



RATE CONTRACT

Haryana Renewable Energy Development Agency

(Department of Renewable Energy, Haryana)

Institutional Plot No.-1, Akshay Urja Bhawan, Sector-17, Panchkula.

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E-mail: drehareda@gmail.com, Website: www.hareda.gov.in

Rate Contract No HAREDA/2018-19/SHS/ 960 Dated: 14/6/18

To

M/s Smart Unified Utility Solutions,
Plot no 211, Sector-8,
IMT Manesar, Gurugram, Haryana
admin@smaru.in

SUBJECT: RATE CONTRACT FOR SUPPLY, INSTALLATION & COMMISSIONING OF 150W CAPACITY SOLAR HOME SYSTEMS (DC MODEL) FOR ANGANWARI CENTRES

Reference: This office tender enquiry no. HAREDA/ SOLAR HOME SYSTEMS /2017-18/02 and opened on 05.02.2018.

Dear Sir,

You are hereby informed that your above referred tender for the 150W capacity Solar Home System(DC Model) for Anganwari Centres has been accepted at the rate of **Rs. 21,500/- (Twenty One Thousand and Five Hundred Only) per system inclusive of all taxes, FOR with 5 years warranty on complete system including battery and 25 years warranty of SPV module for their output peak watt capacity, which should not be less than 90% at the 10years and 80% at the end of 25 years**. This Rate Contract will be governed by the terms and conditions given in schedule-B. The rate contract and the schedules annexured here to shall be sole responsibility of this Rate Contract/ transaction.

- 1 This rate contract shall be valid for one year from the date of issue of this rate contract.
- 2 The other terms and conditions and specifications not mentioned in the schedule- B, shall be as per DNIT.

3. The board description of stores with place of billing and capacity of respective supplier per month is specified in Schedule-"A" annexed. The terms and condition of the contract and technical specifications are specified in Schedule "B" & "C" respectively.
4. Please acknowledge receipt of this Rate Contract within a week's time from the date of issue by returning the second copy duly signed and stamped by authorized representative of your firm.
5. This Rate Contract contains 16 pages including this page.

Annexure:

1. Schedule "A" - Description of Stores, place of billing & capacity to supply.
2. Schedule "B" - Terms & Conditions of the Contract.
3. Schedule "C" - Technical specifications

Yours faithfully,

Encl: As above


Scientific Engineer(A)
for Director General, Renewable
Energy Department/ HAREDA,
Haryana, Panchkula.

Note:

Placing of any work order under this rate contract will require prior approval/sanction of the Director, NRE/HAREDA. Any work order, referring to this rate contract, placed without the prior approval/sanction of Director, NRE/HAREDA, will not be accepted by the contractor.

Schedule-A

DESCRIPTION OF STORES, PLACE OF BILLING & CAPACITY TO SUPPLY

Name of the supplier	Store Description	Place & State of Billing	Capacity to supply/Month
	(Supply, installation and commissioning of 150W capacity Solar Home System (DC Model) for Anganwari Centres with 5 year warrantee of battery & BOS. The warrantee of modules 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)		
M/s Smart Unified Utility Solutions, Gurugram	Solar Panel (150 Watt)- PV modules should be made up of crystalline silicon solar cells and must have a certificate of testing conforming to BIS standards from approved laboratory Battery (12 V 120AH)- ALTIMA Ceiling Fan- SMARU Charge Controller- SMARU LED Luminaire(6W) - SMARU	Gurugram, Haryana	2500



DETAILED TERMS & CONDITIONS FOR SUPPLY, INSTALLATION & COMMISSIONING OF 150W CAPACITY SOLAR HOME SYSTEM(DC MODEL) FOR ANGANWARI CENTRES OF HARYANA.

1. DETAILS OF WORKS:

Design, manufacture, supply, installation and commissioning of 150W Solar Home System (DC Model) as per DNIT specifications and warranty for five years of the complete system from the date of successful Commissioning

2. THE SCOPE OF WORK SHALL ALSO INCLUDE THE FOLLOWINGS:

- 2.1 Detailed planning of time bound smooth execution of Project.
- 2.2 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.
- 2.3 Supplier shall be responsible for delivering all the equipment at site under his own arrangement within the stipulated time frame.
- 2.4 The goods supplied under the contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage at site and delivery to site during the construction period by the supplier at his own cost.
- 2.5 Comprehensive Maintenance Contract of the Project for five year to assure faultless operation, and inventory maintenance.
- 2.6 After sales service through service center/s;
- 2.7 Coverage of risk liability of all personnel associated with implementation and realization of the Project;
- 2.8 The successful bidder shall train the user about the day to day care and maintenance of the system.
- 2.9 The Successful Bidder shall maintain sufficient inventory of the spare parts to ensure that the Project is functional during the period of warranty period.
- 2.10 Comprehensive Maintenance Contract of the Project at every location, from the date of the Commissioning of Project has to be carried out by the Successful Bidder. Comprehensive Maintenance Contract of the Project shall be for the five (5) years from the date of Commissioning.
- 2.11 Performance or supervision of the on-site assembly and/or start-up of the supplied Goods;
- 2.12 Furnishing of tools required for assembly and/or maintenance of the supplied Goods.
- 2.13 Furnishing of detailed operations and maintenance manual for each appropriate unit of supplied Goods;
- 2.14 Performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract.

3. TIME SCHEDULE, PENALTY/LIQUIDATED DAMAGES

- a. The ordered system/s are allowed to be got **inspected, supplied, installed and commissioned** within **four (04) months** time from the date of issue of work order during which following milestones should be achieved by the firm for execution of the project.



Sr.No.	Description	Time Required
1	Award of contract/ issue of work order	Say X date
2	Acknowledge the receipt of the work order	X+ 7days
3	Submission of Security Deposit / Performance Bank Guarantee	X + 15 days
4	Pre-dispatch Inspection by Purchaser	X + 90 days
5	Progressive deliveries of complete material, erection, tastings and Commissioning etc.	X + 120 days

Note In case, where name of beneficiary not provided with work order, for Solar Home System, list of beneficiaries will be provided by the HAREDA or/ by PO/APO of the district to the supplier at the time of receipt of material or at the time of pre-dispatch inspection.

- b. The time for and date of delivery (includes supply, installation & commissioning) stipulated in the work order shall be deemed to be the essence of the contract, and should the contractor fail to deliver / complete the work (includes supply, installation & commissioning) within the period prescribed for such delivery, penalty @ **2% of the pending work order value per month** subject to max. of 10% of the work order value is recoverable. Once the maximum is reached, the "HAREDA" may consider termination of the contract. For the purpose of calculation of penalty, month will be considered of 30 days and the week of 7 days. In case of non-payment by the contractor, recovery will be made from his bills or amount of Earnest money or security deposited with Director, HAREDA, provide also that
- (i) No recovery of penalty will be made if the Director, HAREDA accepts the delayed supplies by extending the delivery period by recording in writing that the exceptional circumstances were beyond the control of the supplier and there was no loss to the Government on written request by the supplier, with proper documentation establishing the reasons that the delay were beyond the control of the supplier, before the expiry of the allowed time. Requests for extension received after the expiry of the allowed timeline shall not be entertained and shall be subject to penalty.
 - (ii) On the failure of the supplier/s to make supply within the extended period or otherwise and the receipt of such information in the office of the Director, HAREDA, risk purchase at the cost of the supplier will be made by the Director, HAREDA after the maximum penalty is reached by obtaining consent from the L2, L3 bidders or approved supplier/s or approved RC holder of DGS&D, GOI or any State empanelled supplier or by inviting short terms quotations from the Registered and other known suppliers within next two months. The difference of excess cost thus, incurred will be recovered from the supplier from his pending bills, earnest money or security whichever is available. This procedure will be adopted after serving a registered notice to the supplier to supply stores within 15 days.
- c. The Contractor shall not
- (i) Without the consent in writing of HAREDA transfer, assign or sublet the work under this contract or any substantial part thereof to any other party. HAREDA shall have at all reasonable time, access to the works being carried out by the contractor under this contract. All the work shall be carried out by the contractor to the satisfaction of HAREDA.
 - (ii) Disclose details of the conditions governing this contract to unauthorized persons (Indenting against this contract is permissible only for the bonafide use of Governments departments and quasi public and not for private parties or for the private use of the Government officers).
- d. In the event of the contractor failing duly and properly to fulfill or committing breach of any of the terms and conditions of the tender or repeatedly supplying goods liable to rejection hereunder or failing, declining, neglecting/ or delaying to comply with any demand or requisition or otherwise not executing the same in accordance with the terms of this tender, or if the bidder or his agents or servants being guilty of fraud in respect of the contract or any other contract entered into by the contractor or any of his partners or representatives thereof with Government directing, giving, promising or offering any bribes, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise to any person in the employment of Government in any way relating to such officers or person of persons, office or employment or if the contractor or any of his partners become insolvent

or apply for relief as insolvent debtor or commence any insolvency proceedings or make any composition with his/ their creditors or attempts to do so then without prejudice to Government rights and remedies otherwise, HAREDA/ Government shall be entitled to terminate this contract forthwith and to **blacklist the contractor** for a period as deemed fit by the competent authority and purchase or procure or arrange from Government's stocks or otherwise at the contractor's risk and at the absolute discretion of the Director, HAREDA as regards the manner, place or time of such purchases, such supplies as have not been supplied or have been rejected under this agreement or are required subsequently by Government there under and in cases where issues in replacement are made from Government's stocks or supplies, the cost of value of stocks or supplies together with all incidental charges or expenses, shall be recoverable from the contractor on demand and the contractor shall not be entitled to benefit from any profit which may accrue to Government.

- e. The supplies, if any, made beyond the time limit for completion of the project defined in the work order will require prior approval of the Director, HAREDA, even the same are with penalty, means the supplier has no right to deliver the material with applicable penalty clause without written concurrence of Director, HAREDA. If any supplies fall under the warranty clause then the supplier has to obtain written permission from the Director, HAREDA, through a request letter at least seven days before the expiry of delivery period with the reason of delay.

4. FORCE MAJEURE

- (i) Notwithstanding the provisions of clauses contained in this deed, the contractor shall not be liable for forfeiture of its performance security, liquidated damages, termination for default, if he is unable to fulfill his obligation under this deed due to event of force majeure circumstances.
- (ii) For purpose of this clause, "Force majeure" means an event beyond the control of the contractor and not involving the contractor's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of God either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and fright embargoes.
- (iii) Obstruction in procurement of components /raw material by the firm from the manufacturers with whom they have tied up for execution of the projects under this tender shall not be covered under force majeure condition. The bidders are advised to make suitable arrangements for supply of parts and components for implementation of the tendered projects within allowed timeframe.
- (iv) However, if a force majeure situation arises, the contractor shall immediately notify the "HAREDA" in writing. The decision of the Director General, HAREDA, in above conditions, shall be final.

5. INSPECTION & COMMISSIONING

- (i) The HAREDA through its duly authorized representative(s) shall have at all reasonable times access to the contractor/ bidders premises or works and shall have the power at all reasonable time to inspect and examine the materials and workmanship of the works during its manufacture, supply, installation etc.
- (ii) Before supply of the materials, the contractor/ bidder are required to get lot of material offered for inspection get inspected at one site. In case the contractor/ bidder fails to get the offered material inspected, the total expenses of the further inspection will be borne by the supplier/contractor/ bidder.
- (iii) **HAREDA will bear the inspector's cost at only one site. No request, to inspect the component(s) of the material at different location would be entertained.**
- (iv) The inspection by HAREDA and issue of dispatch instruction thereof shall in no way limit the liabilities and responsibilities of the contractor/ bidder in respect of the agreed quality assurance forming a part of the contract.
- (v) After receipt of call for inspection, the material shall be inspected by the Director, HAREDA or a committee authorized by her/him or indenting organisation at firm's premises or in exceptional cases at site and material shall be dispatched/erected after acceptance of the same by the Inspection Committee.
- (vi) **The Supplier shall offer inspection with 15 Days notice within 90 days of placement of work order with firm date and thereafter, should complete the project within the allowed time. To illustrate it further, if the last date of supply is**



31st March & supplier sends the inspection call on 30th March for inspection on 31st March, the inspection date shall be considered as 15th April (15 days notice) & period from 1st April to 14th April shall be under penalty clause.

- (vii) If the proposal for pre-dispatch inspection is received within defined & valid time period in the office of Director, HAREDA or indenting organisation from the supplier and inspection is not carried out by the HAREDA due to any reasons within 15 days of receipt of such letter, the time period for supply, installation & commissioning will be extended equivalent to delayed period, from the next day of expiry of these 15 days till the date of actual inspection and no penalty will be imposed for this extended period.
- (viii) In case the material offered for inspection fails to meet the specifications stipulated in DNIT /Order /Contract and the material is rejected by the Inspecting Committee or complete material offered for inspection is not available for inspection, HAREDA or Indenting Organisation will levy a penalty at 0.1% of the order value. In case the material offered for inspection fails during the 2nd inspection also, the Indenting Department will have the right to increase the penalty to 0.25% of the order value. In case, the material offered fails during the 3rd and final inspection also, the firm will be liable for penal action including forfeiture of EMD/PSD, risk purchase, debarring/blacklisting in future, and no further opportunity for inspection will be provided to the supplier firm.
- (ix) The proposal for inspection received complete in all respect shall be processed by the dealing officer within seven (7) days of receipt of the same by him/her, failing which he/she will be liable to explain the reason for delay.
- (x) The firm will print the words '**PROMOTED BY HAREDA & YEAR _____**' on the body of the Systems in a permanent manner so as to minimize any possible malpractices.
- (xi) The inspection report should be submitted to HAREDA or Indenting Organisation within seven days from the date of inspection either by hand or by e-mail/fax. Similarly, the commissioning report should be submitted to the concerned district office and an advance copy to HAREDA or Indenting Organisation **within seven days** from the date of commissioning either by hand and by e-mail/fax failing which the commissioning date shall be considered seven days prior to the date of submission of the report in HAREDA or Indenting Organisation and the period of late submission of JCR shall be counted towards delay. The district office after verification will issue the JCR or shall report any discrepancy to the supplier with a copy to HAREDA or Indenting Organisation within seven days. In case of discrepancy in the system commissioned, the commissioning date shall be counted from the date when the discrepancy has been removed to the entire satisfaction of District Office & User/HAREDA/Indenting Organisation.
- (xii) The installation work shall be carried out under the close supervision of the Project Officer/Asstt. Project Officer of the district & the user. The final inspection after installation and commissioning shall be carried out by district office and user. The supplier should plan his activities in such a way that the entire process for supply, installation and commissioning after inspection of the systems is completed within the allowed time. Therefore, it is necessary & in the interest of the supplier to get inspected the material well in advance before the stipulated delivery time so as to avoid penalty. The supplier shall provide without any extra charge, all materials, tools, testing equipments, labour and assistance of very kind which the inspecting officer may consider necessary for any test or examination. HAREDA or indenting organisation can also get the functionality of the system tested from any MNRE approved test centre/laboratory. Rejected material (if any) will have to be replaced by the supplier at its costs within 15 days of issue of such notice.
- (xiii) Before the goods and equipment are taken over by the user, the supplier shall supply operation and maintenance manuals. These shall be in such details as will enable the user to operate, maintain, adjust and repair all parts of the works as stated in the specifications. The manuals shall be in the ruling language (English or Hindi). Unless and otherwise agreed, the goods and equipment shall not be considered to be completed for the purposes of taking over until such manuals have been supplied to the purchaser/user.
- (xiv) If the goods/services or any section fails to pass the Tests. The supplier may require such tests to be repeated on the same terms and conditions. All costs to which the purchaser may be put to by the repetition of the tests under this sub-clause shall be deducted from the contract price.

- (xv) **The purchaser has the right to pick any sample in working condition in the presence of bidder**, for random testing of any of the component of the system or complete system, while erecting of material, post commissioning for testing as per the DNIT specifications. The expenditure on the tests (for maximum 2 systems) will be borne by the supplier. If more system(s) are taken for testing, the cost of testing shall be borne by the Indenting Department.
- (xvi) If the purchaser and the supplier disagree on the interpretation of the test results each shall give a statement of his views to the other within 14 days after such disagreement arises. The statement shall be accompanied by all relevant evidence. The purchaser will review both the statements and render a final decision within a further period of fourteen days which shall be binding on the supplier.

6. THIRD PARTY INSPECTION:

Third party inspection of maximum of 10% of the offered material / installed Projects may also be arranged by Indenting Organisation at its own cost.

7. TERMS AND CONDITION FOR PAYMENTS

7.1 The payments shall be made as per the following terms and conditions:

- a. **60% of the ordered value** after the supply of the complete material at site/indenting office supported with pre-dispatch inspection report, list of material with complete details, material receipt issued by user /P.O of the concerned district and bill of material.
- b. **Balance payment** within 30 days on submission of Joint Commissioning Report (JCR) with list of beneficiaries to the indenting organization/HAREDA. The JCR must be countersigned by the respective ADC-cum-CPO of the district.

7.2 Income Tax shall be deducted at source only.

7.3 Additionally, Successful Bidder shall have to submit to the following, if required:

- a. All the documents related to purchase of major components of the Project.
- b. All documents, premium receipts related to insurance of components of Projects.

8. 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, GoI guidelines). The contractor shall rectify/replace defective parts of the system within Warranty period promptly i.e. **within 72 hours**.
- 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.
- iii. 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.
- iv. 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 immediately.
- v. 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.
- vi. 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.



- vii. **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.
- viii. 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. 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.
- ix. 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.
- x. 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.
- xi. **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.
- xii. **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.

9. **RIGHT TO USE DEFECTIVE EQUIPMENT**

If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the equipment proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such equipment until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.

10. **STANDARDS**

The Goods supplied under this contract shall conform to the standards mentioned in the technical specifications and other sections of DNIT and when no applicable standard is mentioned then to the latest authoritative standard issued by the concerned institution appropriate to the goods, country of origin, MNRE as applicable.

11. **SUSPENSION:**

HAREDA or indenting organisation may by a written notice of suspension to the Firm, suspend all payments to the Firm under the contract, if the Firm fails to perform any of its obligations under this contract provided that such notice of suspension:

- i. Shall specify the nature of the failure.
- ii. Shall request the bidder to remedy such failure within a specified period from the date of receipt of such notice of suspension by the bidder.

12. COMPLIANCE TO REGULATIONS AND BYE LAWS

The contractor shall conform to the provisions of any statute relating to his workers and the work and regulations and bye-laws of any local authority and or any Central/State Deptt. or undertaking in whose jurisdiction the work connected.

13. COMPENSATION UNDER WORKMEN'S COMPENSATION ACT

The contractor shall be responsible for and shall pay any compensation to his workmen payable under the Workmen's Compensation Act, 1923 (VIII of 1923) or any other act applicable hereinafter called the said Act for injuries caused to the workmen. The contractor shall be responsible to take a policy with an Insurance Company to cover all his workers against injuries fatal/non-fatal during course of duty against Workmen's Compensation Act.

14. SAFETY MEASURES:

- a) The contractor shall take necessary precautions for safety of the workers and preserving their health while working in such jobs, which require special protection and precautions. The following are some of the measures listed but they are not exhaustive and contractor shall add to and augment these precautions on his own initiative where necessary and shall comply.
- b) Supply work men with proper belts, ropes etc., when working in precarious slopes etc.
- c) Avoiding naked electrical wire etc., as they would electrocute the works.
- d) Taking necessary steps towards training the workers concerned on the machinery before they are allowed to handle them independently and taking all necessary precautions in around the areas where machines hoists and similar units are working.

15. TAXES AND DUTIES

Supplier shall be entirely responsible for all taxes, duties licence fees etc. incurred until delivery and commissioning of the contracted goods to the purchaser.

All taxes payable as per Government Income tax & service tax norms will be payable by the bidder. TDS will be deducted from the payment of the Bidder as per the prevalent Laws and rules of Government of India and the State Government.

16. INCOME/ CORPORATE TAXES IN INDIA

- 16.1 The supplier shall be liable to pay all corporate taxes and income tax that shall be levied according to the laws and regulations applicable from time to time in India and the price bid by the supplier shall include all such taxes in the contract price.
- 16.2 Wherever the laws and regulations require deduction of such taxes at the source of payment, the purchaser shall effect such deductions from the payments due to the supplier. The remittance of amounts so deduction and issuance of certificate for such deductions shall be made by the purchaser as per the laws and regulations in force. Nothing in the contract shall relieve the supplier from his responsibility to pay any tax that may be levied in India on income and profits made by the supplier in respect of this contract.
- 16.3 The suppliers staff, personnel and labour will be liable to pay personal income taxes in India in respect of such of their salaries and wages as are chargeable/ in force, and the supplier shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws and regulations.

17. COMPLETENESS

The execution of the project is on turnkey basis and the contractor shall be responsible for providing all the necessary civil works, equipments, materials which is not indicated in the DNIT but required and essential for completeness and successful testing & commissioning of the project within the contract price.



18. PRICE FALL CLAUSE

- (i) The prices charged for the stores supplied under the Contract by the Contractor shall in no event exceed the lowest price at which the Contractor sells the Stores or offer to sell stores of identical description to any Department of the Central Government or any Department of a State Government or any statutory undertaking of the Central or a State Government, as the case may be, during the period till all Orders placed during the currency of Contract is completed.

If at any time during the said period, the Contractor reduces the Sale price, sells or offers to sell such stores irrespective of quantity to any person(s)/organization(s) including the Purchaser or any Statutory Undertaking of the Central or a State Government, as the case may be, at a price lower than the price chargeable under this Contract, he shall forthwith notify such reduction or Sale or offer of Sale to the Director, New & Renewable Energy Department, Haryana/HAREDA and the price payable under the Contract for the stores supplied after the date of coming into force of such reduction or sale or offer of sale stand correspondingly reduced. The above stipulation will, however, not apply to

- (a) Export/deemed Export by the Contractor
- (b) Sale/ normal replacement.

- (ii) The Contractor shall furnish the following certificate to the Paying Authority along with each bill for payment for supplies made against the Contract.

"I/We certify that there has been no reduction in sale price of the Stores of Description identical to the Stores supplied to the Government under the contract herein and such Stores have not been offered/sold by me/us to any person(s)/organization(s) including the purchaser or any Department of Central Government or any Department of a State Government or any statutory Undertaking of the Central or State Government as the case may be up to the date of the bill of supplies against all orders placed during the currency of the Contract at a price lower than the price charged to the Government under the Contract except for quantity of Stores as mentioned at para (ii) above.

19. GRAFTS AND COMMISSIONS ETC.

Any graft, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner, agent, officers, director, employee or servant or any one on his or their behalf in relation to the obtaining or to the execution of this or any other Contract with the Owner, shall in addition to any criminal liability with it may incur subject the Contractor to the cancellation of this and all other Contracts and also to payment of any loss or damage to the Owner resulting from any cancellation. The owner shall then be entitled to deduct the amount so payable from any monies otherwise due to Contractor under the Contract.

20. TERMINATION FOR INSOLVENCY

HAREDA or indenting organisation may at any time terminate the contract by giving written notice to the contractor/ bidder without compensation to the contractor/ bidder, if it becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the HAREDA.



21. TERMINATION FOR CONVENIENCE

The HAREDA, may by written notice sent to the contractor/ bidder, terminate the contract in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for the purchaser's convenience in the interest of Public/ Government.

22. NOTICE:

22.1 Any notice given by one party to the other pursuant to the contract shall be sent in writing or by Email and confirmed in writing to the address specified for that purpose in the special condition of contract

22.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

23. RIGHT TO CLAIM/ RECOVER DAMAGES

The supplier will keep the premises of the beneficiary clean during store, installation and commissioning of the system / plant. If there is any damage due to mishandling / bad workmanship, the amount equivalent to damage will be recovered from the supplier. However, if any such complaint regarding damage is received from the beneficiary, the same will first be forwarded to the supplier for redressal/ rectification.

24. 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.

25. 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.



Schedule-C

TECHNICAL SPECIFICATIONS FOR 150 WATT SOLAR BASED HOME SYSTEMS (DC MODEL)

- SPV Module (with Module Mounting Structure) 150 Wp under STC
- Battery 12V, 120Ah - C/10 Rated, Lead Acid Tubular Flooded Type
- Solar Charge Controller: 12V, 12-15 A with LCD display
- Load
 - 3 nos. of White Light Emitting Diode (W-LED) Luminaire (max. 6.0 Watts each)
 - 2 no. of D.C. Ceiling Fan of 48 Inch/1200 mm (22 Watts \pm 10%) (BLDC type)
 - Provision for 2 ports for operating the radio and USB for mobile phone charging (5V, 1A)

BROAD PERFORMANCE SPECIFICATIONS

PV module	150Wp under STC (with Module Mounting Structure)
Light source	<ul style="list-style-type: none">• 3 Nos. of White Light Emitting Diode (W-LED) Luminaire (max. 6.0 Watts each). The wattage of the LED used in the luminaire should be such that the total input power consumption by the luminaire is not more than 6 W (including the LED driver consumption). The LED lights should meet the latest BIS specification (IS 10322 (Part 5/Sec I):2012)
Light Output	<ul style="list-style-type: none">• 3 nos. of 6W, LED Luminaire Minimum 32 Lux when measured from a height of 2.5 meter in an area of 2.5 meter diameter. The light should be glaze free and should not have any shadow band. The uniformity of light should not be less than 0.7
Loads in addition to the Lights	<ol style="list-style-type: none">1. Two 48 inch/1200 mm DC ceiling Fan (22.0 Watt \pm 10%), BLDC type2. Provision for 2 ports for operating the radio and USB for mobile phone charging (5V, 1A)
Battery	Lead Acid Tubular Flooded Type
Charge controller	The charge controller should be of MPPT type and its PV charging efficiency should be >90% The charge control system must have 2 separate ports for connecting the various loads. It should be mentioned on the Charge Controller that these ports are for radio operation and mobile charging only.
Working temperature	0 ^o - 45 ^o C

TECHNICAL DETAILS

PV MODULE (S)

- I. Indigenously manufactured PV modules should be used
- II. The PV modules should be made up of crystalline silicon solar cells and must have a certificate of testing conforming to BIS standards from approved laboratory
- III. **The module efficiency should not be less than 14%.**
- IV. The terminal box on the module should have a provision for opening, for replacing the cable, if required
- V. There should be a Name Plate fixed inside the module which will give:
 - a. **Name of the Manufacturer or Distinctive Logo.**
 - b. **Model Number**
 - c. **Serial Number**
 - d. **Year of manufacture**
 - e. **HAREDA logo (which is available on-line)**
 - f. **Made in India**

BATTERY

- I. The battery should be Lead Acid Tubular Flooded Type
- II. 75 % of the rated capacity of the battery should be between fully charged & load cut off conditions.
- III. Battery should conform to the latest BIS/ International standards.

LIGHT SOURCE

- I. The luminaries should use white LEDs. The colour temperature of white LEDs should be in the range of 5500° K – 6500°K. Use of LEDs which emit ultraviolet light will not be permitted.
- II. The light output from the white LED light source should be constant through-out the operation of the lights.
- III. The lamps should be housed in an assembly suitable for indoor use with an appropriate heat sink to dissipate the heat generated by LEDs during operation. The temperature of LED should not increase more than 10° above room temperature. This condition should be complied for 5 hours of operation of the lamp at a stretch while battery operating at any voltage between the loads disconnect and the charge regulation set point.
- IV. The luminaries must use the optics and diffuser in order to have uniform and glaze free light.
- V. The make, model number, country of origin and technical characteristics (including IESNA LM-80 report) of white LEDs used in the lighting system must be furnished along with the system.
- VI. All Luminaries should have ON/OFF switch and fuse.

FAN

The ceiling fan should be 12 volt DC operated with following minimum requirement and the registered manufacturer of the fan should have a valid test report from any of the BIS/NABL/Govt. approved test laboratory for the same:

- i. The fan should be 12V DC operated and ceiling type of size 48 inch/1200 mm
- ii. Type of motor: **BLDC motor**
- iii. Rated voltage: 12 Volt
- iv. Operating Voltage range: 9 Volt to 15 volt
- v. Blade diameter : 48 inch/ 1200 mm
- vi. Blade: Three leaves Alluminium Powder Coated
- vii. Power consumption - 22 Watt ($\pm 10\%$)
- viii. Speed : 3 Electronically controlled

ELECTRONICS

- I. The charge controller should be of MPPT type
- II. Electronics should operate at 12 V and should have adequate temperature compensation arrangement for proper charging of the battery throughout the year.
- III. Necessary lengths of wires / cables, switches and fuses should be provided.
- IV. The system should have separate ports for connecting each load.
- V. The system should have 2 USB ports for connecting loads.
- VI. The idle current i.e. when there is no load and no display, should be less than 40 mA respectively.
- VII. The voltage drop from module terminals to the battery terminals should not exceed 3.0 volts including the dropage across the diode and the cable when measured at maximum charging current.
- VIII. The PCB containing the electronics should be capable of solder free installation and replacement.

ELECTRONICS PROTECTION

- I. Adequate protection is to be incorporated under "No Load" condition, e.g. when the lamps and other loads are removed and the system is switched ON.
- II. The system should have protection against battery overcharge, deep discharge condition.
- III. Load reconnect should be provided at $>12.5V$ and low cut-off should be at $11.3 V (\pm 0.2V)$
- IV. Adequate protection should be provided against battery reverse polarity.
- V. Fuses should be provided to protect against short circuit conditions.
- VI. Protection for reverse flow of current through the PV module(s) should be provided.



MECHANICAL COMPONENTS

- I Corrosion resistant frame structure should be provided to hold the SPV module.
- II The frame structure should have provision to adjust its angle of inclination to the horizontal, so that it can be installed at the specified tilt angle.
- III Light source should be either for wall mounted or ceiling mounted or can be hung from the ceiling in a stable manner, as per site requirements.
- IV A vented plastic/ wooden/ metallic box with acid proof corrosion resistant paint for housing the storage battery indoors should be provided.

INSTALLATION OF SYSTEM

Modules shall be mounted on supporting structure made out of galvanized MS angle of required structural strength (hot dip/galvanized) either on the roof top or at ground as per the site requirement.

1. The size of M.S. (Galvanized) angle should be 32 x 32 x 3 mm. The structures are to be fitted either on the roof top or at ground properly and south faced. It should withstand wind speed up to 120 Km/hour.
2. Foundation – The legs of the structure made with hot dip GI angles will be fixed and grouted in the RCC foundation columns of size atleast 150mmx150mmx100mm made with 1:2:4 cement concrete. While making foundation design due consideration will be given to weight of module assembly and maximum wind speed of 120 km per hour.
3. The work includes necessary excavation, concreting, back filling, shoring and shuttering etc.
4. Any minor items which are not specifically included in the scope of supply but required for proper installation and efficient operation of the SPV systems, is to be provided by the manufacturer as per standards.

ELECTRIC CABLE

- I The electric cable used to connect module to charge controller and charge controller to battery shall be twin core PVC insulated water and UV resistance copper cable of minimum size of 4.0 mm². Cable shall meet IS 1554 / 694 Part 1:1988 & shall be of 650 V/1.1 kV.
- II Other cables of appropriate size should be used to keep electrical losses to a bare minimum.
- III All wiring should be in a proper conduit or capping case. Wire should not be hanging loose.
- IV Wiring should be joint less and switches & fan regulator should be of appropriate value and suitable for DC operation.

INDICATORS

The system should have LCD display to indicate charging under progress, load cut-off etc.

QUALITY AND WARRANTY

- I The Solar home system including Battery will be warranted for a period of five years from the date of supply.
- II The PV module(s) will be warranted for a minimum period of 25 years from the date of supply. PV modules used in Solar Home System must be warranted for their output peak watt capacity, which should not be less than 90% at the end of Ten (10) years and 80% at the end of Twenty five (25) years.
- III The Warranty Card to be supplied with the system must contain the details of the system. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.

OPERATION AND MAINTENANCE MANUAL

An Operation, Instruction and Maintenance Manual, in English and the local language, should be provided with the Solar Home System. The following minimum details must be provided in the



Manual:

- Basic principles of Photovoltaic
- A small write-up (with a block diagram) on Solar Home System – its components, PV module, battery, electronics and luminaire and expected performance
- Significance of indicators
- Type, Model number, voltage & capacity of the battery, used in the system.
- The make, model number, country of origin and technical characteristics (including IESNA LM-80 report) of W-LEDs used in the lighting system must be indicated in the manual.
- Clear instructions about mounting of PV module(s).
- Clear instructions on regular maintenance and trouble shooting of the Solar Home System.
- DO's and DONT's
- Name and address of the contact person for repair and maintenance.

Note:

- a. The material should confirm to the latest MINIMAL TECHNICAL REQUIREMENTS / STANDARDS FOR **SPV HOME SYSTEMS** UNDER THE PROGRAMMES OF MINISTRY OF NEW AND RENEWABLE ENERGY, GOI and as amended from time to time.
- b. Material shall be strictly as per DNIT specifications. If there is any left out specification, the same shall be considered as per the latest specifications applicable as per MNRE/ BIS/International Standards. Further, any minor equipment and material may not be specifically mentioned in this specifications but are required to make the system complete in every respect in accordance with technical specification shall be deemed to have been covered under the scope of this specification and shall be provided by the tenderer / supplier within the quoted price.

