

AED/ SC2/05/2024/ EoI/ Solar Fencing /2024-2025 and 2025-26
Agricultural Engineering Department, Government of Tamil Nadu



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Expression of Interest (EoI) for Empanelment of firms for Design, Fabrication and Installation of Solar Powered Fencing under National Agriculture Development Programme (NADP) subsidy scheme to be implemented by Agricultural Engineering Department in Tamil Nadu for the year 2024-25 and 2025-26

Introduction:

Farmers are always exposed to different risks like weather, market price, drought, labour availability etc. Animals like cow, goat, wild boars, bears, bison, monkey, elephant, etc., are being another threat to the crops grown by the farmers in different topographical areas like Plateaus, Western Ghats, Eastern Ghats and other hill stations. They damage the crops which are either ready to harvest or begun to grow causing physical damages and financial loss to the farmers. Sometimes, they kill life which comes across them during their crop hunt. The electric fencing system is executed in some areas to prevent the animals from destroying the crops. However, many remote villages are still not accessible to electric power. Hence, Solar Powered Fencing system can be used as an alternative approach to overcome the disadvantages of electric system, which ensures the protection of cropped land from animals. It is proposed to provide Solar Powered Fencing system to farmers in areas of animal threat to crops in various regions of Tamil Nadu under National Agriculture Development Programme (NADP) with a total subsidy assistance of Rs.200 Lakhs during the year 2024 - 2025.

In this regard, Rate contract Tender was called for the approval of rates and empanelment of firms for the implementation of the scheme - solar fencing units for the year 2024-25 and 2025-26. In continuation, fixed rate contract rates were finalised for 'Normal type of Solar fencing' for all animals excluding elephants and for 'Hanging type of Solar fencing' for all animals including elephant and 3 companies have been approved.

Expression of Interest (EoI)

In order to empanel additional vendors for speedy and effective implementation of the scheme and more choice to farmers this Expression of Interest is called for empanelment of firms with already approved fixed rate contract rates for design, fabrication and Installation of Solar Powered Fencing units under NADP subsidy scheme for the year 2024-25 and 2025-26 **as per the Tamil Nadu Transparency in Tenders Rules 2000 Chapter VII –Evaluation and award of Tenders in Special Cases in Clause 31A- Fixed Rate contract -2 (e)**

Scope of work:

Agricultural Engineering Department (AED) invites Expression of Interest (Eoi) from interested firms for design, fabrication and installation of Solar Fencing system to prevent the animals from destroying the crops to be installed in farmer's field at various places in Tamil Nadu as per the technical requirements prescribed in Expression of Interest document. The empanelment for the solar fencing installing firms is for the financial year 2024-25 and 2025-26. The Solar Fence is to be provided to the individual farmers who are willing to pay their contribution amount of 50 % of the total cost of installation. The individual farmer is eligible for the subsidy assistance of 50 % of total cost of system up to 2 hectare (ha) for a length of 566 metres. The site for installation of the solar fence will be in the individual beneficiary's field only. The Solar Fence should be designed, fabricated and installed according to the site conditions. The scheme is to be implemented in accordance with technical specifications stipulated in Forest Department G.O. (Ms)No.104 Environment, Climate Change and Forest (FR.5) Department Dated: 03.07.2023. As per the Forest Department G.O., if the solar fencing system are to be installed within 5 kilometres from a Reserve Forest boundary, the farmer shall obtain proper permission from the District Forest Officer.

After completion of site survey in the concerned farmer's field, who are willing to take Demand Draft for their contribution amount, the installing firms have to submit the detailed quotations along with bill of quantity for the approved rates in the Expression of Interest and schematic representation of field. The schematic representations of installing fields should indicate all the components of Solar Fencing Units along with FMB shall be submitted to the sub divisional AE/JEs. The quotation and bill of quantity may vary from field to field based on the field size and shape and the reasonableness of the bill of quantity furnished by the companies for a particular field shall be ascertained by the sub divisional Assistant Engineer/Junior Engineer and Assistant Executive Engineer (AE)'s.

After getting the approval of quotations from the sub divisional officials, the farmer has to take a Demand Draft (DD) for the 50 % of the total cost of Solar Fencing Unit in favour of successful empanelled firm. Work orders will be issued from time to time by the sub divisional officers of AED, after getting the copy of Demand Draft furnished by the identified beneficiary in favour of the concerned empanelled firm. The installation of the solar fencing system should be completed within the stipulated timeframe as per the technical specifications approved in the Expression of Interest. After installation of solar fencing unit in the farmers' field by the empanelled firm, Assistant Engineer (AE)/Junior

Engineer (AE) along with Assistant Executive Engineer (AE) will physically verify the functioning of the system.

The defects noted if any, during the field verification shall be duly noted in the Joint Verification Report and shall be signed by Sub divisional officials, beneficiary and company representative. The defects noticed during the joint verification shall be rectified within the time frame as mentioned in the Expression of Interest terms and conditions. After verification of the installed solar fencing unit in the farmer's field, by the Assistant Engineer(AE) /Junior Engineer (AE) along with Assistant Executive Engineer (AE) and company representative, the subsidy amount will be paid to the firm by the sub divisional Assistant Executive Engineer (AE).

Security deposit

On qualifying for empanelment, a Security deposit of Rs.4,00,000/- (refundable and will not earn interest) in the form of Bank Guarantee valid for a period of two years shall be payable at the time of awarding contract. The empanelment is valid for a period of two years.

Submission of Expression Interest document

Any firm, who meets the Qualifying Requirement and willing to participate in this programme with already approved Fixed rate contract rates for Normal type and hanging type of Solar fencing shall furnish the Expression of Interest. The complete Expression of Interest document along with its amendment(s) and clarifications if any, may be downloaded at free of cost from AED web site aed.tn.gov.in or shall be obtained from the O/o.Chief Engineer(AE), Agricultural Engineering Department, Nandanam, Chennai by payment of Rs.15000/-+12% GST by means of Demand draft drawn in the name of Chief Engineer(AE), Agricultural Engineering Department, Nandanam, Chennai. The Expression of Interest complete in all respect as per terms and conditions of Expression of Interest Document shall be submitted to the Chief Engineer (AE), Agricultural Engineering Department, 487 Anna Salai, Nandanam, Chennai-600035 by post or in person.

Based on the Expression of Interest documents received by Agricultural Engineering Department, the empanelment of firms will be done by the firm Approval Committee from time to time.

The Expression of Interest document consists of the following: -

Sl. No.	Part	Details	Page No. of Expression of Interest Document
1	Part- I -1.1	Eligibility criteria	6
2	Part- I-1.2	Technical specification	7
3	Part-II	Techno commercial details	12
4		i. Application form for Expression of Interest	12
5		ii. Specifications of solar fencing units to be installed by the firm	14
6	Part –III	Approved Fixed Rate Contract rates	17
7	Part-IV	Expression of Interest – Terms and conditions	18
8	Part –V	Instructions to the applicant firms	28
9	Annexure-I	Undertaking letter to be furnished by the applicant firms	30
10	Annexure-II	Model form of contract agreement	32

PART – I

1.1. ELIGIBILITY CRITERIA

The applicant firms should meet the following Eligibility Criteria to participate in the Expression of Interest and should enclose documentary proof for fulfilling the Eligibility.

Sl. No.	Minimum Eligibility criteria	Proof to be furnished
1	Applicant should be a Proprietary firm/ Partnership firm/ Registered company/ /Society/PSU and existing for the past three years (2021-22, 2022-23, and 2023-2024).	Copy of agreement/ Certificate of incorporation/ any relevant document should be submitted.
2	Applicant firm should not have been blacklisted by any of the State/Central Government or organisations of the State/Central Government.	Necessary Undertaking letter should be furnished.
3	Applicant firm shall have a minimum turnover of Rs. 15.00 lakh in any one of the last three audited years (from 2021-22)	Annual Report including Balance Sheet and Profit and Loss accounts for the last three audited years shall be submitted. Summarized sheet of Annual turnover for the last three audited years certified by the Chartered accountant to be furnished.
4	The applicant firm/consortium should have prior experience in installation of at least 5 numbers of similar type of Solar Fencing Unit anywhere in India.	Details of Solar Fence installed with copy of work order issued in the name of the firm and invoice raised by the firm and Work completion / performance certificate from the agency issued work order / from end user should be enclosed (Translated documents in English duly signed by Notary Public to be enclosed). Beneficiaries details with mobile number along with for 5 installations to be furnished.
5	The applicant firm shall have valid GST registration certificate.	Copy of valid GST registration certificate for CGST and SGST shall be furnished. Latest GST returns filed details to be furnished
6	Income tax returns	IT returns filed for past three years (2021-22, 2022-23 and 2023-24) to be furnished.

- a) Applicant firms shall ensure that they agree to the already approved fixed rate contract rates and must ensure that they fill up above information clearly in enclosed sheet and attach all required documents (Self attested) indicated in the Expression of Interest document without fail.
- b) **Eoi submitted without supporting documents for the various requirements mentioned in the Expression of Interest document are liable to be rejected at the initial stage itself.**
- c) Scoring should be verified by the signature with seal on every attempt and overwriting not allowed.
- d) If any document submitted in support of above parameters found false, the application will be disqualified and if already empanelled, empanelment will be cancelled and security Deposit shall be forfeited and firm shall be blacklisted.

1.2 Technical specifications

The **Minimum Technical Specifications** required for the installation of Solar Fencing Unit in accordance with Forest Department G.O.(Ms).No.104 Environment, Climate Change and Forest (FR.5) Department Dated: 03.07.2023 are furnished below.

Fixed cost Items:

Sl. No.	Description	Technical Specification
1	Solar photovoltaic Module	<ul style="list-style-type: none"> • Mono crystalline / Poly crystalline IEC 6215 Certified modules to be used • Peak Power output: 100 Watts / 12V • Warranty – 10 years
2	Energizer	<p>As per BIS Standard specification 302-2-76 or IEC 60335 or EN 60335</p> <p>As per the test certificate furnished by the firms, the energizer output shall match the specification given below:</p> <ol style="list-style-type: none"> 1) Energizer outer cover shall have IP 54 Protection. 2) The energizer should be powered by battery not exceeding 12 volts DC. 3) Peak output voltage should not exceed 10 KV 4) Root Mean Square current of the fence should not be beyond 10 Amps. 5) Pulse interval in the fence should be in between 1 to 1.5 seconds. 6) Duration of impulse should not exceed 0.1 second. 7) Maximum energy discharge per impulse measured at a resistance of 500 Ohms – 5 Joules. 8) Warranty: Minimum 2 years

Sl. No.	Description	Technical Specification															
3	Battery	<ul style="list-style-type: none"> • Low maintenance tubular battery • Battery Capacity: 12 V / 100 AH • Battery should be charged by solar power with a proper Charge controller to regulate the charge delivered to the battery and the energizer. • Warranty: Minimum 2 years 															
4.	Fence Alarm	With external horn															
5.	Module Mounting Structure type	Hot dip galvanized GI Pole															
6.	Housing box for housing energizer and battery	<ul style="list-style-type: none"> • Zinc sheet box with locking facility • Warranty: 10 years 															
7.	Neon Tester	<p>The five highly visible neon indicator lights show the approximate readings as mentioned</p> <table border="1"> <tbody> <tr> <td>Excellent</td> <td>Five lights</td> <td>5000 v</td> </tr> <tr> <td>Good</td> <td>Four lights</td> <td>3800 to 5000 v</td> </tr> <tr> <td>Fair</td> <td>Three lights</td> <td>2500 to 3800 v</td> </tr> <tr> <td>Poor</td> <td>Two lights</td> <td>1800 to 2500 v</td> </tr> <tr> <td>Very poor</td> <td>one light</td> <td>1000 to 1800 v</td> </tr> </tbody> </table> <p>Warranty: 2 years</p>	Excellent	Five lights	5000 v	Good	Four lights	3800 to 5000 v	Fair	Three lights	2500 to 3800 v	Poor	Two lights	1800 to 2500 v	Very poor	one light	1000 to 1800 v
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Very poor	one light	1000 to 1800 v															
8.	Lightning diverter kit	GI coated diverter kit with minimum 2 earthing pipe															
9.	Warning sign boards	<ul style="list-style-type: none"> • UV Stabilized polyethylene plastic with statutory colour and signs • The Warning sign board shall be kept in Tamil in optimum letter size with statutory colour. It should be kept in all the corners of the field. • A minimum of 20 warning signboards should be provided. • Fences shall be appropriately identified with the warning signs stating "Warning: Electric fence." In addition, the warning signs must include universal symbols indicating the presence of the fence. The Warning signs must be installed at each gate or accessing point at the perimeter fencing and the intervals should not exceed 30 feet. The warning signs should be visible on both fencing sides and shall not be smaller than 12 inches x 18 inches. A person should keep the sign in good condition to ensure readability and visibility and be quickly identified. 															

Sl. No.	Description	Technical Specification
10.	Fence live light	Fence live light shall be provided in all corners of field where fencing unit is installed. Minimum 5 Nos of fence live light should be installed
11.	Automatic shut off	Shall be provided in case of trapping of animals or any other physical obstruction.
12.	Earthing arrangements	It should be 4 feet long non-rusting SS 8 mm rod with special earth for retention of moisture for long period. Minimum 5 numbers of earthing stainless steel electrodes enclosed in a cloth bag with non-corrosive electrolyte for energizer 3 nos. for unit earthing and 2 nos. for lightning diverter. Note: <ol style="list-style-type: none"> 1. Earth line near the other domestic earth lines shall not be fixed 2. At least 2 metre distance should be from the other earthing from the earthing of Electric fence

Note:

- All the above-mentioned fixed cost items must be installed in the field without any omission according to the technical specifications given.

Optional item:

Sl.No	Description	Technical Specification
1.	Monitoring Equipment	Global System for Mobile communication (GSM Alert Call and SMS provisions should be provided) Digital Volt Meter Must display fence voltage digitally up to 15 KV, Made of non-shocking plastic
2.	Framed Power Gate of 5.5 feet height with gate handle	16 feet double framed Power Gate fabricated with 40 mm square MS pipe round with 100 mm square pillar MS pipe. Poly propylene gate handle with proper insulation shall be provided. Warranty: 10 years

Variable cost items:

Sl.No	Description	Technical Specification
1.	Fence wire	<p>Normal fence wire: 12 SWG High Tensile hot dip galvanized high carbon Aluminium Conductor Steel Reinforced cable for rust proof.</p> <p>Hanging fence wire: 14 SWG GI (or Stainless Steel) hot dip galvanized Aluminium Conductor Steel Reinforced Spring winding cable (10 feet hanging). The distance between the fence wire in hanging type (For Elephants) shall not be less than 1.5 ft</p> <p>Warranty: 10 years</p>
2.	Tying wire	<p>Material & Type: 14 SWG GI wire with high quality zinc coating</p> <p>Warranty: 10 years</p>
3.	Reel Insulator	<p>Material & type: Virgin Poly propylene or Poly Carbonate UV treated</p> <p>Warranty: 10 years</p>
4.	Strain Insulator	<p>Material & type: Virgin Poly Propylene (or) Poly Carbonate UV treated and capable of withstanding up to 15 kV</p> <p>Warranty: 10 years</p>
5.	Permanent wire tightener	<p>Material & type: Made of aluminium alloy should withstand 15 kV and should be corrosion resistant.</p> <p>Warranty: 10 years</p>
6.	Joint Clamp	<p>Material & type: MS washer GI coated</p>
7.	Intermediate Post	<ul style="list-style-type: none"> • For every 6 metre • Material & type: Hot dip galvanized "T" angle 25mm X 25mm X 3mm • The post shall meet ISI standards. • Height (in feet) for Normal Type: 1.5 feet BGL+ 6.0 feet AGL = 7.5 feet • Height (in feet) for Hanging Type: 2.0 feet BGL + 8.0 feet AGL + 2.0 feet projection = 12.0 feet • Warranty: 10 years
8.	Corner Post	<ul style="list-style-type: none"> • Material & type: GI Class B 2" pipe with pre punched holes to facilitate wire • The post shall meet ISI standards. • Height (in feet) for Normal Type: 2.0 feet BGL+ 6.0 feet AGL = 8.0 feet • Height (in feet) for Hanging Type: 2.5 feet BGL + 8.0 feet AGL + 2.0 feet projection = 12.5 feet • Warranty: 10 years

Sl.No	Description	Technical Specification
9.	Support pipe	<ul style="list-style-type: none"> • Material & type: GI Class B, 1$\frac{1}{4}$" pipe Should meet out ISI standards. • Length for Normal type: 6.75 feet • Length for Hanging type: 8.0 feet • Warranty: 10 years
10.	Lead out cable	<ul style="list-style-type: none"> • Double insulated cable hot dip galvanized should withstand up to 15 kV • Warranty: 10 years
11.	Permanent tension spring	GI coated 6 mm coil spring
12.	Name Board	Proper Name board shall be kept in with optimum letter size in green colour with yellow background of size 1.5 x 1.5 feet (plastic board) indicating the farmers name, scheme name, company name and department name shall be provided.
13.	Tool kit	Wire tightener handle, twisting tools, pliers and double ended spanner for clamp tightening shall be provided.
14.	Civil Works	The required civil works for the erection of corner post, support pipe and gate stand with concrete mixture (1:2:4) should be undertaken by the installing firms.

- **Warranty:** A minimum of 2 years warranty should be provided by the installer of the components like energizer, battery and neon tester and a warranty of minimum 10 years should be provided for all other components included in the system.
- The clearance of vegetation shall be undertaken by the farmer for the installation of solar fencing units.
- **Test certificate (notary attested) for the Energizer should be compulsorily enclosed at the time of submitting the Expression of Interest document.**
- **Test certificate (notary attested) for the insulators should be enclosed at the time of submitting the Expression of Interest document. If the firm is not having the test certificates for the insulators the firm shall submit the acknowledgment from testing centres and the original certificates can be submitted after issue of provisional Letter of Empanelment before awarding of contract.**
- **Any change / amendment issued by Forest Department from time to time for the technical specification mentioned in G.O. (Ms)No.104 Environment, Climate Change and Forest (FR.5) Department Dated 03.07.2023 Shall be followed for the scheme.**

PART – II
Techno commercial details

2.i. Application form for Empanelment of firms by Expression of Interest for the Design, Fabrication and Installation of Solar Fencing units under NADP to be implemented by Agricultural Engineering Department (AED) for the year 2024-25 and 2025-26.

(All pages of the Techno commercial details should be organised annexed with proof documents).

Profile of the firm:

Sl. No.	Particulars	To be filled by the firm
1	Name of the Company / Institution	
2	Year of Registration / Establishment	
3	Registered office	
	Office address:	
	Telephone no. Fax: Email id:	
4	Contact Person	
	Name	
	Personal Telephone Number	
	Mobile Number	
	Email Address	
5	Local office(s) in Tamil Nadu	
	Address	
	Office Telephone Number	
	Fax Number	
6	Eol signing authority	
	Name	
	Address	
	Personal Telephone Number	
	Email Address	
7	Type of the firm (Proprietary / Partnership / limited company etc. Details about registration / incorporation (Proof as mentioned in Minimum Eligibility criteria to be enclosed)	
8	Whether the firm qualifies to any international Standards ISO 9000	

Sl. No.	Particulars	To be filled by the firm
9	Name of the Components of solar fencing unit manufactured by the Firm (if any). (attach details)	
10	Registration with Excise/GST etc. (attach certificates)	
10. a	Latest GST filed copy to be enclosed	
10. b	IT returns for the last three assessment years to be enclosed	
11	Turnover of the firm (proof to be enclosed as mentioned in Minimum Eligibility criteria) For the year 2021-22: For the year 2022-23: For the year 2023-24:	
12	Details of Experience of minimum 5 nos. for Installing solar fencing unit with place of installation, capacity etc. (attach copy of work orders and completion documents as annexure) performance certificate from the end user/agency/issued work order & beneficiaries list with contact details.	
13	Details of Service Network and Dealer Network if any existing in Tamil Nadu (attach list with addresses and phone numbers annexure)	
14	Whether blacklisted by any of the Government Institution or State Nodal Agency	
15	Any other information	

1. I hereby declare that the above information is correct as per the best of my knowledge and belief.

2. If any information is found incorrect at any stage, AED has the right to cancel the empanelment.

Place:
Date:

Signature of firm's authorized representative
With Seal

2.ii. Specification of the Solar fencing units to be installed by the firm (to be filled by the applicant firm)

Sl. No.	Description	filled by the applicant firm (the specification details shall match with AED Technical Specifications)
1	Solar photovoltaic Module Type: IEC 6215 certified (Yes/No) Peak Power output: Warranty period in years:	
2	Energizer Make: Model: i) Outer cover Protection: ii) Input Voltage: iii) Peak output Voltage: iv) Pulse Interval: v) Duration of Impulse: vi) Maximum Energy discharge per impulse @500 ohms vii) Root Mean Square current of the fence: Warranty period in years:	IP -----
2.a.	Details of Test Certificate for Energizer Test Certificate Number: Name of the testing institute: Validity: (The given model of energizer test certificate should have output values for all 7 parameters mentioned in sl.no.2 above)	
3	Battery Type: Capacity: Warranty period in years:	
4	Fence alarm	
5	Module Mounting Structure Type:	
6	Housing box for housing energizer and battery Type: Warranty period in years:	
7	Fence wire Animals excluding elephants (Normal) Material and Type: Warranty period in years:	
	Animals including elephants (Hanging) Material and Type:	

Sl. No.	Description	filled by the applicant firm (the specification details shall match with AED Technical Specifications)
	Warranty period in years:	
8	Tying wire Material and Type: Warranty period in years:	
9	Reel Insulator Material: Warranty period in years:	
9.a	Details of Test Certificate for Reel insulator (for material testing) Test Certificate Number : Name of the testing institute : Validity:	
10	Strain Insulator Material: Warranty period in years:	
10.a	Details of Test Certificate for Strain Insulator (for material testing) Test Certificate Number : Name of the testing institute : Validity:	
11	Permanent wire tightener Material & Type: Warranty period in years:	
12	Joint Clamp Material:	
13	Intermediate Post (For all animals excluding elephant) Material & Type: Height (in feet): Warranty period in years: (For all animals including elephant) Material & Type : Height (in feet): Warranty period in years:	
14	Corner Post (For all animals excluding elephant) Material &Type : Height (in feet): Warranty period in years: (For all animals including elephant) Material &Type: Height (in feet): Warranty period in years:	

Sl. No.	Description	filled by the applicant firm (the specification details shall match with AED Technical Specifications)
15	Support pipe	
	(For all animals excluding elephant)	
	Material & Type:	
	Length (in feet):	
	Warranty period in years:	
	(For all animals including elephant)	
	Material & Type:	
	Length (in feet):	
	Warranty period in years:	
16	Lead out cable	
	Material & Type:	
	Warranty period in years:	
17	Permanent tension spring	Type:
18	Earthing arrangements: (Details of earthing arrangements to be furnished)	
19	Neon Tester	
	Type:	
	Warranty period in years:	
20	Lightning diverter kit (Details shall be given)	
21	Warning sign boards (Material and other details as furnished in technical requirements of Eol document to be furnished)	
22	Name board	
23	Fence live light	
24	Automatic shut off (Mandatory)	
25	Tool Kit Wire tightener handle Twisting tool Pliers Double ended spanner for clamp tightening.	
26	Optional items	
26.a	Framed Power Gate of 5.5 feet height	
	Material and Type:	
	Warranty period in years:	
	Material and Type of Gate Handle:	
26.b	Gate Handle (Material to be specified)	
26.c	Monitoring Equipment - Global System for Mobile communication and Digital Volt meter details to be furnished	

Place:
Date:

Signature of firm's authorized representative
With Seal

Part – III

Approved Fixed Rate Contract rates

Table1: Normal Type and hanging type (For a length of 566 m) without optional item

Sl. No.	Description	No. of Lines	Fixed cost including GST (in Rs.)	Variable cost including GST (in Rs.)	Total Cost of the unit inclusive of all Including GST (in Rs.)
Normal Type - For all animals excluding Elephant (For a length of 566 m) without optional item					
1	Total cost for design, fabrication and installation of Solar Fencing Units	5	63,953.80	1,62,536.03	2,26,489.00
2		7	63,953.80	1,80,994.88	2,44,948.00
3		10	63,953.80	2,09,340.26	2,73,294.00
Hanging Type- For all animals including Elephant (For a length of 566 m) without optional item					
4	Total cost for design, fabrication and installation of Solar Fencing Units (Hanging Type)	5	65,551.00	2,24,268.00	2,89,819.00
5		7	65,551.00	2,44,337.00	3,09,888.00
6		10	65,551.00	2,74,274.00	3,39,825.00

Table2: Rate for optional items

Sl. No.	Description	Quantity	Total Cost of the unit Including GST (in Rs.)
1	Framed Power gate of 5.5 ft height with gate handle	1 Unit	19,824.00
2	Monitoring equipment	1 Unit	10,000.00

Note 2: The maximum eligible length of 566 metre for subsidy has been arrived for a 2 ha area assuming the field as square plot taking into account of area to be covered and cost for different length of solar fencing according to the farmers requirement in the range of each category will be worked out on pro rata basis, based on the cost /m for that category and the eligible subsidy will be calculated based on that cost.

PART - IV

Expression of Interest - TERMS AND CONDITIONS

1. General

- a. The Chief Engineer (AE), Agricultural Engineering Department, No.487, Anna Salai, Nandanam, Chennai-600 035 reserves the right to reject all OR any of the Expression of Interest (Eol) in full OR in part without assigning any reasons whatsoever for the same. In all matters connected with this Eol , the decision of the Chief Engineer (AE) shall be final and binding on all concerned.
- b. The applicant firm shall be deemed to have satisfied him or herself fully before furnishing Eol as to the correctness and sufficiency of its Eol documents for the contract.
- c. It must be clearly understood that the Terms and Conditions and specifications are intended to be strictly enforced.
- d. It may be understood that only the firms who have accepted for the approved fixed rate contract rates for 'Normal type' and 'Hanging type' of Solar fencing units for the year 2024-25 and 2025-26 and fulfilling all the eligibility criteria and technical specifications as stipulated in Eol document will be considered for empanelment. No escalation of cost will be permitted throughout the period of Agreement or throughout the period of completion of contract and extended period if any whichever is later, on account of any reasons whatsoever.
- e. The firm shall make all arrangements as part of the contract for Design, Supply and Installation of Solar fencing unit with minimum of 2 years warranty for the components viz., energizer, battery and neon tester and minimum 10 years of warranty for all other components included in the system and train their personnel at their own cost.
- f. The firm shall be fully and completely responsible to AED for all the deliveries and deliverables. The firm shall be responsible for the proper functioning of the finally erected systems.
- g. Language of the Eol document: The Eol document prepared by the firm as well as all correspondence and documents relating to the Eol shall be in English only. The supporting documents and printed literature furnished in any another language (other than Tamil) shall be accompanied by an accurate translation in English duly notarised, in which case, for all purposes of the Eol, the translation shall govern. Eol document received without such translation copy will be rejected.
- h. A letter of Authorisation from the Board of Directors or Managing Director of (applicant firm) organisation authorising the Eol submitting authority should be submitted in the Techno Commercial details. The Eol received without the Letter of Authorisation or Power of Attorney will be summarily rejected.

- i) Force Majeure: Neither AED nor the Empanelled firms shall be liable to the other for any delay or failure in the performance of their respective obligations due to causes or contingencies beyond their reasonable control such as Natural phenomena and Acts of any Government authority, domestic or foreign including but not limited to war declared or undeclared, priorities and quarantine restrictions. Accidents or disruptions including, but not limited to fire, explosions, breakdown of essential machinery or equipment.
- k) Arbitration: In case of any dispute, the matter will be referred to a sole Arbitrator to be appointed by the Chief Engineer (AE), AED under the "Arbitration and Conciliation Act 1996". The arbitration shall be held in Chennai (INDIA) and the language shall be English only. Subject to the above, the Courts at Chennai alone only shall have jurisdiction in the matter.

2. Validity of the Response to Eol

Eol Validity

- The firm shall submit the response to Eol which shall remain valid up to the date as on 60 days from the last date of Eol document submission ("Eol Validity"). AED reserves the right to reject any response to Eol which does not meet the aforementioned validity requirement. Upon getting the written consent from the firm, AED reserves the right to extend the Eol validity.

Price Validity

- The price accepted shall remain fixed and valid till the period of contract agreement from the date of issue of Letter of Empanelment by AED and any extended period as mutually agreed upon.

3. Eol submission:

- The Eol shall be submitted to the Chief Engineer (AE), Agricultural Engineering Department, 487, Anna Salai , Nandanam, Chennai in person or by post.
- Detailed instructions to be followed by the applicant firm for submission of response to Eol. The firm shall strictly follow the instructions mentioned in the respective clause of Eol document while filling the forms.
- All documents of this Expression of Interest (including Eol and subsequent Amendments/ Clarifications/Addendum) submitted must be signed by the person authorized by the firm.

3.1. Documents to be submitted

- The firm shall submit Eol documents along with supporting documents specified in Eol document duly signed and stamped on each page by the authorized signatory of the firm.

- Part I
 - Eligibility criteria-The proof for all the eligibility criteria as mentioned in the Part I -1.1. shall be submitted
 - All attachments/supporting documents elaborated in Part I - 1.1 of the EoI documents shall be furnished without any omission.
- Part II Techno Commercial Details
 - 2.1 Application form for empanelment of firms with all relevant proof (All pages of the Techno commercial details should be duly signed and annexed with proof documents, serially numbered.
 - 2.2 Specification of solar fencing units, to be filled by the applicant firm. The technical specification shall meet the AED specifications requirements of Eligibility criteria Part I,1.2 of EoI documents.
 - Test certificate (notary attested) for the Energizer and insulators should compulsorily be enclosed in the technical document at the time of submitting the Expression of Interest (EoI) document.
- All supporting documents regarding meeting the eligibility criteria.
- All the pages of EoI document shall be duly signed and stamped on each page by the authorized signatory.

4. Evaluation of proposals

- i. The Expression of Interest (EoI) documents, which do not conform to the Technical Specifications or Techno Commercial conditions will be rejected.
- ii. Failure to furnish the required supporting documents and test certificate will lead to rejection of EoI document
- iii. The firm who have duly complied with the Eligibility Criteria in the Techno Commercial evaluation will be eligible for further processing.
- iv. No dispute can be raised by any firm whose EoI has been rejected.
- v. The final approval of the firm/ firms is entirely vested with AED who reserves the right to accept or reject any or all of the EoI in full or in part. AED may also reject any or all EoI for reasons such as changes in the new technologies, court orders, accidents or calamities and other unforeseen circumstances.
- vi. After acceptance of the EoI by AED, the firm shall have no right to withdraw their offer or claim higher price.

4.1 AED reserves the right to;

- i) Insist on quality or specification of materials to be supplied.
- ii) Change the list of areas of installation locations from time to time based upon the requirement.

- iii) Inspect the firm's factory or office premises before or after award of the contract and based on the inspection reject the empanelment of the firm or modify the number of work orders issued.
- iv) Withhold any amount for the deficiencies in the service aspect of solar fencing units installed at the identified locations.
- v) Extend the period of contract by getting the confirmation of price validity from the empanelled firms in writing.
- vi) Blacklisting the firm if the firm is found to have furnished false information and/or involved in fraudulent practices.

5. Security Deposit and signing of Contract Agreement

- i) The empanelment for the solar fencing installing firms is for the financial year 2024-25 and 2025-26. On qualifying for empanelment, shortlisted firms will be required to furnish Security Deposit for an amount of Rs.4,00,000/- in the form of Bank guarantee from Nationalised banks / Scheduled banks authorised by RBI to issue Bank Guarantee valid till the period of contract drawn in the name of Chief Engineer (AE), Agricultural Engineering Department, No.487, Anna Salai, Nandanam, Chennai-600 035 within 10 days from the date of receipt of communication intimating their provisional approval.
- ii) Selected firms will be issued a formal order of approval/empanelment by the Chief Engineer (AE), Agricultural Engineering Department, 487, Anna Salai, Nandanam, Chennai-35
- iii) Approved firms will be required to execute an agreement only in the presence of the Chief Engineer (AE) incorporating all the terms and conditions for the due execution of the contract within 10 days on receipt of intimation of their provisional approval in Tamil Nadu Non Judicial Stamp paper to the value of Rs.200.00 (Rupees Two hundred only) as per the format prescribed for this purpose.
- iv) Approved firms should observe a high standard of ethics during the process of execution of the contract.
- v) After issue of provisional approval if the firm fails to execute the agreement within the stipulated period as per the EoI and furnish the Security Deposit

6. Validity of empanelment

- i. The validity of empanelment will be up to 31.03.2026. The Chief Engineer (AE), Agricultural Engineering Department, Chennai has the right to extend the validity for further period based on the continuance of the scheme on the performance of firms and parties.

- ii. Any dispute that may arise regarding this tender shall be subject to the jurisdiction of competent Courts located in Chennai City only.

7. Site survey and issue of Work Orders

- i. The prospective farmer will furnish application in format along with relevant land documents for proof of ownership of land and may be allowed to choose any of the firms from the list of firms empanelled by AED.
- ii. The site for installation of the solar fencing unit will be in the individual beneficiary's field.
- iii. The physical site surveying shall be done by the company representative in the farmer's field in order to ascertain the feasibilities of the site for installation of solar fencing and prepare the quotations for installing the solar fencing system in the farmer's field.
- iv. The solar fencing unit should be designed, fabricated and installed according to the site conditions and as per the requirement of the beneficiary farmer.
- v. After completion of site survey in the concerned farmer's field who are willing to take Demand Draft (DD), the installing firms shall submit the detailed quotations along with bill of quantity for the approved rates in the Expression of Interest and schematic representation of proposed solar fencing system in the field.
- vi. The schematic representations of installing fields should indicate all the components of Solar Fencing Units along with FMB and shall be submitted to the concerned sub divisional office along with the quotation and bill of quantity.
- vii. The quotation and bill of quantity may vary from field to field based on the field size and shape and the reasonableness of the bill of quantity furnished by the companies for a particular field will be ascertained by the sub divisional Assistant Engineer/Junior Engineer and Assistant Executive Engineer (AE)'s.
- viii. After getting the approval of quotations from the sub divisional officials the farmer has to take a Demand Draft (DD) for their contribution amount (Excluding subsidy portion) in favour of successful empanelled firm.
- ix. Work orders will be issued from time to time by the sub divisional officers of AED to the empanelled firm selected by the farmer, based on the receipt of the Demand Draft for the solar fencing unit to be installed received from the identified farmer after approval of the quotation given by the firm.

- x. If the firm installs the solar fencing unit on its own accord or at the request of the individual farmer without the issue of work order of the sub divisional officer of Agricultural Engineering Department, in that case subsidy will not be dispersed by the sub-divisional officer.

8. Installation and completion schedule

- i. The installation of solar fencing unit in the identified location to the farmer should be completed within 21 days from the date of issue of work order. The time schedule indicated should be strictly followed.
- ii. The materials for the installation of solar fencing units shall be delivered to the farmer's field within 11 days from the date of issue of work orders.
- iii. The receipt of materials to the concerned farmer shall be acknowledged by the Assistant Engineer / Junior Engineer of concerned subdivisions.
- iv. The Assistant Engineer / Junior Engineer will verify the materials delivered to the farmer's field as per the quotations and technical specifications approved in the Expression of Interest.
- v. The timeframe for supply of materials and installation shall be strictly followed. In case of the successful empanelled firm fails to complete the installations within the stipulated time, AED reserves the right to cancel the work orders issued and re allot the quantity by issuing the work order to other successful empanelled firm(s), by getting farmers consent, besides forfeiting the security deposit of the successful empanelled firm who failed to install the system within the timeframe.
- vi. After installation of the solar fencing unit, the sub divisional Assistant Engineer/ Junior Engineer along with Assistant Executive Engineer (AE) shall physically verify the satisfactory functioning of the system and the compliance of system with the technical specification approved in the Expression of Interest.
- vii. The defects noted if any, during the **Joint verification (JV)** shall be noted in the JV Report and shall be duly signed by Sub divisional officials, beneficiary and company representative.
- viii. The empanelled firm shall rectify the defects noted during the joint verification by the sub divisional officials within a period of 21 days as mentioned in the Expression of Interest terms and conditions. Only after rectification of defects, the payment to the firm will be processed.
- ix. If the empanelled firm fails to rectify the defects after 21 days of joint verification, then a penalty of Rs.100 per day for delay of each day will be imposed upto the next

30 days. The penalty amount will be deducted from the outstanding payments to the firms.

- x. If the empanelled firms fail to rectify the defects after 45 days from the date of joint verification, AED has the right to forfeit the security deposit and blacklist the firm and the defects in the system will be rectified by AED by alternate arrangements and the cost for the same will be collected from payment to the empanelled firm.
- xi. The successful empanelled firm should deploy enough man power / working team for completion of the work assigned at various places in Tamil Nadu simultaneously so as to complete the works for all the work orders issued to the successful empanelled firm within the stipulated time.

9. Payment terms

- i. The farmer has to take a Demand Draft (DD) for their contribution amount (Excluding subsidy portion) in favour of the empanelled firm selected by the farmers from the list of empanelled vendors of AED.
- ii. Work orders will be issued from time to time by the sub divisional officers of AED, after getting the Demand Draft furnished by the identified beneficiary to the concerned empanelled firm.
- iii. The demand draft received from the farmers will be released to the successful empanelled firms by Assistant Executive Engineer (AE) of concerned sub-division, on delivery of material for the entire system of fencing system in the farmer's field.
- iv. After verification of the installed solar fencing unit in the farmer's field, by the Assistant Engineer (AE) / Junior Engineer (AE) along with Assistant Executive Engineer (AE) and company representative, the subsidy amount will be paid to the firm by the sub divisional Assistant Executive Engineer (AE).
- v. During joint verification, if it is found that lesser quantity of material is used in the field due to site conditions, the excess amount shall be refunded to the farmer within the stipulated time i.e. within 15 days as noted by the sub divisional officials during the verification.
- vi. An acknowledgement has to be obtained from the farmers on receipt of excess amount and has to be submitted to the subdivision officials.
- vii. If the company fails to repay the excess amount to the farmers within 15 days it will be paid to the farmers from the pending payment to the concerned company, after deduction of the excess amount from the eligible subsidy amount, the balance amount alone will be paid to the firm.

- viii. The amount thus deducted from the outstanding payment to the firm will be refunded to the farmer.
- ix. The eligible subsidy amount will be released to firm, after successful completion of installation and commissioning after deduction of 10% withheld amount.
- x. 10% withheld amount will be released to the empanelled firms after submission of irrevocable bank guarantee for the cumulative value of deductions for the period of two year in favour of Chief Engineer (AE), Agricultural Engineering Department, Chennai.

10. Liquidated Damages for delayed installations

This is a time bound project. Any delay will make the project fruitless. Hence if the Successful empanelled firm fails to complete the installation of solar fencing units within the delivery period specified, Liquidated Damages at the rate of 2% of the cost of the solar fencing unit per completed week per solar fencing will be levied subject to a maximum of 10% for delayed installation. The Liquidated Damages amount will be deducted from the security deposit submitted by the Successful empanelled firm. Even, if installation is not completed, AED will make alternate arrangements and the cost incurred by AED for doing the same will be recovered from the Successful empanelled firm.

11. Warranty

- i. The Successful empanelled firm shall give minimum 2 year warranty for the components viz., energizer, battery and neon tester and minimum 10 years warranty for all other components of solar fencing units installed. A performance guarantee for entire solar fencing unit with various components shall be given for a minimum period of two years.
- ii. The warranty will be against breakages, malfunctions, **non-fulfilment of performance** and breakdowns due to manufacturing defects or due to wear and tear or defects that may arise due to improper functioning of electrical or electronic components of the system but do not include physical damages by the end users.
- iii. The above warranty shall take effect from the date on which the solar fencing unit is installed and handed over to the users or beneficiaries.
- iv. The successful empanelled firm shall be liable to make good the loss by replacing the defective product during the warranty period for the entire unit free of cost, failing which AED would deduct the amount from the amount retained by AED as per Payment terms and the firm will be **blacklisted**.

- v. The warranty will cover all the materials and goods involved in the fabrication and installation of the solar fencing by the successful empanelled firm under this contract irrespective of the fact whether these have been manufactured by the Successful empanelled firm or not. The decision in this regard by AED is final and binding on the successful empanelled firm.
- vi. In case of any complaint registered or service calls received or faults notified, the service personal of the Successful empanelled firm should reach the site within 7 days and attend to the defects or faults at site. If the faults could not be attended at site within 7 days period, a spare component / part / material for the defective part/component may be put in place for the continuous functioning of the system and then rectify the defective part / component or replace the faulty components if needed within 21 days.
- vii. If the successful empanelled firm, fails to rectify the defect(s) and restore the solar fencing to good working condition within 21 days, then a penalty of Rs.500/- (Rs. Five Hundred only) per system per day beyond 21 days breakdown period will be levied. This will be deducted from the bills due.
- viii. The warranty will cover all the materials and goods involved in the installation of the solar fencing irrespective of the fact whether these have been manufactured by the firm or not. The installing firm will be asked to carry out repairs and replacement due to defective material or bad workmanship during the Warranty period at free of cost. If the firm fails to do this within the reasonable time of 21 days, the Chief Engineer(AE), Chennai will arrange for such repairs to be carried out and deduct the cost thereof from the security deposit with 5% penalty on the cost of the unit.
- ix. The successful empanelled firm shall furnish the details of at least one technical person whose name, mobile number and address to the concerned district officers of the AED and the farmer.
- x. AED reserves the right to claim damages and Costs for non-fulfilment of warranty / performance apart from forfeiting unpaid amount, if any, in the event of non-fulfilment of warranty / performance conditions.

Note: AED reserves the right to test at random, the materials used for the solar fencing units installed in various farmers' field, at any Government accredited lab for the purpose. The successful empanelled firm should co-ordinate with the department for such testing. The entire cost of testing including the transportation of the sample components should be borne by the successful empanelled firm.

In case of failure of the components tested for the performance / material of construction are not in conformation with the stipulated conditions of the contract then the successful empanelled firm shall be liable to make good the loss by replacing the defective product for the various installations free of cost, failing which AED would deduct the amount from the amount retained by AED as per Payment terms and the firm will be blacklisted.

12. Penalty Clause

- i. If the successful empanelled firm, fails to rectify the defect(s) and restore the solar fencing unit to good working condition within 21 days, then a penalty of Rs.500/- (Rs. Five Hundred only) per system per day beyond 21 days breakdown period will be levied. The fine amount has to be paid to the AED by the company.
- ii. If the firm fails to do this within the reasonable time of 21 days, the Chief Engineer(AE), Chennai will arrange for such repairs to be carried out and deduct the cost thereof from the security deposit with 5% penalty on the cost of the unit.
- iii. The above warranty shall take effect from the date on which the solar fencing unit is handed over to the beneficiary.
- iv. Performance warranty for a period of two year should be strictly adhered.

14. Other Terms and Conditions

- i. The firm should agree to the inspection of their works/ premises, if found necessary, by the Department Personnel to verify their capacity to supply the materials offered, manufacturing processes and quality control techniques adopted.
- ii. Failure to follow any of the instructions, terms and conditions noted in the tender will entail the offer to be ignored and rejected summarily.
- iii. All the conditions are fully read, understood and accepted.

Signature of the applicant

Place:

Date:

Name of the Firm
(Seal of the firm)

PART - V

INSTRUCTIONS TO THE APPLICANT FIRMS

(Every page of the Eol document should be completely read and duly signed by authorized signatory and submitted to the Chief Engineer (AE), Agricultural Engineering Department, No- 487, Anna salai, Chennai.3, in person or by post.)

1. Interested firms must download the Expression of Interest (Eol) documents are available for free download at Agricultural Engineering Department web site: aed.tn.gov.in
2. The filled up Eol documents along with supporting documents specified in Eol document shall be submitted to the Chief Engineer (AE), AED,Nandanam, Chennai in person or by post.
3. Firms should submit their Eol complete in all aspects on or before last date of Eol submission as mentioned in the Eol document.
4. All the particulars sought in Techno Commercial details should be duly filled in without any omissions whatsoever. Corrections should be attested by full signature and not by initials. The Eol document without full signature shall be summarily rejected. The Eol document should be signed by authorised person of the participating firm.
5. In the event of Eol application being submitted by a partnership firm, it must be signed separately by each member thereof and in the absence of any partner, it must be signed on his behalf by a person holding a Power of Attorney authorised to do so OR in the case of a company, the tender should be executed in the manner laid down in the said company's Articles of Association.
6. The Eol document prepared by the firm as well as all correspondence and documents relating to the Eol document shall be in English only. The supporting documents and printed literature furnished by the firm may be in any another language provided, they are accompanied by an accurate translation in English duly notarised, in which case, for all purposes of the Eol, the translation shall govern. Eol received without such translation copy will be rejected.
7. The Eol document shall be typed and all pages of the Eol document including the supporting documents submitted (subsequent Amendments / Clarifications / Addenda) shall be signed and stamped by the authorised person of the firm.

8. A letter of Authorisation from the Board of Directors or Managing Director of firm / organisation authorising the Eol document submitting authority should be submitted in the Techno Commercial details. The Eol application received without the Letter of Authorisation or Power of Attorney will be summarily rejected.
9. The Techno commercial details format as given in the Eol document shall be filled, signed and stamped in all pages. AED will not be responsible for the errors committed in the Eol document submitted by the firm.
10. The Eol documents along with supporting documents specified in Eol document shall be submitted to the Chief Engineer (AE), AED, Nandanam, Chennai in person or by post.
11. The Chief Engineer (AE), Agricultural Engineering Department, No.487, Anna Salai, Nandanam, Chennai-600 035.
12. General description of the Company activities, capacity of production, quality control and pending orders on hand for execution should be furnished.
13. If the firm has any technical collaboration in the manufacture of components of solar fencing unit, the details should be clearly indicated duly furnishing the name and address of the firm with whom such technical collaboration is made.
- 14. All the terms and conditions indicated in the Expression of Interest (Eol) document shall be fully read, understood and adhered to without any deviations whatsoever. Every page of all the parts of the Eol Document shall be duly filled in, signed and submitted to the Chief Engineer(AE), AED,Nandanam, Chennai.**

Annexure - I

Applicant firm's undertaking covering letter **(Letter should be submitted on firm's Letter Head)**

To
The Chief Engineer (AE),
Agricultural Engineering Department,
487, Anna Salai, Nandanam, Chennai- 600 035.
Tamil Nadu, India.

Dear Sir,

Sub: Expression of Interest (Eol) for design, fabrication and installation of solar fencing units at various places in Tamil Nadu for the year 2024-25 and 2025-26
– Reg.

Ref:

1. We have examined the Expression of Interest (Eol) for design, fabrication and installation of solar fencing units at various places in Tamil Nadu as specified in the Eol document in reference cited. We undertake to meet the requirements and services as required and are set out in the tender document.
2. We attach our Techno-commercial details as required by the Eol both of which together constitute our proposal, in full conformity with the said Eol
3. We accept and agree to implement the programme with the already approved fixed Rate contract rates for 'Normal type' and 'Hanging type' of Solar fencing units for the year 2024-25 and 2025-26.
4. We have read the provisions of Eol and confirm that these are acceptable to us. We further declare that additional conditions, variations, deviations, if any, found in our response shall not be given effect to.
5. We undertake, if our Eol document is accepted, to adhere to the scope of work as specified in the Eol or such modified plan as may subsequently be agreed.
6. We agree to unconditionally accept all the terms and conditions set out in the Eol document and also agree to abide by this Eol response for a period as mentioned in the Eol and it shall remain binding upon us with full force and virtue, until within this period a formal contract is prepared and executed, this Eol response, together with your written acceptance thereof in your notification of award, shall constitute a binding contract between us and AED.

7. We affirm that the information contained in the Techno commercial details or any part thereof, including its schedules, and other documents, etc., delivered or to be delivered to AED is true, accurate, and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead AED as to any material fact.
8. We agree that AED reserves the right in absolute sense to reject all or any of the EoI without assigning any reason whatsoever.
9. It is hereby confirmed that I/We /am/are entitled to act on behalf of our company/ organization and empowered to sign this document as well as such other documents, which may be required in this connection.
10. We also declare that our Company/Organisation is not blacklisted by any of the State or Central Government and organisations of the State or Central Government

Signature of the authorised person:

Name and designation of the authorised person:

Name and Address of Applicant firm (with Stamp):

ANNEXURE-II

Model Form of Contract Agreement

To be executed on a Rs.200/- Non-judicial Stamp paper bought in Tamil Nadu by the successful firm empanelled for design, fabrication and installation of solar fencing units to the individual farmer identified at various Places in Tamil Nadu for the year 2024-25 and 2025-26.

CONTRACT AGREEMENT

This Contract is entered into at Chennai on the day of ----- 2024 between Agricultural Engineering Department, a Government Department of Tamil Nadu, and having its Registered office at 487, Anna Salai, Nandanam, Chennai – 600 035 Tamil Nadu, India, hereinafter referred to as ‘AED’ (Which term shall mean and include its successors and permitted assigns) on behalf of Government of Tamil Nadu, hereinafter referred to as “Implementing Agency” and, a Company having its Registered office at hereinafter referred to as the “successful empanelled firm” (Which term shall mean and include its successors and permitted assigns). AED on behalf of the Government of Tamil Nadu invited a Expression of Interest vide Expression of Interest Ref. No. AED/SC2/05/2024 /EoI/Solar Fencing 2024-25 and 2025-26 for the Design, fabrication and installation of Solar fencing units to the individual farmer identified at various Places in Tamil Nadu and the successful firm was empanelled as per the following terms and conditions: -

This document on having been signed by both the parties shall constitute a binding contract between the parties and shall remain in force for a period of two years. But in the event of any breach of the Contract at any time on the part of the Successful empanelled firm, the contract shall be terminated by AED without compensation to the Successful empanelled firm. The contract may also be put to an end at any time by the Implementing Agency upon giving seven days notice to the Successful empanelled firm.

The Successful empanelled firm hereby agrees for Design, fabrication and installation of solar fencing units to the individual farmer identified at various Places in Tamil Nadu as per the Terms and Conditions given below;

1. Approved Fixed Rate Contract rate details

Table1: Normal Type and hanging type (For a length of 566 m) without optional item

Sl. No.	Description	No. of Lines	Fixed cost including GST (in Rs.)	Variable cost including GST (in Rs.)	Total Cost of the unit inclusive of all Including GST (in Rs.)
Normal Type - For all animals excluding Elephant (For a length of 566 m) without optional item					
1	Total cost for design, fabrication and installation of Solar Fencing Units	5	63,953.80	1,62,536.03	2,26,489.00
2		7	63,953.80	1,80,994.88	2,44,948.00
3		10	63,953.80	2,09,340.26	2,73,294.00
Hanging Type- For all animals including Elephant (For a length of 566 m) without optional item					
4	Total cost for design, fabrication and installation of Solar Fencing Units (Hanging Type)	5	65,551.00	2,24,268.00	2,89,819.00
5		7	65,551.00	2,44,337.00	3,09,888.00
6		10	65,551.00	2,74,274.00	3,39,825.00

Table2: Rate for optional items

Sl. No.	Description	Quantity	Total Cost of the unit Including GST (in Rs.)
1	Framed Power gate of 5.5 ft height with gate handle	1 Unit	19,824.00
2	Monitoring equipment	1 Unit	10,000.00

2. Pre-Despatch Inspection

AED reserves the right to inspect the factory or office premises of the successful empanelled firm and based on the inspection cancel the work orders issued to the firm. AED reserves the right to undertake Pre-Despatch inspection (either by the department or by a third party appointed for the purpose by the department) of the any components to be supplied for the solar fencing to be installed by the firm either at their factory or at the premises/ factory of the supplier who intends to supply the components of solar fencing units to the firm.

3. Technical specifications

The minimum technical specifications furnished in the tender document and the specifications furnished in the provisional Letter of Empanelment (LoE) issued to you should be strictly adhered to. It may be noted that the foundation shall be according to the soil conditions prevailing at the site for installation of the solar fencing units. The technical specification in accordance with Forest Department G.O. (Ms)No.104 Environment, Climate Change and Forest (FR.5) Department Dated 03.07.2023 shall be strictly followed.

4. Insurance

Transportation of components to the installation site and insuring the goods in transit is the responsibility of the firm. The goods installed under the contract should be covered for comprehensive Insurance by the Successful empanelled firm against loss (or) damage incidental to transportation, storage at site and delivery to site during the erection period.

5. Site survey and issue of Work Orders

- i. The prospective farmer will furnish application in format along with relevant land documents for proof of ownership of land and may be allowed to choose any of the firms from the list of firms empanelled by AED.
- ii. The site for installation of the solar fencing unit will be in the individual beneficiary's field.
- iii. The physical site surveying shall be done by the company representative in the farmer's field in order to ascertain the feasibilities of the site for installation of solar fencing and prepare the quotations for installing the solar fencing system in the farmer's field.
- iv. The solar fencing unit should be designed, fabricated and installed according to the site conditions and as per the requirement of the beneficiary farmer.

- v. After completion of site survey in the concerned farmer's field who are willing to take DD, the installing firms shall submit the detailed quotations along with bill of quantity for the approved rates in the Expression of Interest and schematic representation of proposed solar fencing system in the field.
- vi. The schematic representations of installing fields should indicate all the components of Solar Fencing Units along with FMB and shall be submitted to the concerned sub divisional office along with the quotation and bill of quantity.
- vii. The quotation and bill of quantity may vary based on the field size and shape and the reasonableness of the bill of quantity furnished by the companies for a particular field will be ascertained by the sub divisional Assistant Engineer/Junior Engineer and Assistant Executive Engineer (AE)'s.
- viii. After getting the approval of quotations from the sub divisional officials the farmer has to take a Demand Draft (DD) for their contribution amount (Excluding subsidy portion) in favour of successful empanelled firm.
- ix. Work orders will be issued from time to time by the sub divisional officers of AED to the empanelled vendor selected by the farmer, based on the receipt of the copy of Demand Draft for the solar fencing unit to be installed received for the identified farmer's after approval of the quotation given by the firm.
- x. If the firm installs the solar fencing unit on its own accord or at the request of the individual farmers without the issue of work order of the sub divisional officer of Agricultural Engineering Department, in that case subsidy will not be dispersed by the sub-divisional officer.

6. Installation and completion schedule

- i. The installation of solar fencing unit in the identified location to the farmer should be completed within 21 days from the date of issue of work order. The time schedule indicated should be strictly followed.
- ii. The materials for the installation of solar fencing units shall be delivered to the farmer's field within 11 days from the date of issue of work orders.
- iii. The receipt of materials to the concerned farmer shall be acknowledged by the Assistant Engineer / Junior Engineer of concerned subdivisions.
- iv. The Assistant Engineer / Junior Engineer will verify the materials delivered to the farmer's field as per the quotations and technical specifications approved in the Expression of Interest.

- v. The timeframe for supply of materials and installation shall be strictly followed. In case of the successful empanelled firm fails to complete the installations within the stipulated time, AED reserves the right to cancel the work orders issued and re allot the quantity by issuing the work order to other successful empanelled firm(s), by getting farmers consent, besides forfeiting the security deposit of the successful empanelled firm who failed to install the system within the timeframe.
- vi. After installation of the solar fencing unit, the sub divisional Assistant Engineer/ Junior Engineer along with Assistant Executive Engineer (AE) shall physically verify the satisfactory functioning of the system and the compliance of system with the technical specification approved in the Expression of Interest.
- vii. The defects noted if any, during the **Joint verification (JV)** shall be noted in the JV Report and shall be duly signed by Sub divisional officials, beneficiary and company representative.
- viii. The empanelled firm shall rectify the defects noted during the joint verification by the sub divisional officials within a period of 21 days as mentioned in the Expression of Interest terms and conditions.
- ix. If the empanelled firm fails to rectify the defects after 21 days of joint verification, then a penalty of Rs.100 per day for delay of each day will be imposed upto the next 30 days. The penalty amount will be deducted from the payments to the firms.
- x. If the empanelled firms fail to rectify the defects after 45 days from the date of joint verification, AED has the right to forfeit the security deposit and blacklist the firm and the defects in the system will be rectified by AED by alternate arrangements and the cost for the same will be collected from payment to the empanelled firm.
- xi. The successful empanelled firm should deploy enough man power / working team for completion of the work assigned at various places in Tamil Nadu simultaneously so as to complete the works for all the work orders issued to the successful empanelled firm within the stipulated time.

7. Payment terms

- i. The farmer has to take a Demand Draft (DD) for their contribution amount (Excluding subsidy portion) in favour of the empanelled firm selected by the farmers from the list of empanelled vendors of AED.
- ii. Work orders will be issued from time to time by the sub divisional officers of AED, after getting the Demand Draft furnished by the identified beneficiary to the concerned empanelled firm.

- iii. The demand draft received from the farmers will be released to the successful empanelled firms by Asst. Executive Engineer (AE) of concerned sub-division, on delivery of material for the entire system of fencing system in the farmer's field.
- iv. After verification of the installed solar fencing unit in the farmer's field, by the Assistant Engineer (AE) / Junior Engineer (AE) along with Assistant Executive Engineer (AE) and company representative, the subsidy amount will be paid to the firm by the sub divisional Assistant Executive Engineer (AE).
- v. During joint verification, if it is found that lesser quantity of material is used in the field due to site conditions, the excess amount shall be refunded to the farmer within the stipulated time i.e. within 15 days as noted by the sub divisional officials during the verification.
- vi. An acknowledgement has to be obtained from the farmers on receipt of excess amount and has to be submitted to the subdivision officials.
- vii. If the company fails to repay the excess amount to the farmers within 15 days it will be paid to the farmers from the payment to the concerned company, after deduction of the excess amount from the eligible subsidy amount, the balance amount alone will be paid to the firm.
- viii. The amount thus deducted from the payment to the firm will be refunded to the farmer.
- ix. The eligible subsidy amount will be released to firm, after successful completion of installation and commissioning after deduction of 10% withheld amount.
- x. 10% withheld amount will be released to the empanelled firms after submission of irrevocable bank guarantee for the cumulative value of deductions for the period of two year in favour of Chief Engineer(AE), Agricultural Engineering Department, Chennai.

8. Liquidated Damages for delayed installations

This is a time bound project. Any delay will make the project fruitless. Hence if the Successful empanelled firm fails to complete the installation of solar fencing units within the delivery period specified, Liquidated Damages at the rate of 2% of the cost of the solar fencing unit per completed week per solar fencing will be levied subject to a maximum of 10% for delayed installation. The Liquidated Damages amount will be automatically deducted from the security deposit submitted by the Successful empanelled firm. Even, if installation is not completed, AED will make alternate arrangements and the cost incurred by AED for doing the same will be recovered from the Successful empanelled firm.

9. Warranty

- i. The Successful empanelled firm shall give minimum 2 year warranty for the components viz., energizer, battery and neon tester and minimum 10 years warranty for all other components of solar fencing units installed. A performance guarantee for entire solar fencing unit with various components shall be given a minimum period of two years.
- ii. The warranty will be against breakages, malfunctions, **non fulfilment of performance** and breakdowns due to manufacturing defects or due to wear and tear or defects that may arise due to improper functioning of electrical or electronic components of the system but do not include physical damages by the end users.
- iii. The above warranty shall take effect from the date on which the solar fencing unit is installed and handed over to the users or beneficiaries.
- iv. The successful empanelled firm shall be liable to make good the loss by replacing the defective product during the warranty period for the entire unit free of cost, failing which AED would deduct the amount from the amount retained by AED as per Payment terms and the firm will be **blacklisted**.
- v. The warranty will cover all the materials and goods involved in the fabrication and installation of the solar fencing by the successful empanelled firm under this contract irrespective of the fact whether these have been manufactured by the Successful empanelled firm or not. The decision in this regard by AED is final and binding on the successful empanelled firm.
- vi. In case of any complaint registered or service calls received or faults notified, the service personal of the Successful empanelled firm should reach the site within 5 days and attend to the defects or faults at site within 7 days. If the faults could not be attended at site within 7 days period, a spare component / part / material for the defective part/component may be put in place for the continuous functioning of the system and then rectify the defective part / component or replace the faulty components if needed within 21 days.
- vii. If the successful empanelled firm, fails to rectify the defect(s) and restore the solar fencing to good working condition within 21 days, then a penalty of Rs.500/- (Rs. Five Hundred only) per system per day beyond 21 days breakdown period will be levied. This will be deducted from the bills due.

- viii. The warranty will cover all the materials and goods involved in the installation of the solar fencing irrespective of the fact whether these have been manufactured by the firm or not. The installing firm will be asked to carry out repairs and replacement due to defective material or bad workmanship during the Warranty period at free of cost. If the firm fails to do this within the reasonable time of 21 days, the Chief Engineer (AE), Chennai will arrange for such repairs to be carried out and deduct the cost thereof from the security deposit with 5% penalty on the cost of the unit.
- ix. The successful empanelled firm shall furnish the details of at least one technical person whose name, mobile number and address to the concerned district officers of the AED and the farmer.
- x. AED reserves the right to claim damages and Costs for non-fulfilment of warranty / performance apart from forfeiting unpaid amount, if any, in the event of non fulfilment of warranty / performance conditions.

Note: AED reserves the right to test at random, for the materials of solar fencing units installed in various farmers' field, at any Government accredited lab for the purpose. The successful empanelled firm should co-ordinate with the department for such testing. The entire cost of testing including the transportation of the sample components should be borne by the successful empanelled firm.

In case of failure of the components tested for the performance / material of construction are not in conformation with the stipulated conditions of the contract then the successful empanelled firm shall be liable to make good the loss by replacing the defective product for the various installations free of cost, failing which AED would deduct the amount from the amount retained by AED as per Payment terms and the firm will be blacklisted.

10. Penalty Clause

- i. If the successful empanelled firm, fails to rectify the defect(s) and restore the solar fencing unit to good working condition within 21 days, then a penalty of Rs.500/- (Rs. Five Hundred only) per system per day beyond 21 days breakdown period will be levied. The fine amount has to be paid to the AED by the company.
- ii. If the firm fails to do this within the reasonable time of 21 days, the Chief Engineer(AE), Chennai will arrange for such repairs to be carried out and deduct the cost thereof from the security deposit with 5% penalty on the cost of the unit.
- iii. The above warranty shall take effect from the date on which the solar fencing unit is handed over to the beneficiary.
- iv. Performance warranty for a period of two years should be strictly adhered.

11. Force Majeure

Neither AED nor the Successful empanelled firm shall be liable to the other for any delay or failure in the performance of their respective obligations due to causes or contingencies beyond their reasonable control such as:

- Natural phenomena including but not limited to earthquakes, floods and epidemics.
- Acts of any Government authority, domestic or foreign including but not limited to war declared or undeclared, priorities and quarantine restrictions.
- Accidents or disruptions including, but not limited to fire, explosions, breakdown of essential machinery or equipment, power and water shortages.

12. The following documents shall be deemed to form and be read and construed as part of this Contract.

- a) Technical Specifications
- b) Expression of Interest Terms and Conditions
- c) Corrigendum or Clarifications if any issued by AED for the EoI document
- e) Detailed final offer of the Successful empanelled firm
- f) Work Order(s) issued by AED from time to time
- g) Correspondence made by AED to the successful empanelled firm from time to time during the period of the contract. Wherever the offer conditions furnished by the Successful empanelled firm are at variance with conditions of this contract or conditions stipulated in the work order, the later shall prevail over the offer conditions furnished by the Successful empanelled firm.

13. Waiver of any terms and conditions by AED in writing shall not have the effect of waiving or abandoning other terms and conditions of the contract.

14. (a) Unless otherwise provided in the Contract, any notice, request, consent or other communication given or required to be given by the successful empanelled firm hereunder shall be given by mailing the same by registered mail, postage prepaid to AED at its registered office.

(b) Any notice to the Successful empanelled firm shall be deemed to be sufficiently served, if given or left in writing at their usual or last known place of abode or business.

15. Other Terms and Conditions:

- i. The firm shall agree to the inspection of their works/ premises, if found necessary, by the Department Personnel to verify their capacity to supply the materials offered, manufacturing processes and quality control techniques adopted.
- ii. Failure to follow any of the instructions, terms and conditions noted in the EoI will entail the offer to be ignored and rejected summarily.
- iii. All the conditions are fully read, understood and accepted.

16. Termination of Contract

16.1. Termination for default

- a) AED may without prejudice to any other remedy for breach of contract, by written notice of default with a notice period of seven days (from the date of receipt of notice by the firm), sent to the Successful empanelled firm, terminate the contract in whole or part, (i) if the Successful empanelled firm fails to install the solar fencing unit within the delivery Schedule or within any extension thereof granted by AED; or (ii) if the Successful empanelled firm fails to perform any of the obligation(s) under the contract; or (iii) if the Successful empanelled firm, in the judgement of AED, has engaged in fraudulent and corrupt practices in competing for or in executing the Contract.
- b) In the event AED terminates the Contract in whole or in part, AED may procure, upon terms and in such manner as it deems appropriate, the goods and services similar to those tendered and the Successful empanelled firm shall be liable to AED for any additional costs for these. However, the Successful empanelled firm shall continue the performance of the contract to the extent not terminated.

16.2. Termination for Insolvency

AED may at any time terminate the Contract by giving written notice with a notice period of 7 days (from the date of receipt of notice by the firm) to the Successful empanelled firm, if the Successful empanelled firm becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Successful empanelled firm, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to AED.

16.3. Termination for Convenience:

AED may by written notice, with a notice period of seven days (from the date of receipt of notice by the firm) sent to the Successful empanelled firm, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of

termination shall specify that termination is for AED's convenience, the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective. On termination, the successful empanelled firm is not entitled to any compensation whatsoever. If the fabrication and installation of the solar fencing unit is not effected as specified in the work order, AED shall have the full authority to cancel the order and to take any such action that will be deemed fit in the circumstances.

17. In case of failure by the Successful empanelled firm to design, fabricate and install the solar fencing unit within the period specified or in case of installations made by them, not being of the stipulated quality and specifications, AED shall have the power to reject any such installations.
18. In case of any dispute, the matter will be referred to a sole Arbitrator to be appointed by the Chief Engineer (AE), Agricultural Engineering Department in accordance with the Arbitration and Conciliation Act, 1996. The arbitration shall be held in Chennai, India and the language English only.
19. Subject to the above, the Courts at Chennai alone only shall have jurisdiction in the matter

In Witness whereof the parties hereto have signed on the day, month and year above written in the presence of

For and on behalf of
Agricultural Engineering
Department

For and on behalf of
Successful empanelled firm

Witnesses:

Witnesses:

1.

2.


20/11/2024
Chief Engineer (AE)