION OF SCHEME:-

- The scheme shall be implemented through the market mode system means the beneficiaries have choice to choose supplier from the HAREDA empanelled supplier for said item. The subsidy @ Rs. 6,000/- and @ Rs. 10,000/- per system for 300 Watt and 500 watt Solar Inverter Charger respectively shall be provided to applicable beneficiary.
- Applicant can get installed the 300/ 500W solar inverter chargers from any HAREDA empanelled firms. The 300/ 500w solar inverter chargers and accessories should be as per the HAREDA standards. The system with deviation and not meeting these minimum technical specifications will not be considered eligible for State Subsidy.

Identification of Beneficiaries:-

- The beneficiaries shall be identified online on SARAL portal. For this online application shall be sought on SARAL portal from beneficiaries for a fix period of twenty days. Vide publicity shall be done to sought applications.
- All the households who have domestic inverter and not installed solar inverter charger on this existing inverter are eligible for this scheme.
- The target for every district shall be fixed equally as per Budget allocation for said system in the year 2019-20. The approximate budget allocation shall be Rs. 30Lakhs so approx. 400 no of system (18 per district) shall be installed.

- As demand is huge and target is very less so the beneficiaries shall be selected through draw system to be conducted by respective ADC of concerned district and remaining beneficiaries shall be arrange in order of waiting list.
- The sanction letter will be issued to the selected beneficiary to install the said items within 2 months as per HAREDA specifications from HAREDA empanelled suppliers. Thereafter, the sanction shall automatically cancel and system shall be allocated to next applicable as per waiting list seniority.
- This office shall arrange additional fund under supplementary budget to allocate the said items to remaining beneficiaries in order their waiting list.

Installation of said Systems:-

- The selected beneficiaries shall have to install said system from any HAREDA empanelled firms as per the HAREDA standards.

Disbursement of Subsidy:-

- The subsidy @ Rs. 6,000/- and @ Rs. 10,000/- per system for 300 Watt and 500 watt Solar Inverter Charger respectively shall be released by the Additional Deputy Commissioner cum Chief Project officer, NRE, of the concerned district
- After installation of the system, the applicant has to submit application online for the claim of State subsidy along with required documents mentioned below:
 - i. Invoice of the supplier in the name of applicant
 - li A photograph of modules after installation and a photograph of charger controller integrated with existing inverter.
 - iii Commissioning certificate in prescribed format.
 - iv The month and year of manufacturing of solar module and interface charge controller to be used in said system shall also be sought and it should be of not older than date of allocation of said item to the concerned beneficiary. The HAREDA logo and make in India logo shall be laminated inside solar module and pasted on interface charge controller.
- After receiving the application in the O/o Additional deputy Commissioner cum chief Project officer, DRDA, of the concerned district, the system shall be physically inspected by the concerned District Project Officer and shall issue Joint Commissioning Report (JCR) in the prescribed format.
- On receipt of requisite documents and satisfactory commissioning certificate, the State subsidy shall be directly transferred in the account of applicants beneficiaries by the district office through RTGS.
- These guidelines can be changed by the Director General, NRE/HAREDA at any stage.

3. MONITORING MECHANISM:

The project will be implemented under the overall supervision of New & Renewable Energy Department. For proper implementation of the scheme, 100% monitoring of systems shall be done by the concerned Project Officer of the district. The 10% monitoring of the scheme may also be done by the representative of Directorate office, on random basis. The monitoring of the systems can also be entrusted to third party.

4. SECURITY DEPOSIT / PERFORMANCE SECURITY DEPOSIT

- i. The successful supplier shall deposit Security Deposit (SD) amounting to Rs.1,00,000/-(One lakhs only). Once supplier installs 100 systems then SD will be increased by Rs.1,00,000/- (One lakhs only) for each 100 numbers. The SD shall be

released on successful completion of the warrantee period of five years from the date of commissioning of the project. If required, the validity of the SD/PSD will be extended by the firm failing which it will be en-cashed.

- ii. The Performance Security shall be denominated in the currency of the Country, and shall be in one of the following forms:
 - a. A Bank guarantee, issued by a Nationalized/ Commercial bank located in the purchaser's country, acceptable to the Purchaser, in the form provided in the EOI Documents ; or
 - b. Demand Draft in favour of Director, HAREDA, payable at Panchkula.

The Haryana based MSME firms shall be applicable for the concession and benefits as per Industries and Commerce Department, Haryana procurement policy for MSMEs issued vide GO No. 2/2/2016-4IBII (1 and 2) dated 20.10.2016.

5. WARRANTY

- (i) The Warranty period shall be five (5) years for complete system from the date of commissioning and handing over of the system (or as per latest MNRE, Gol guidelines). The contractor shall rectify defects developed in the system within Warranty period promptly.
- (ii) During the warrantee period, the firm shall ensure proper functioning of the systems and complaint, if any, forwarded to the supplier against the system, will have to be attended within 72 hours of forwarding such complaints.
If the firm fails to repair/replace the defective system, penalty @ 0.1% of the system cost per day (subject to maximum of 10% of the cost) after expiry of 72 hrs. period shall be imposed.
- (iii) If the whole PSD/ bank guarantee is utilized and the complaints are still pending then an online/registered notice will be sent to the firm to attend the complaint within 15 days.
- (iv) If the firm still does not attend the complaint within the above mentioned period then the firm may be blacklisted and a legal proceeding may be initiated against the firm for Breach the agreement.
- (v) The supplier shall affirm as per standards for quality that anything to be furnished shall be new, free from all defects and faults in material, workmanship and manufacture, shall be of the highest grade and consistent with established and generally accepted standards for material of the type ordered, shall be in full conformity with the specifications, drawing or samples, if any and shall if operable, operate properly.
- (vi) Performance of Equipment: In addition to the warranty as already provided, the supplier shall guarantee satisfactory performance of the equipment and shall be responsible for the period or up to the date specified in sub-clause (iii) hereof after the equipment has been accepted by the HAREDA or indenting organisation to the extent for any defects that may develop such defects shall be removed at his own cost when called upon to do so by the HAREDA or indenting organization.
- (vii) HAREDA/the consignee will have the liberty to get the sample for the item(s) supplied tested from any of the Govt. approved laboratory at any time during the installation or warranty period to ascertain the performance of the item(s) as per DNIT specifications. The cost of testing will be borne by the supplier. If during the lab test, sample fails then supplier has to repair/ replace the defective systems within 15 days of issue of such notice. If on the request of the supplier more than one samples are drawn for lab test and any one of them fail the lab test, bidder has to replace all the defective system at his own cost.
- (viii) The Contractor in consultation with concerned Project Officer will conduct

training programme for users, focusing on main features, operation and maintenance of the systems. After successful supply/commissioning of the system and training, the system will be handed over to the person designated by the end user.

- (ix) The Contractor/supplier shall continue to provide spare parts for 2 years after the expiry of warranty period at the users cost. If the contractor fails to continue to supply spare parts and services to users then HAREDA shall take appropriate action against the firm which can be to ban the supplier for participating in future tenders of the HAREDA.
- (x) **Service Centers:** Each successful bidder (either from Haryana or outside Haryana) will have to establish at least one service centre at the divisional level in their area of operation in the State, where a skilled technician and readily available spare parts will be made available during the entire period of Warranty/ Guarantee. The supplier will convey name & address of the outlet along with name of contact person, his/ her address, mobile number & e-mail address within 90 days of placing of the work order to the Director, HAREDA or indenting organization. The name & address of the service outlet and contact number will be displayed on the web portal of HAREDA www.hareda.gov.in.
- (xi) **Suryamitra:** There is a Programme under MNRE to provide training to ITI Certificate and Diploma holders on operation and maintenance of SPV devices and systems and it is called "Suryamitra Skill Development Programme". The successful contractor(s) may preferably engage them in their service centers to provide necessary repairs and maintenance service including installation of the systems during the time of execution.

6. ARBITRATION:

If any question, dispute or difference what so ever shall arises between HAREDA and the contractor, in the connection with this agreement except as to matters, the decisions for which have been specifically provided, either party may forthwith give to the other notice in writing of existence of such question, dispute or difference and the same shall be referred to the sole arbitration of the Principal Secretary, Govt. Haryana, New & Renewable Energy Department or a person nominated by him/her. This reference shall be governed by the Indian Arbitration Act, and the rules made there under. The award in such arbitration shall be final and binding on both the parties. Work under the agreement shall be continuing during the arbitration proceedings unless the HAREDA or the arbitrator directs otherwise.

7. JURISDICTION FOR SETTLING DISPUTES:

Where a contractor has not agreed to Sole Arbitration Clause of the Conditions of the Contract, Governing contracts the dispute/claims arising out of the contract entered into with him will be subject to the jurisdiction of Civil Court Panchkula.

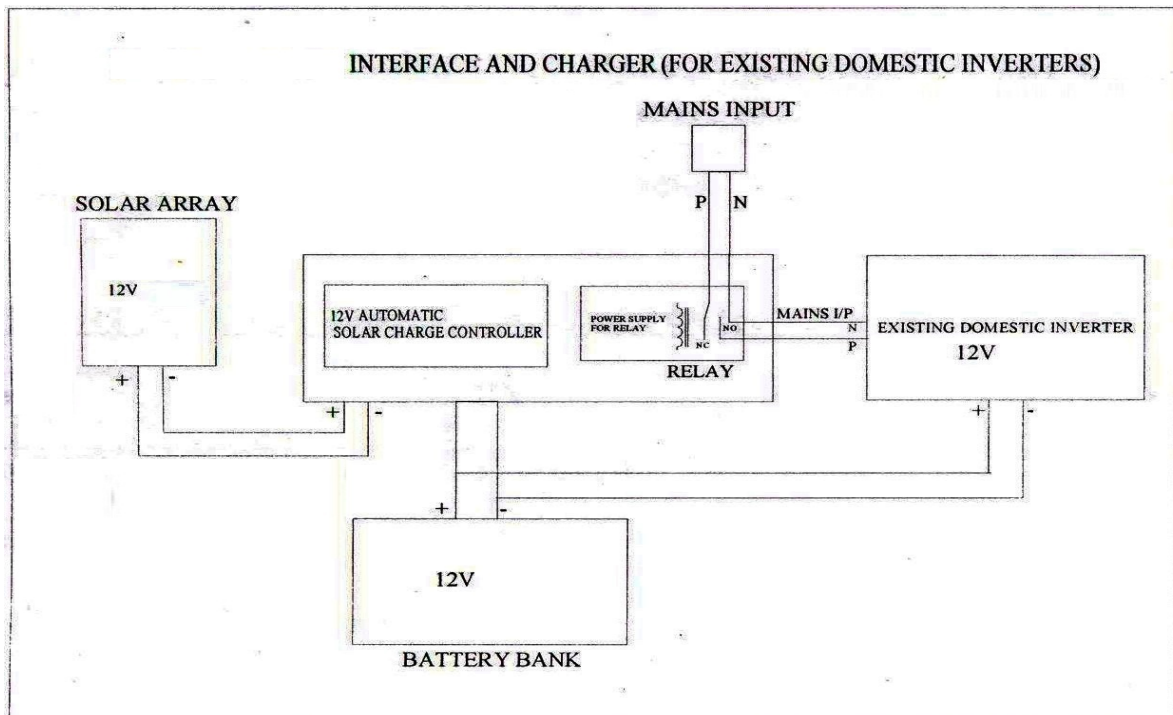
TECHNICAL SPECIFICATIONS OF 300 WATT AND 500 WATT SOLAR CHARGERS WITH INTERFACE CHARGE CONTROLLER TO CHARGE THE BATTERIES OF EXISTING DOMESTIC INVERTORS

Item	Description
CAPACITY	300 Watt /500 Watt small solar power pack to charge the batteries of existing domestic inverters.
SPV Module	<ul style="list-style-type: none">• The Photovoltaic module should be Mono/ poly crystalline.• The Photovoltaic modules must be qualified IS 14286 and in addition modules must confirm to IS/IEC 61730-1 requirement for construction and part-2 requirement for testing, for safety qualifications. The test report of Solar PV Module should be as per latest MNRE/GOI guidelines.• The supplier shall provide performance guarantee for the PV modules used in the power plant must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.• The efficiency of the PV modules should be minimum 15% and fill factor should be more than 70%.• Only Indigenously produced PV modules shall be allowed in PV array.
Open Circuit Voltage	The open circuit voltage of the PV modules under STC should be at least 21.0 Volts for 12 Volt panel (36 Cells) and 42 Volt for nominal 24 Volt panel (72 cells)
Power out put	For 300 watt system:- it will be combination of two panels , each of 150Watt -12V For 500 watt system:- it will be combination of two panels , each of 250Watt -24V. The use of higher capacity modules shall be preferred.
-do-	Each PV module (IS approved) should have;- a. Name of the Manufacturer b. Model or type Number c. Serial Number d. Year of make e. Make in India f. HAREDA logo(laminated inside)

INTERFACE SOLAR CHARGE CONTROLLER:-

The systems of 300 Watt shall be for the existing inverters on 12V solar array and having single battery of 12VDC and the system of 500 Watt will be for the existing inverters on 24V solar array and having double batteries to form 24VDC battery bank.

For example, the block diagram of 300 watt solar inverter chargers is given as under:-



Type	The controller should be MPPT- PWM type.
Current rating	It should be rated at least 20Amp. for 12V system with 300 watt solar panels. It should be rated at least 20Amp. for 24V system with 500 watt solar panels.
Operation	<p>1. In Morning condition-</p> <ul style="list-style-type: none"> When Solar of low intensity is available and Grid is on and the battery is fully charged- Under such condition, the system should work on solar only, when solar current output reaches to 2.0 – 2.5 Amp in case of 300 watt as well as for 500 Watt solar inverter charger. The grid should be automatically on/off from existing inverter to support the load from battery and solar panels. When battery voltage falls below preset level and solar is available sufficiently then priority should be from solar side. <p>2. In Day time condition-</p> <p>The system should be designed to give priority to solar power and use grid power only when solar power is insufficient to charge the batteries and battery charge is insufficient to meet the load requirement. When batteries are fully charged during day time, the interface unit shall automatically cut off AC grid power from the system and load should run through the inverter(using stored battery charge)</p> <p>3. In evening condition-</p> <p>When solar power drops to 2.5-2.0 Amp in case of 300 watt as well as in 500 watt solar inverter chargers, the systems should be shift to Grid and becomes normal domestic inverters during night time.</p>
Indicators	The controller should have indicators for showing solar charge and AC charging and mains on
Protection	Fuses should be provided to protect against short circuit conditions.

To prevent reverse flow of current	Blocking diodes should be provided as part of the electronics, to prevent reverse flow of current through the PV module(s)	
Warranty	The system must be warranted for five years from the date of commissioned and PV modules used in the power plant must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.	
Structure for module frame	Module frame structure to be made from 35mmx35mmx5 mm MS angle duly painted with corrosion resistant paint and primer suitable for mounting on roof of user. The module frame should be grouted with concrete and cement having 4:2:1 (Minimum 4 legs in 300 watt systems and 6 legs in 500 watt system)	
Wires/Cables for SPV Modules and Battery	Cables of copper conductor of multi strand wires of size 2.5mm sq in case of 300 watt solar inverter and 4.0 mm sq in case of 500 watt solar inverter suitable for DC supply from modules to charge controller and from charge controller to batteries.	
Codes and Standards		
a. The BOS items / components of the solar power pack must be conform to the latest edition of IEC/ equivalent BIS Standards as specified below:		
BoS item / component	Standard Description	Standard Number
Solar Modules	Crystalline silicon PV modules Conform to the latest edition	IS 14286 standards and in addition must conform to IS/ IEC 61730 Part-I&II
Interface Smart Charge controller	Electronically performance test report	As per specification
Cables	General Test and Measuring Methods PVC insulated cables for working voltages upto and including 1100 V-Do-, UV resistant for outdoor installation	IEC 60227/IS 694 IEC 60502/IS1554 (Pt.I &II)

2. AUTHORISED TESTING LABORATORIES/CENTERS

- 3.1. The PV modules must qualify as per relevant BIS standards. Test certificates can be from any of the NABL / MNRE Accredited Testing/Calibration Laboratories.
- 3.2. Test certificates for the BOS items/components can be from any of the NABL Accredited Testing-Calibration Laboratories or MNRE approved test centers.