



**DEPARTMENT OF AGRICULTURE  
HIMACHAL PRADESH  
DOCUMENT  
FOR  
SELECTION & EMPANELMENT  
OF  
NEW SERVICE PROVIDERS FOR INSTALLTION OF SOLAR  
AS WELL AS REGULAR ELECTIC FENCING  
UNDER  
MUKHYMANTRI KHET SANRAKSHAN YOJNA  
TO BE IMPLEMENTED  
BY  
DEPARTMENT OF AGRICULTURE  
HIMACHAL PRADESH  
2016**

## 1) Introduction and Background the Project:

In order to increase the yield by way of protecting the damages to the crops from herbivores like deer, Blue Bulls, boars, monkeys & stray animals etc, the Government of Himachal Pradesh has launched a new scheme “**Mukhyamantri Khet Sanrakshashan Yojna**” during 2016-17. In which, Agricultural Solar power fencing systems (electric fencing) shall be installed in the farmers fields where extent of crop damage is very high. Department of Agriculture, Himachal Pradesh has proposed to promote use of SPV technology as independent power source in agriculture sector by arranging, supplying, installation and commissioning of Solar fencing systems. In this regard, the Department of Agriculture has issued a notice for the expression of interest for technical bid for arranging, supplying, installation and commissioning of Solar fencing systems on farmers fields under the project “**Mukhyamantri Khet Sanrakshashan Yojna**”.

Major component of the scheme is installation of SPV Panel and High Tension Wires in around fence in different perimeters varying from 100 to 1500 meters. This Agricultural Solar Fencing supply a low amount of electric current, which gives an electric current to those entering the fenced area. Topography of the State is highly variable comprising of lands having negligible slopes to slopes as high as 50 to 60% where crops are raised. It could be at higher elevation to that of command area or it could be at lower elevation depending on site. This implies that planning and designing would be different for different systems.

For installed solar powered fencing systems, project assistance to the extent of 60% of the project cost shall be provided to the beneficiaries. The remaining project cost i.e. 40% shall be borne by the beneficiaries. Under the project, 2500 Solar Powered Fencing systems are proposed to be installed and Command area of approximately 1300 hectares would be covered under this scheme. The project targets would be achieved during 2016-17.

The component wise rates fixed by the Department for installation of Solar as well as Regular Electric Fencing to be installed in farmers fields is as under:-

| Sr. No. | Component   | Unit | Approved rates |
|---------|---|------|----------------|
| 1.      | Energizer with built in alarm: Input Voltage: 12V DC, Input Current: 500MA, Output Voltage: 6.0KV -10.0 KV, Pulse Interval: 1.20second, Pulse Duration: 0.3Milli Second, Output energy: 2.50 Joules | Each | 10800.00       |
| 2.      | Solar PV Module-72 Wp (Separate rate may be quoted )  | Each | 6300.00        |
|         | Solar PV Module- 100Wp (Separate rate may be quoted )   | -do- | 6525.00        |
| 3.      | Lightning diverter-Copper   | -do- | 1575.00        |
| 4.      | Housing box with post   | -do- | 7200.00        |
| 5.      | Module stand  | -do- | 900.00         |
| 6.      | Battery   | -do- | 14400.00       |
| 7.      | Earthing System   | -do- | 459.00         |

|     |  |                   |          |
|-----|--|-------------------|----------|
| 8.  | Strain Insulator   | -do-              | 16.00    |
| 9.  | Reel insulators  | -do-              | 9.00     |
| 10. | High tensile wire- ACSR Conductor wire, 2.59 mm (12 gauge), TATA make                                | Per meter         | 6.30     |
| 11. | Wire Tighteners  | Each              | 65.00    |
| 12. | Tension Springs  | Each              | 180.00   |
| 13. | Joining Clamps   | -do-              | 9.00     |
| 14. | Warning sign Boards  | -do-              | 36.00    |
| 15. | Lead out cable   | Per meter         | 27.00    |
| 16. | Tool kit   | Each              | 990.00   |
| 17. | Flood gate controller with Drop chains   | -do-              | 360.00   |
| 18. | Cut out switch   | -do-              | 2000.00  |
| 19. | Section/Corner posts - MS with Galvanised, 40 x 40 Sq.mm Pipe, 8.50 Feet with PP Insulator riveting. | -do-              | 1250.00  |
| 20. | Support Posts - MS with Galvanised, 25 x 25 Sq.mm Pipe, 8.50 Feet with PP Insulator riveting.        | -do-              | 900.00   |
| 21. | Intermediate posts - MS with Galvanised, 25 x 25 Sq.mm Pipe, 8.50 Feet with PP Insulator riveting.   | -do-              | 630.00   |
| 22. | Digital volt meter   | -do-              | 6000.00  |
| 23. | Xenon flash tube   | -do-              | 990.00   |
| 24. | Neon tester  | -do-              | 540.00   |
| 25. | PCC for Grouting of posts 1:3:6 including earth work such as digging of earth                        | Per Cum           | 4290.00  |
| 26. | Hooter   | Each              | 400.00   |
| 27. | Installation charges   | Per Running meter | 80.00    |
| 28. | System testing & commissioning   |                   | 4500.00  |
| 29. | Comprehensive Annual Maintenance Contract after Warranty Period                                      | Per year          | 36000.00 |

### Unit Cost

Cost of a power fencing system has two components :-

1. Fixed component, i.e. the number and size of the components remain the same irrespective of the length of the fencing,
2. Variable component, i.e. the size and number of component vary with the length of the fence.

The total cost of long distance power fencing system is comparatively cheaper as the same set of fixed items are used over longer distances also. The unit costs for different using stone pillars are given here under:

**a) Model wise approved rates for Planning, Estimation, Supplying , Installation &Commissioning of Solar Powered Electric Fencing System in the Farmer's Fields**

| <b>Sr. No.</b> | <b>Model</b> | <b>Perimeter of Fence ( Running Meter)</b> | <b>No. of Strands &amp; Height</b> | <b>Cost per Running Meter (Rs.)</b> | <b>Financial Assistance @ 60% (Rs.) per rmt.</b> | <b>Beneficiaries Share @40% (Rs.)per rmt.</b> |
|----------------|--------------|--|------------------------------------|-------------------------------------|--|---|
| 1.             | Model-1      | 100  | 5Wires (1.50m)                     | 1170                                | 702  | 468   |
|                |              |  | 7 Wires (2.10m)                    | 1250                                | 750  | 500   |
|                |              |  | 9 Wires (2.10m)                    | 1280                                | 768  | 512   |
| 2.             | Model-2      | 200  | 5Wires (1.50m)                     | 830                                 | 498  | 332   |
|                |              |  | 7 Wires (2.10m)                    | 910                                 | 546  | 364   |
|                |              |  | 9 Wires (2.10m)                    | 930                                 | 558  | 372   |
| 3.             | Model -3     | 300  | 5Wires (1.50m)                     | 720                                 | 432  | 288   |
|                |              |  | 7 Wires (2.10m)                    | 800                                 | 480  | 320   |
|                |              |  | 9 Wires (2.10m)                    | 820                                 | 492  | 328   |
| 4.             | Model-4      | 500  | 5Wires (1.50m)                     | 630                                 | 378  | 252   |
|                |              |  | 7 Wires (2.10m)                    | 700                                 | 420  | 280   |
|                |              |  | 9 Wires (2.10m)                    | 730                                 | 438  | 292   |
| 5.             | Model-5      | 700  | 5Wires (1.50m)                     | 590                                 | 354  | 236   |
|                |              |  | 7 Wires (2.10m)                    | 670                                 | 402  | 268   |
|                |              |  | 9 Wires (2.10m)                    | 690                                 | 414  | 276   |
| 6.             | Model-6      | 1000                                       | 5Wires (1.50m)                     | 570                                 | 342  | 228   |
|                |              |  | 7 Wires (2.10m)                    | 640                                 | 384  | 256   |
|                |              |  | 9 Wires (2.10m)                    | 660                                 | 396  | 264   |
| 7.             | Model-7      | 1500                                       | 5Wires (1.50m)                     | 540                                 | 324  | 216   |
|                |              |  | 7 Wires                            | 610                                 | 366  | 244   |

|  |  |  |                    |     |     |     |
|--|--|--|--------------------|-----|-----|-----|
|  |  |  | (2.10m)            |     |     |     |
|  |  |  | 9 Wires<br>(2.10m) | 640 | 384 | 256 |

**b) Model wise approved rates for Planning, Estimation, Supplying , Installation &Commissioning of Regular Electric Fencing System in the Farmer's Fields**

| <b>Sr. No.</b> | <b>Model</b> | <b>Perimeter of Fence of Agriculture Farm( Running Meter)</b> | <b>No. of Strands &amp; Height</b> | <b>Cost per Running Meter (Rs.)</b> | <b>Financial Assistance @ 60% (Rs.)</b> | <b>Beneficiaries Share @40% (Rs.)</b> |
|----------------|--------------|---|------------------------------------|-------------------------------------|---|---------------------------------------|
| 1.             | Model-1      | 100   | 5Wires<br>(1.50m)                  | 980                                 | 588                                     | 392                                   |
|                |              |   | 7 Wires<br>(2.10m)                 | 1070                                | 642                                     | 428                                   |
|                |              |   | 9 Wires<br>(2.10m)                 | 1090                                | 654                                     | 436                                   |
| 2.             | Model-2      | 200   | 5Wires<br>(1.50m)                  | 740                                 | 444                                     | 296                                   |
|                |              |   | 7 Wires<br>(2.10m)                 | 820                                 | 492                                     | 328                                   |
|                |              |   | 9 Wires<br>(2.10m)                 | 840                                 | 504                                     | 336                                   |
| 3.             | Model -3     | 300   | 5Wires<br>(1.50m)                  | 660                                 | 396                                     | 264                                   |
|                |              |   | 7 Wires<br>(2.10m)                 | 730                                 | 438                                     | 292                                   |
|                |              |   | 9 Wires<br>(2.10m)                 | 760                                 | 456                                     | 304                                   |
| 4.             | Model-4      | 500   | 5Wires<br>(1.50m)                  | 590                                 | 354                                     | 236                                   |
|                |              |   | 7 Wires<br>(2.10m)                 | 670                                 | 402                                     | 268                                   |
|                |              |   | 9 Wires<br>(2.10m)                 | 690                                 | 414                                     | 276                                   |
| 5.             | Model-5      | 700   | 5Wires<br>(1.50m)                  | 570                                 | 342                                     | 228                                   |
|                |              |   | 7 Wires<br>(2.10m)                 | 640                                 | 384                                     | 256                                   |
|                |              |   | 9 Wires<br>(2.10m)                 | 660                                 | 396                                     | 264                                   |
| 6.             | Model-6      | 1000  | 5Wires                             | 540                                 | 324                                     | 216                                   |

|    |         |      |                    |     |     |     |
|----|---------|------|--------------------|-----|-----|-----|
|    |         |      | (1.50m)            |     |     |     |
|    |         |      | 7 Wires<br>(2.10m) | 620 | 372 | 248 |
|    |         |      | 9 Wires<br>(2.10m) | 640 | 384 | 256 |
| 7. | Model-7 | 1500 | 5Wires<br>(1.50m)  | 530 | 318 | 212 |
|    |         |      | 7 Wires<br>(2.10m) | 600 | 360 | 240 |
|    |         |      | 9 Wires<br>(2.10m) | 620 | 372 | 248 |

The Per running cost includes the cost of civil work such as Digging of Pits and Grouting of Pole in C. Conc. 1:3:6 ( 1Cement :3 sand : 6 Stone Aggregate of nominal size of 20mm) which is about 35% of total cost. If farmer executes civil work at his own level out of his own resources, then the cost of fencing will be reduced to about 35% of the total cost. The farmer may have a choice to adopt any type of above mentioned fence or combination of two as per local situation and need . The abovementioned approved rates per running meter of fencing are inclusive of all taxes, duties, Cess, Octroi etc., packing, forwarding and insurance charges and Forward Operating Location (FOL) basis at roadhead. The firm shall be responsible for the safe delivery of goods at site(s).

In view of above details, The Department has decided to empanel companies/Firms who have in depth knowledge and experience about the planning, designing , arranging, supplying, installation and commissioning of Solar fencing systems on farmers fields systems in hilly areas.

## 2) Scope of Work :-

The companies/Firms are required to do the work of planning, designing , arranging, supplying, installation and commissioning of Solar fencing systems on farmers fields systems in entire state of Himachal Pradesh. The sites of installation of fencing systems are to be given by the offices of Department of Agriculture of the respective areas / Districts. The Deputy Directors of Agriculture of respective districts will be the Nodal Officer of this project at district level. The quantity of work may be increase or decrease depending upon actual requirement at site .

### 2.1 Planning, Designing , Arranging, Supplying, Installation and Commissioning of Sub Project:

- i) The service provider shall be responsible for Planning, Designing , Arranging, Supplying, Installation and Commissioning of Solar Fencing at farmer's field according to the guidelines prescribed.
- ii) If there will be amendments in guidelines during the period of empanelment by the Department , the Service Providers shall follow the same.
- iii) The Service Provider shall have to obtain project approval from the District Nodal Officer / Project Implementing Agency i.e. Deputy Director of Agriculture of concerned district for each individual project before execution of the Solar Fencing

Work .The project proposal for approval must contain detailed drawings and cost estimates prepared on the basis of approved rates and specifications along with layout plan of Solar Power Fencing System mentioning the details like type of fencing and material such as wooden post, R.C.C. Post etc to be required by farmers

- iv) The Service Provider shall implement the project using material and components as per technical specifications given at Annexure-a.
- v) The Service Provider shall install the system within prescribed time limit set by the authority.
- vi) The Service Provider shall take a trial run of the individual project and hand over the same to farmer.
- vii) A non-removable sticker or permanent embossing shall be fixed on the equipment supplied to the beneficiary with the following details both in Hindi and English The unique Sl. No. which is indicated in the Control unit must also be mentioned in the supply order. Danger signal plate to be affixed on the Solar Fencing
  - 1. Equipment Name / Model :
  - 2. Unique Sl. No. and Year ( -----/ -----) :
  - 3. Name of the scheme:
- viii) The company must provide a complete and updated “**Operational and Maintenance Manual**” in local language to the beneficiary free of cost at the time of installation or after commissioning of Electric Fencing Systems .

## **2.2 After Sales Services, Repair and Maintenance:**

- i) The warranty period for the Electric Fencing Systems shall be 24 months of complete systems and 25 years for the PV modules of output wattage which should not be less than 90% at the end of 10 years and 80% at the end of 25 years from the date of completion of the sub project.
- ii) The service provider will provide after sales services for at least two years to the farmers.
- iii) The service provider will provide free replacement of component/ equipment if damaged during warranty period for any manufacturing defects.
- iv) In the event of any instrument/ component gets broken or damaged during installation and trial run at the site before handing over the Fencing system to the farmer, the service provider shall replace the same at free of cost.

## **3) Selection Process:-**

- 1) The technical document of New Service Provider shall be scrutinized through the Committee constituted by the Department of Agriculture , Himachal Pradesh as per defined criteria for selection / empanelment .
- 2) The service provider shall have to qualify technically based on the eligibility criteria in this document. The service provider not fulfilling the eligibility criteria will not be processed further. The documents to be submitted showing fulfillment of eligibility criteria are given at Annexure-I.

- 3) The technical document of all such service providers who had faced serious complaints about their past will get rejected before the scrutiny of their document.
- 4) On the recommendation of the Committee, the eligible service provider shall be empanelled as per the procedure for one year and can be extended depending upon the up to next empanelment exercise.

**4) Eligibility Criteria for applicant:**

1. The applicant shall be a manufacturer / authorized distributor / authorised dealer of ISI branded Solar Fencing Control unit and shall enclose relevant ISI certificates for Head Control Unit. The authorized distributors/ dealers shall have to produce authorisation certificate issued by their manufacturers.
2. The applicant should produce the following Certificates/licenses/test reports for proper functioning of the fencing system:
  - i) Approval from Ministry of New Renewable Energy (MNRE) for Module and battery.
  - ii) BIS 302-2-76(1999) – IEC 335-2-76 (1997) Std., for safety.
  - iii) ETDC (Electronic Test & Development Centre, Govt. of India)/CPRI (Central Power Research Institute) Certificate for Performance of Fence Energizer
  - iv) CIPET (Central Institute for Plastics Engineering & Technology) Certificate for Insulators.
  - v) Certificate from FTS (Field Testing Station of Government of India) / any government recognized institutes for earthing system.
3. The preference will be given to those applicant (s), who have experience in Solar Fencing System.
4. In addition to the above, the application furnished in Annexure-II will also be evaluated for Technical eligibility.
5. The applicant shall have to give his consent the rates approved by the Department for installation of Solar/ Regular Electric Fencing for different models are acceptable .

**5) Guidelines for the New Service Providers::**

1. The new service providers/ company should submit their Technical Credential along with complete technical specifications and literature in a sealed cover **for supplying , installation and commissioning of Solar Fencing ”** with name and address of the applicant addressed to the Director of Agriculture ,Krishi Bhawan ,Shimla-5, Himachal Pradesh.
2. Document for Technical Eligibility Criteria is open to all new Service Providers/ company .The qualifying criteria will be based on the information supplied by the firms.
3. The documents for eligibility criteria can be obtained from the Directorate of Agriculture ,Krishi Bhawan,H.P. Shimla-5 on any working day by paying fee amounting to Rs. 1000/- (Rupees one thousand) only as non-refundable through Demand Bank Draft in favour of Director of Agriculture, H.P. payable at Shimla-5.



All this information can also be obtained / downloaded from departmental website [www. hpagriculture.com](http://www.hpagriculture.com) , but the document fee of Rs. 1000/- or as applicable to be remitted through Demand Draft along with duly filled document for Technical Eligibility at the time of submission of document.

4. The Document for Technical Eligibility must be delivered in the office of Director of Agriculture, Himachal Pradesh, Shimla-5 on any working day and will be scrutinized on the date fixed by the committee constituted for this purpose in the presence of their authorized representative of firms. And the outcome would be intimated to all the concerned service providers.
5. Other details and clarifications can be seen/ obtained from the Directorate of Agriculture .H.P. on any working day between 10AM to 5PM.
6. The authorized person representing the applicant who is signing the documents and also participating in the opening of document shall attach a copy of authorization along with tender schedule from the appropriate authority of the firm as per the By-laws of the firm / Company.
7. The firms should also enclose with their offers the test report, if any from any recognized agency with respect to their equipment. Firms should clearly indicate their experience of manufacturing and assembling of the items quoted by them. Test report of machine from Govt. testing centre will be preferred in consideration of technical bid.
6. Indicative Technical specifications are furnished in **Annexure-I**. However, the applicant must produce the detailed Technical specifications in **Annexure-II**, Sl.No.17.
7. Director of Agriculture , Himachal Pradesh reserves the right to award the EOI without assigning any reason reserves the right to accept / reject any or all applications at any stage of the EOI process.
8. Information relating to evaluation of proposals and of Evaluation Committee concerning awards shall not be disclosed to Tenderers who submitted the application(s) or to other unauthorized persons, until the winning firms have been notified that it has been awarded the contract.
9. EOI schedule shall be rejected if at any stage of the execution, it comes to our knowledge that any applicant is involved in any fraudulent practice or misrepresentation of the facts or tried to influence the selection process or indulged in any corrupt activities in competing with other firms.
10. Interested bidder may remain updated with the Departmental website [www.hpagriculture.com](http://www.hpagriculture.com) for any addition or deletion pertaining to Tender Document .The Department shall not be responsible for any loss and delay with regard to this.
11. The firm / company must create sufficient infra-structure and man power in the state for the execution and maintenance of these installed Solar Powered Fencing Systems.
12. The Solar Powered Fencing systems will be inspected by the designated officers / team of the department for different parameters like quality, workability and sustainability. It could also be done by third party as the case may be and in case beneficiary has obtained bank loan, joint inspection shall be done by the department and concerned bank.

13. The Solar Powered Fencing Systems are to be installed in a time bound manner so that the benefits of these systems start flowing immediately to the farming community. Maximum time for completion would be 2 months from the date of agreement. These systems are to be installed to the entire satisfaction and acceptance of the beneficiary /P.I.A..
14. Eligible firms will deposit Rs. 50,000/- (Rs. Fifty thousand) non-refundable in the shape of demand draft as **“Empanelment Fee”** to act as service providers for the execution of this project.
15. The payment of subsidy shall be made to the beneficiary through bank draft after completion/ successful testing and joint inspection. The payment of assistance can also be paid to the company directly through RTGS if the farmer give undertaking for doing so. The firms and the beneficiaries shall have to sign a legally valid contract for execution of the project in a time bound manner with a provision of arbitrator clause for settlement of disputes, if any.
16. Irrevocable Bank guarantee of Rs. 5.00 lakh valid for a period of one and half years is also required to be given by the companies before empanelment. The empanelled firm shall be responsible for providing training regarding operation & maintenance of the Solar Fencing to the users i.e. Beneficiaries and shall be responsible for supplying the spare parts during warranty period of one and half at his own cost. In case the firms fail to discharge their above liability, Director of Agriculture, Himachal Pradesh can invoke the Bank Guarantee and get the work done from other agency on the same approved rates . The manufacturers/ authorized distributors/ dealers shall be liable for blacklisting and further prosecution.
17. The empanelment of the company will be valid for one year , but the same can be extended for one year on the similar terms and conditions.
18. The company shall have to agree to all terms and conditions given above and if need be then with additional terms and conditions to be decided before their empanelment.
19. The Government in public interest may alter or suitably modify any of the condition given above.

**6) Disclaimer**

The information in this document has been prepared to assist the firms in preparing the Non-Binding EOI and it is clarified that :

- 1) It does not constitute an invitation to offer or an offer in relation to the transaction.
- 2) This document does not constitute any contract or agreement of any kind whatsoever.
- 3) This document does not, and does not purport to contain all the information that interested firm/s and their advisors would desire or require in reaching decisions as to requirement / interested. Firm/s should form their own view as to what information is relevant to such decisions and make their own independent investigations in relation to any additional information.

- 4) Neither the information in this document nor any other written or oral information in relation to the requirement or otherwise is intended to form the basis of or inducement for any investment activity or any decision to enter into any contract or arrangement in relation to the transition and should not be relied on as such. Neither Director of Agriculture, Government of Himachal Pradesh, nor their employees or advisors shall be liable to any interested party or any entity under any law including the law of contract, tort, the principle of restitution or unjust enrichment or otherwise for any loss, expenses or damage which may arise, or be incurred, or suffered, in connection with this document, or any matter that may be deemed to form part of this document, or any other information supplied by Director of Agriculture, Government of Himachal Pradesh or on behalf of, or their employees or advisors or otherwise arising in any way from the selection process mentioned herein.
- 5) Director of Agriculture, Government of Himachal Pradesh is not bound to accept any or all the EOIs (Document for Technical Eligibility) and reserve the right to reject any or all EOIs without assigning any reason. No applicant shall have any cause of action or claim against or its officers, employees, advisors, agents, successors or assignees for rejection of this EOI.
- 6) Failure to provide information that is essential to evaluate the applicant's qualifications or substantiation of the information supplied, shall result in disqualification of the applicant.
- 7) It shall not be assumed that there shall be no deviation or change in any of the herein mentioned information. While this document has been prepared in good faith, neither Director of Agriculture, Government of Himachal Pradesh or any of their officers or employees or advisors or agents make any representation or shall have any responsibility or liability whatsoever in respect of any statements or omissions here from. Any liability is accordingly expressly disclaimed by Director of Agriculture, Government of Himachal Pradesh or any of their respective officers, employees, advisors or agents, whether negligent or otherwise.

#### **7) Final Decision Making Authority:-**

Director of Agriculture, Government of Himachal Pradesh reserves the right to accept or reject any EOI( Document for Technical Eligibility) application and / or to the selection process and reject all EOI at any point of any point of time without assigning any reason or incurring any liability to the applicant.

#### **8) General Terms & conditions:-**

1. Selected firm (s) shall be empanelled for planning, designing , arranging, supplying, installation and commissioning of Solar fencing systems on farmers fields systems in entire state of Himachal Pradesh or as decided by Director of Agriculture, Government of Himachal Pradesh. The decision of the Director of Agriculture,

Government of Himachal Pradesh in this matter shall be final & binding to firms selected by Director of Agriculture, Government of Himachal Pradesh.

2. Incomplete “**Expression of Interest**” will be categorically ignored without any further communication to the firm.
3. Service providers should observe a high standard of either during the selection process and in the execution of the contract and for the same; they have to execute “Ethic Pact”.

**8) Technical Document (Expression of Interest) fees:-**

A complete set of Technical Document downloadable free of cost from website [www.hpagriculture.com](http://www.hpagriculture.com) and Rs. 1000/- non-refundable fees shall be payable in the form of Demand Draft in favour of Director of Agriculture, Himachal Pradesh payable at Shimla-5 on the submission of Document.

**1.Basic Parameters of fencing:**

- i) Maximum distance between 2 section posts - 25 Mts.
- ii) Maximum Distance between 2 intermediate posts - 5 Mts.
- iii) No. of strands - 7 Nos. (7 wires in vertical)
- iv) Height of fence above the ground – 2.14m.
- v) Total Pole Height (Above + Below Ground level:- 2.74m.
- vi) Spacing between two rows – 0.30m.
- vii) Provision for gates to be decided on site after visit of field
- viii) Energizer capacity - 1 Energizer per site with built in alarm system
- ix) System should ensure shock ability at the beginning and end of the fence.
- x) The ground to earth voltage must be not more than 200 volts.
- xi) The supplier should provide operation and maintenance manual which should contain details about the solar power fencing. Clear instructions about the maintenance and trouble shooting, DO's and DONTs., relevant details and drawings for regular maintenance.
- xii) The relevant test reports of the items, if available may also be enclosed.
- xiii) The technicians of the firm should visit the site once in a month during the warranty period

**Detailed specifications of Solar Power Electric Fencing**

| Description     | Specification  | Remarks  |
|-----------------|--|--|
| Energizer       | Energy : 8 Joules (mini.) or as per site requirement   | Must conform to IEC 60335-2-76 International standards of Safety & CE Certificate and have onboard LCD with keypad for programming |
|                 | Solar panel option to recharge 12- volt battery DC.  |  |
|                 | Output characteristic of the energizer should be as follows  |  |
|                 | Peak of o/p voltage : 6.0kv - 10 kv on 50k load.   |  |
|                 | Pulse interval :- 1.0 -1.2 Sec.  |  |
|                 | Pulse Duration: 0.3 Milli Second   |  |
|                 | Peak current :- 7.0-8.0 A – High   |  |
|                 | RMS Current :- 2.4 – 2.8A – High.  |  |
| Solar PV Module | 72 watts to 100watts. 12 volts rating with minimum 10 years warranty against manufacturing defects.                    | Must be of MNRE approved company   |
| Module Stand    | MS Hot dip galvanized to minimum of 60 microns zinc coating thickness. Must have a provision to tilt the solar module. | To suit PV module  |
| Battery         | 12 volts Tubular 80-120 Ah maintenance free  | Must be of reputed   |

|  |   |  |
|--|---|--|
|  | battery with 2 years guarantee.   | Brand.   |
| Lightening diverter kit<br>Earthing system | Must be capable of diverting stray lightening.  | With proper earthing system and have good insulation.  |
|  | The diverter assembly must be adjustable for spark gaps.  |  |
| Housing box with post                      | Made of 16 gauges GI sheet, painted and fixed on 50 NB class B pipe and must be grouted.            | Must confirm to I.P.66 specifications.   |
|  | Should be capable of safety housing battery and energizer with lock & key                           |  |
| <b>B' Accessories</b>                      |   |  |
| Earthing system                            | Must contain earth mixture capable of retaining moisture  | Should be capable of providing proper earthing to the system and one rode after every 100 meters length. |
|  | 8 mm dia stainless steel rod – non rusting quality of 1.20 meter long.                              |  |
| Strain Insulators                          | End strain insulators must be of Poly-carbonate /Nylon material and should withstand 15 kv voltage. | Rain water run-off should be provided on the insulator & UV stabilized.                                  |
| Reel Insulators                            | Must be of virgin plastic material Poly-Propylene or equivalent.                                    | UV stabilized.   |
| High Tensile Wire                          | 2.5-2.59 mm wire diameter (12 gauge)  | Tata make. Test certificate may be submitted.  |
|  | High tensile wire with minimum of 230- 300 gms /sq. Rust free M zinc coating thickness.             |  |
|  | UTS 140.5 kg/mm <sup>2</sup> .  |  |
|  | Break strength of 740 kgs.  |  |
| 14g Wire                                   | 14g wire for binding reel insulators.   | High quality zinc coating.   |
| Wire Tightners                             | Should be made from Al. Alloy non rusting quality.  | Tightners should be used for proper tensioning of wires  |
| Tension Springs                            | Spring steel capable to taking compression loads. To be galvanized.                                 |  |
| Joining clamps                             | Positive locking mechanism.   | One side rotation.   |
|  | Zinc coating of more than 25 microns.   |  |
| Warning signs                              | Polyethylene plastic with statutory colors and signs  | Yellow with black lettering in English & Hindi Language  |
| Lead-out cable                             | Must be double insulated withstanding 15 KV voltage.  |  |
|  | Inner core wire must be hot dip galvanized.   |  |

|  |   |  |
|--|---|--|
| Rope Gate Kit                            | Steel rope with handles & spring assembly.  | Length of rope to suit gate width.   |
|  | Handle made of Polyethylene.  |  |
| Tool Kit                                 | Should contain, Wire tightner handle twisting tool, Pliers, double ended spanner for joining clamp tightening.                        |  |
| <b>‘C’ Posts</b>                         |   |  |
| Corner / End /Bi-arm /Pull through posts | 2.74m length of 40 NB Class B pipe. Hot dip galvanized to more than 60 microns,   | 0.60meter length of the posts must be grouted in 45 x 60 x 60cm size P.C.C. 1:3:6 Cement, Coarse s and & stone ballast. (IS 4759-1996) |
| Support post                             | 25 NB Class B pipe. Hot dip galvanized to more than 60 microns,   | -do- IS 4759-1996  |
| Intermediate Posts                       | 25 mm square GI Pipe (Medium Grade) of 2.74 meter length duly riveted with reel insulator. Hot dip galvanized to more than 60 microns | 0.60 meter length of the posts must be grouted in 45 x 60 x 60cm size P.C.C. 1:3:6 Cement, Coarse Sand & Stone. ( IS 4759-1996)        |
| <b>D’ Testing Equipments</b>             |   |  |
| Wireless Digital Volt Meter              | Must display fence voltage digitally up to 12 KV only.  |  |
|  | Made of non shocking plastic.   |  |
|  | Fault Finder  |  |
| Xenon Flash Tube                         | Xenon tubes capable of flashing with each pulse to monitor the fence working.   | Must be viable from distance.  |
| Neon Tester                              | 5 neon lights measuring the fence for excellent, very good, good and poor & not working markings                                      | Good quality   |

**Note:**

- i) **Every** energizer shall have at least 5 nos. earth pits and minimum one no. earth pit at every 100 Mtr. long fence line.
- ii) **All** insulators shall be UV protected and should with-stand 15 KV. Test certificate for the same may also be submitted along with supplies.
- iii) **Warning** sign boards should be at every system, gate and also at every 500Mtr. along fence line.
- iv) **All** the metal components like posts, joint clamps etc. should be hot dip galvanized and test certificate shall be submitted along with supplies.

**Note:** Please note that the above specifications are indicative only. However the applicants must indicate the detailed specifications of the equipment in Annexure-II for which they have offered the prices in the Financial Bid.

### Conditions of Eligibility for Applicant

(Attested copies wherever relevant to be enclosed)

|     |   |  |
|-----|---|--|
| 1.  | Name of the Manufacturing/ supplying Company with its Regn. No. (Copy of the manufacturing license to be enclosed)      |  |
| 2.  | Status of Company   |  |
|     | a) Name of the Manufacturing/ supplying Company with its Regn. No. (Copy of the manufacturing license to be enclosed)   |  |
|     | i) Registered Company   |  |
|     | ii) Sole proprietorship firm (Name & address of the proprietor)   |  |
|     | iii) Partnership firm (Partnership agreement, letter of consent as authorized by other partners to attend for this EOI) |  |
|     | iv) Private Limited Company (Certificate of incorporation and authorization from CEO if not represented by CEO)         |  |
| 3.  | Registered Address of manufacturer/Authorised Distributor /Authorised Dealer  |  |
| 4.  | Details of EMD paid<br>DD No:<br>Date:<br>Bank Name:<br>Amount:   |  |
| 5.  | Brief Profile of the firm   |  |
| 6.  | Whether the Company is ISO certified or not (If „yes“ copy to be enclosed)  |  |
| 7.  | Whether the Company is ISO certified or not (If “yes” copy to be enclosed)  |  |
| 8.  | Annual production capacity certificate/Annual import capacity certificate   |  |
| 9.  | Turnover of the above Fencing Systems during last 3 years.<br>a. 2013-14<br>b. 2014-15<br>c. 2015-16                    |  |
| 10. | Experience certificate from clients / Govt. departments/ Organizations during last 2–                                   |  |



|         |  |  |
|---------|--|--|
|         | 3 years about supply of these items and test reports/certificates from reputed Govt. Testing Institutes, if any.                   |  |
| 11.     | Details of dealers network and after sales service stations to be provided by firm in the area of operation i.e. Himachal Pradesh. |  |
| 12.     | VAT Regn. No. / CST. No. and their validity (copies to be enclosed)  |  |
| 13.     | PAN No. (Copy to be enclosed)  |  |
| 14.     | Audited accounts balance sheet for the last 3 years. (attested copies to be enclosed)  |  |
| 15.     | Income Tax assessment Certificate for the last three years (attested copies to be enclosed)  |  |
| 16.     | Name of contact person with address & Phone no.  |  |
| 17.     | Detailed Technical specifications of the Solar Fencing System to be supplied   |  |
| 18.     | ISI certificates (copy to be enclosed)   |  |
| 19.     | Test Reports / Certificates/licenses: (copies to be enclosed)  |  |
| 19.i.   | MNRE approval for module and battery   |  |
| 19.ii.  | BIS 302-2-76(1999) – IEC 335-2-76 (1997) Std., for safety.   |  |
| 19.iii. | ETDC (Electronic Test & Development Centre, Govt. of India)/CPRI Certificate for Performance of Energizer                          |  |
| 19.iv.  | CIPET (Central Institute for Plastics Engineering & Technology) Certificate for Insulators.  |  |
| 19.v.   | FTS (Field Testing Station of Government of India) Certificate - for earthing system Galvanising.                                  |  |
| 19.vi.  | Certificate from H.P. State Electricity Board or Any other agency for safety.  |  |
| 20.     | Consent regarding acceptance of unit wise approved rates for different perimeters.   |  |

(add additional sheets as required)

Note:

1. All the columns of the application form shall be duly, properly and exhaustively filled in.
2. All corrections if any must be signed by the applicant before submission itself. For filing faulty information, the application is liable for rejection. The applicant should sign on each and every page of EOI Document and on all the additional documents submitted along with EOI Document
3. The applicant can enclose additional information, if any, relevant to the application separately

4. At the time of verification of EOI Document, the original documents should be produced for verification.

Place :

Date

SIGNATURE OF THE TENDERER  
WITH STAMP

NAME: \_\_\_\_\_

CONTACT NO. \_\_\_\_\_

(Draft for Covering Letter)

No. \_\_\_\_\_

Dated: \_\_\_\_\_

To,

The Director of Agriculture,  
Himachal Pradesh,  
Shimla-171005.

Subject: **Document for selection & registration of new service providers for planning, designing ,installation and commissioning of Solar/Regular Electric Fencing systems in the state under Mukhyamantri Khet Sanrakshan Yojna.**

Dear Sir,

We have received “Document for Selection and Empanelment as Service provider” through downloading from your website/ through post / at departmental counter. We have gone through the business module, scope of work, selection criteria for short listing and general terms and conditions, and all are acceptable to us. Considering this, we are forwarding all details in the enclosed Annexure –I &II for your consideration.

Document Fee Rs. 1000/- (Rupees one thousand) only non refundable in from of Demand Draft No. \_\_\_\_\_ Dated \_\_\_\_\_ payable in favour of Director of Agriculture, Shimla is enclosed.

Thanking You,

Yours faithfully,

For \_\_\_\_\_

Authorized Signatory

(Seal of Company)

