

Expression of Interest (EoI) for finalization of rate contract prices for Supply, Installation and Commissioning of various Solar Off-Grid Systems under Solar Off-Grid Programme
EoI Reference No: NREDCAP/SE/Off-Grid/01/RC Rates/2024-25

**NEW & RENEWABLE ENERGY DEVELOPMENT CORPORATION OF AP LTD
(NREDCAP)**

INVITES

EXPRESSION OF INTEREST

FOR

**FINALIZATION OF RATE CONTRACT PRICES FOR SUPPLY, INSTALLATION &
COMMISSIONING OF VARIOUS SOLAR OFF-GRID SYSTEMS UNDER SOLAR
OFF-GRID PROGRAMME IN ANDHRA PRADESH STATE**

NOTICE NO:

NREDCAP/SE/Off-Grid/01/RC Rates/2024-25, DATED: 30.10.2024

CLOSING DATE: 12.11.2024 AT 17.00 hrs

Issued by

New & Renewable Energy Development Corporation of AP Ltd
12-464/5/1, River Oaks Apartment, CSR Kalyana Mandapam road, Tadepalli, Guntur District
Tel:0863 -2347650 /651/652/653;
E-mail: gm@nredcap.in; pdse@nredcap.in

Expression of Interest (EoI) for finalization of rate contract prices for Supply, Installation and Commissioning of various Solar Off-Grid Systems under Solar Off-Grid Programme
EoI Reference No: NREDCAP/SE/Off-Grid/01/RC Rates/2024-25

EOI NOTICE

S.No	Particulars	Details
1	Authorised Person and Office address	The VC & Managing Director, NREDCAP #12-464/5/1, River Oaks Apartments, CSR Kalyana Mandapam Road, Tadepalli, Guntur District- 522 501, 0863-2347650/51/52/53/54 Email: vc@nredcap.in Website: www.nredcap.in
2	EOI Notice No	NREDCAP/SE/Off-Grid/01/RC Rates/2024-25, dated: 30.10.2024
3	Scope of the work	Supply & installation of various Solar Off-Grid Systems under Solar Off-Grid Programme in the State of Andhra Pradesh as per the technical specifications and standards notified by MNRE/NREDCAP.
4	EOI Security (EMD)	Rs. 50,000/- (Rupees Fifty thousand only) in the form of Demand Draft issued by any Nationalized Bank drawn in favour of NREDCAP, which is refundable after finalization of the rate contract prices.
5	EOI document download start date and time	30.10.2024, 17:00 hrs
6	EOI Document download end date and time	12.11.2024, 11:00 hrs
7	EOI submission closing date and time	12.11.2024, 17:00 hrs
8	Hard copy submission date and time	13.11.2024, 13:00 hrs
9	EOI document opening date and time	13.11.2024, 15:00 hrs
10	Place of EOI Opening	NREDCAP, Head Office, Tadepalli, Guntur District
11	Contact Details/Telephone, Fax	Name: Sri J.Nani Babu Project Director (SE), NREDCAP, Tadepalli. Telephone: 0863-2347650/51/52/53/54 For technical queries related to e-Procurement, please contact:

		<p>9154383633, 9154383634, 7337318402 & 7337318403</p>
<p>12</p>	<p>Procedure for EOI Submission</p>	<p>The Supplier shall submit response to the EOI on eProcurement platform at https://tender.apecurement.gov.in by following the procedure given below.</p> <p>The Supplier would be required to register on the e-procurement market place https://tender.apecurement.gov.in and submit their EOI online. Online submission of EOI is mandatory and Offline EOI shall not be entertained by the Tender Inviting Authority.</p> <p>The Suppliers shall submit their eligibility and qualification details and EMD, Technical details, Financials etc., in the online standard formats displayed in eProcurement web site. The Suppliers shall upload the scanned copies of all the relevant certificates, documents etc., in support of their eligibility criteria/Technically/EMD and other certificate/documents in the eProcurement web site. The Supplier shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/ authenticity. The Supplier shall attach all the required documents to the tender document while EOI submission.</p> <p>1. Registration with eProcurement platform: For registration and online EOI submission Suppliers may contact HELP DESK No.</p> <p>9154383633, 9154383634, 7337318402 & 7337318403</p> <p>https://tender.apecurement.gov.in.</p> <p>2. Digital Certificate authentication: The Supplier shall authenticate the EOI with Digital Certificate for submitting the EOI electronically on eProcurement platform. The EOIs not authenticated by Digital Certificate of the Supplier will not be accepted.</p>

		<p>For obtaining Digital Signature Certificate, you may please Contact:</p> <p>Andhra Pradesh Technology Services Limited, 3rd Floor, R&B Building, MG Road, Labbipet, Vijayawada-520010, Andhra Pradesh</p> <p>(OR)</p> <p>Any other Registration Authority in India. The city-wise list of RAs is available by clicking the link "Apply for a Class-2 Certificate" under "Enroll" section in the website "https://www.tcs-ca.tcs.co.in/mca21/index.jsp"</p> <p>3. Hard copies:</p> <p>i) Suppliers shall submit hard copies of the EOI document as per the timelines specified.</p> <p>ii) All the Suppliers shall invariably upload the scanned copies of DD particulars in eProcurement system and this will be one of the key requirements to consider the EOI responsive.</p> <p>4. Deactivation of Suppliers:</p> <p>If any Successful Supplier fails to submit the original hard copies of uploaded certificates/documents, within stipulated time or if any variation is noticed between the uploaded documents and the hard copies submitted by the Supplier, as the successful Supplier will be barred from participating in the tenders on eProcurement platform for a period of 3 years. The eProcurement system would deactivate the user ID of such defaulting Supplier based on the trigger/recommendation by the Authorised Representative in the system. Besides this, the Authorised Representative shall invoke all processes of law including criminal prosecution of such defaulting Supplier as an act of extreme deterrence to avoid delays in the EOI Process for execution of the development schemes taken up by the government. Other conditions as per the EOI are applicable.</p>
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EoI Reference No: NREDCAP/SE/Off-Grid/01/RC Rates/2024-25

13	Rights reserved with the Department	Authorised Representative reserves the right to accept or reject any or all of the EOIs received without assigning any reasons therefore.
14	Eprocurement Help Desk	9154383633, 9154383634, 7337318402 & 7337318403

EXPRESSION OF INTEREST

Expression of Interest (EOI) is invited from empanelled Solar Off-Grid Suppliers of NREDCAP for the year 2023-24 for finalization of rate contract prices for supply & installation of the following Solar Off-Grid Systems under Solar Off-Grid Programme in the State of Andhra Pradesh.

- A. 0.50 KWp to 10.00 KWp capacity Solar Off-Grid Systems
- B. 2W LED based Solar Lantern
- C. 18W LED based Solar Street Lighting System
- D. 36W LED (2 Nos X 18W) based Solar Street Lighting System
- E. 20W LED based Solar Street Lighting System with Display Board
- F. 40W LED (2 Nos X 20W) based Solar Street Lighting System with Display Board
- G. 60W LED based Solar Street Lighting System
- H. 120W LED (2 Nos X 60W) based Solar Street Lighting System
- I. 160W LED (4 Nos X 40W) based Solar High Mast Lighting System
- J. 9W LED based Solar Pathway Lighting System
- K. 15W LED based Solar Blinker
- L. Sim based Solar 360° PTZ Camera
- M. Solar Home Lighting Systems
- N. Solar Vendor Cart Light
- O. Solar Water Pumping Systems

The components involved in the above Solar Gadgets such as SPV Module, W-LED Luminaires, Lithium Ferro Phosphate (LiFePO4) Battery Banks shall have IEC/BIS test certification from MNRE / MNRE authorized test centres. The other technical parameters shall be as per MNRE/NREDCAP specifications.

ELIGIBILITY CONDITION:

Minimum Turnover	Minimum Experience
Minimum cumulative turnover of Rs. 50.00 Lakhs during the last three years period (2021-22 to 2023-24). Enclose copy of the certificate issued by Chartered Accountant.	Minimum 10 KWp cumulative capacity Solar Off-Grid systems (Solar Rooftop off-grid/Solar Street Lights/Solar Pumpsets) installed in the last 3 years. Enclose copies of the work completion reports.

The suppliers shall not be blacklisted at any time by NREDCAP as well as any of the Govt. Nodal Agencies in the country. The District Officers of NREDCAP will generate demand with the help of empanelled suppliers/manufacturers and submit indents to Head Office by recommending the supplier for allotment of the works.

The suppliers shall submit the documents in e-procurement along with detail offer before 12.11.2024 by 17:00 hrs and also submit the Hard Copies to reach NREDCAP Head Office, Tadepalli, Guntur District before **13.11.2024** by 13:00 hrs along with an **Earnest Money Deposit of Rs. 50,000/- (Rupees Fifty Thousand Only) in the form of Demand Draft issued by any Nationalized Bank drawn in favour of NREDCAP, which is refundable after finalization of the rate contract prices.**

INFORMATION ON SUBMISSION OF EOI

1. The Supplier shall download the EOI document and sign all pages, fill the financials item wise and upload the EOI document in e-procurement. The Supplier shall also upload DD towards EMD and other relevant documents i.e Experience, Turn over etc. The supplier shall also be submitted Hard Copies in sealed cover duly subscribing **“Expression of Interest (EoI) from empanelled suppliers of 2023-24 for finalization Rate Contract Prices for Supply, Installation and Commissioning of Solar Off-Grid Systems”** containing technical eligibility criteria documents along with EMD.
The VC & Managing Director, New & Renewable Energy Development Corporation of AP Ltd., 12-464/5/1,/ River Oaks Apartments, CSR Kalyana Mandapam Road, Tadepalli, Guntur District, Andhra Pradesh– 522 501.
2. The Supplier shall furnish documentary evidence in support of meeting Qualification Requirements set forth in this document to the satisfaction of the Authorized Representative.
3. The supplier shall quote lump sum price for the Solar Off-Grid Systems for each category including Taxes and Duties and taxes shall be indicated separately.
4. NREDCAP will download the documents from e-procurement and verify the technical qualification of the suppliers. The technically qualified suppliers, financial offers only consider for financial evaluation.
5. The specifications are as per financial offer.
6. The lowest quoted price in each category will be arrived for rate contract prices.
7. NREDCAP may accept or reject any or all offers without assigning any reason.
8. Good quality components should be supplied. In case, if it is found that materials are not as per specifications, such components are to be replaced at free of cost.
9. The scope of work covers Design, Supply, Installation & Commissioning of various Solar Off-Grid Systems as per the technical specifications and standards notified by MNRE/NREDCAP.
10. The Mounting Structure for installation of SPV Modules shall be Hot Dipped Galvanized to withstand wind speed up to 150 Km/h and all the fasteners shall be stainless steel only.
11. During installation of solar system, the supplier shall follow necessary safety precautions.
12. In case the work order is released by NREDCAP, the payment shall be made as follows.
 - a) 90% of the invoice amount will be released on submission of the certified bills and other documents.
 - b) Balance 10% of the invoice amount will be made after completion of guarantee / warranty period for the systems (or) against performance bank guarantee.
 - c) The payment shall be released only on receipt of funds from respective user organizations.

13. The supplier shall install the systems within due date i.e., 45 days from the date of issue of work order and submit the relevant documents to NREDCAP for release of cost of the system as per work order.
14. If the operation or use of the system proves to be unsatisfactory during the warranty period, the installer shall replace the faulty ones or carry out necessary repairs as per the warranty terms and conditions within five (5) working days from the date of complaint.
15. The price quoted in the financial offer is exclusive of NREDCAP Service charges.
16. The Rate Contract Price is valid up to 30.09.2025 and it may extend further on specific approval of the competent authority.
17. The VC & Managing Director may relax any of the conditions for valid reasons and the decision of VC & Managing Director is final and binding.

18. WARRANTY

1. (a) The SPV panel shall carry a warranty of minimum 25 years.
(b) The SPV panel must be warranted or their output peak watt capacity which shall not be less than 90% at the end of 10 years and 80% at the end of 25 years.
2. The systems shall be supplied and installed on Turnkey basis with five years warranty anywhere in Andhra Pradesh State.
3. Regarding Solar Home Lighting Systems and Solar Vendor Cart Lights shall be supplied on Turnkey basis with two years warranty anywhere in AP State.
4. The warranty will be against breakages, malfunctions, non-fulfilment of guaranteed performance and breakdowns due to manufacturing defects or defects that may arise due to improper operation of electrical /electronic components of the system but do not include physical damages by the end users.
5. The warranty will cover all the materials and goods involved in the installation and commissioning of Solar Off-Grid systems by the Supplier.

TECHNICAL ELIGIBILITY FORMAT

All pages of the Technical Format shall be organised section-wise, annexed with proof documents, serially numbered shall be attached.

PARTICULARS OF SUPPLIER

S.No	PARTICULARS	TO BE FUNISHED BY THE SUPPLIER
1	Name of Supplier/Firm	
2	Postal Address	
3	E-mail Address for communication	
4	Telephone/Fax No.	
5	Name, designation, address, contact number and Email of the representative of the Supplier to whom all references shall be made.	
6	Details of empanelled registration no & date for the year 2023-24 (Enclose copy of the Registration letter)	
7	Nature of the firm (Individual/Partnership/ Consortium/Pvt. Ltd/Public Ltd. Co./Public Sector, etc.) Attach attested copy of Registration & Partnership deed/Memorandum of Association	
8	PAN No. (Copy of certificate to be enclosed)	
9	GST No. (Copy of certificate to be enclosed)	
10	Amount and particulars of the Earnest Money Deposited.	
11	Annual Turnover for last three years i.e 2021-22 to 2023-2024 (Attach CA certificate)	
12	Experience in the last 3 years in KWp (Solar off-grid/solar street lights/solar pump sets) (Attach details with proof)	
13	Has the Supplier/firm ever been debarred by Any institution for undertaking any work?	
14	Any other information attached by the Supplier	

FINANCIAL OFFER FOR SOLAR OFF-GRID SYSTEMS

(4 hours back up)

Financial offer for Supply, Installation and Commissioning of various capacities of Solar Off-Grid Systems (4 hours back up) including Mono Crystalline Solar Modules, Inverter with inbuilt MPPT Charge controller, Batteries, cables with ACDB, MMS and battery stand complete set etc., as per MNRE/NREDCAP technical specifications in Andhra Pradesh State

Description/Capacity of solar off-grid system	Basic Price (Rs.)	GST@12% on 70%of the price (Rs)	GST@ 18% on 30% of the price (Rs)	Total Cost (Rs)
500Wp Solar Off-Grid System 500Wp Solar Module, 850VA Inverter with inbuilt 20-60V DC@15Amps MPPT Charge controller, 12V, 180 Ah LMLA C10 Tubular Battery				
1.00 KWp Solar Off-Grid System 1000Wp Solar Module, 1500VA Solar Inverter with inbuilt 20-60V DC@30Amps MPPT Charge controller, 24V, 180 Ah LMLA C10 Tubular Battery				
2.00 KWp Solar Off-Grid System 2000Wp Solar Module, 2500VA Solar Inverter with inbuilt 40-100V DC@30Amps MPPT Charge controller, 48V, 180 Ah LMLA C10 Tubular Battery				
3.00 KWp Solar Off-Grid System 3000Wp Solar Module, 4000VA Solar Inverter with inbuilt 40-100V DC@40Amps MPPT Charge controller, 48V, 300 Ah LMLA C10 Tubular Battery				

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<p>4.00 KWp Solar Off-Grid System 4000Wp Solar Module, 4000VA Solar Inverter with inbuilt 60-120V DC@50Amps MPPT Charge controller, 96V, 180 Ah LMLA C10 Tubular Battery</p>				
<p>5.00 KWp Solar Off-Grid System 5000Wp Solar Module, 6000VA Solar Inverter with inbuilt 60-120V DC@62Amps MPPT Charge controller, 96V, 220 Ah LMLA C10 Tubular Battery</p>				
<p>6.00 KWp Solar Off-Grid System 6000Wp Solar Module, 7.5KVA Solar Inverter with inbuilt 60-120V DC@75Amps MPPT Charge controller, 96V, 250 Ah LMLA C10 Tubular Battery</p>				
<p>7.00 KWp Solar Off-Grid System 7000Wp Solar Module, 7.5KVA Solar Inverter with inbuilt 60-120V DC@75Amps MPPT Charge controller, 96V, 300 Ah LMLA C10 Tubular Battery</p>				
<p>8.00 KWp Solar Off-Grid System 8000Wp Solar Module, 10KVA Solar Inverter with inbuilt 80-140V DC@80Amps MPPT Charge controller, 120V, 300 Ah LMLA C10 Tubular Battery</p>				

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<p>9.00 KWp Solar Off-Grid System 9000Wp Solar Module, 10KVA Solar Inverter with inbuilt 80-140V DC@80Amps MPPT Charge controller, 120V, 300 Ah LMLA C10 Tubular Battery</p>				
<p>10.0 KWp Solar Off-Grid System 10000Wp Solar Module, 10KVA Solar Inverter with inbuilt 80-140V DC@100Amps MPPT Charge controller, 120V, 360 Ah LMLA C10 Tubular Battery</p>				

FINANCIAL OFFER FOR SUPPLY OF 2W LED BASED SOLAR LANTERN

S.No	Name of item	Unit Rate (Rs)
1	<p>Supply of 2W LED based Solar Lantern with the following components as per following specifications including Transportation charges on FOR destination basis in the State of Andhra Pradesh.</p> <ol style="list-style-type: none"> 1. SPV Module - 5.0 Wp under STC poly crystalline silicon module with IEC/BIS / MNRE approval. 2. Battery Bank - 3X3.2V, 1450mAh Capacity Rechargeable Lithium-Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers. 3. LED Luminaire - 2 Watt W-LED luminaire, dispersed beam, soothing to eyes with the use of proper optics and diffuser. 4. Light output - The lamp should have two levels of light (operation at 100% power and 60% power) to take care of the different lighting needs, as per the user requirements. 5. Accessories - Suitable AC charger 6. Cable - 20 feet length 7. Duty Cycle - 4 hours a day (at full brightness level), under average daily insolation of 5.5 KWh/Sq.m on a horizontal surface. 8. Autonomy - 3 days or 6 operating hours per permissible discharge. 9. Electronics - Overall total efficiency of the Electronics should be minimum 85% 10. Warranty: <ol style="list-style-type: none"> i) The Solar Lantern (including the battery) will be warranted for a period of five years from the date of supply. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of supply. 	
2	GST@12% on item no. 01	
3	Total (Rs.)	

FINANCIAL OFFER FOR SUPPLY& INSTALLATION OF 18W LED BASED SOLAR STREET LIGHTING SYSTEM ON TURNKEY BASIS

S.No	Name of Item	Unit Rate (Rs)	
		Non-Remote Areas	Remote Areas
1	<p>Design, Supply, Installation, Testing and Commissioning of 18W LED based Solar Street Lighting System with the following components & specifications including installation and transportation charges on Turnkey basis</p> <ol style="list-style-type: none"> 1. SPV Module - 12V, 100Wp capacity poly crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure. 2. Battery Bank - 12.8V, 30Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers. 3. LED Luminaire - 18W capacity LED based Solar luminary with inbuilt MPPT charge controller to operate dusk to dawn. The Luminaire must use high efficacy W-LED with minimum 135 lumens per watt and UV free. 4. Light output - Multiple light levels The lamp should have two levels of light to take care of different lighting needs during the night. 5. Mounting of light - Pole mounted, minimum 5.0 meters above the ground level 6. GI Pole - 3 inch dia, 6 meters length and 3 mm thick GI Pole 7. Civil Foundation - The foundation size is 0.45 m X 0.45 m X 0.90m. The Foundation shall be RCC pile foundation in CC(1:2:4). 8. Duty Cycle - Dusk to Dawn 4 hours full light, rest of the time at lower level, with motion sensor. i) In case any movement is there, it senses it and glows to full level. ii) Then it comes back to lower level after sometime, automatically. 9. Electronics - Overall total efficiency of the Electronics should be minimum 85% 10. Warranty i) The Street Lighting System (including the battery) will be warranted for a period of five years from the date of installation. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation. 		
2	GST @12% on 70% of item no: 01		
3	GST @18% on 30% of item no: 01		
4	Total (Rs.)		

Annexure – D

**FINANCIAL OFFER FOR SUPPLY & INSTALLATION OF 36 W (2 Nos x 18W) LED
BASED SOLAR STREET LIGHTING SYSTEM ON TURNKEY BASIS**

S.No	Name of Item	Unit Rate (Rs)	
		Non-Remote Areas	Remote Areas
1	<p>Design, Supply, Installation, Testing and Commissioning of 36W (2 Nos X 18W) LED based Solar Street Lighting System with the following components & specifications including installation and transportation charges on Turnkey basis</p> <ol style="list-style-type: none"> 1. SPV Module - 2 Nos X 12V, 100Wp capacity poly crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure. 2. Battery Bank - 2 Nos X 12.8V, 30Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers. 3. LED Luminaire - 2 Nos X 18W capacity LED based Solar luminary with inbuilt MPPT charge controller to operate dusk to dawn. The Luminaire must use high efficacy W-LED with minimum 135 lumens per watt and UV free. 4. Light output - Multiple light levels The lamp should have two levels of light to take care of different lighting needs during the night. 5. Mounting of light - Pole mounted, minimum 5.0 meters above the ground level. 6. GI Pole - 3 inch dia, 6 meters length and 3 mm thick GI Pole 7. Civil Foundation -The foundation size is 0.45 m X 0.45 m X 0.90 m. The Foundation shall be RCC pile foundation in CC(1:2:4). 8. Duty Cycle - Dusk to Dawn 4 hours full light, rest of the time at lower level, with motion sensor. <ol style="list-style-type: none"> i) In case any movement is there, it senses it and glows to full level. ii) Then it comes back to lower level after sometime, automatically. 9. Electronics - Overall total efficiency of the Electronics should be minimum 85% 10. Warranty: <ol style="list-style-type: none"> i) The Street Lighting System (including the battery) will be warranted for a period of five years from the date of installation. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation. 		
2	GST @12% on 70% of item no: 01		
3	GST @18% on 30% of item no: 01		
4	Total (Rs.)		

FINANCIAL OFFER FOR SUPPLY & INSTALLATION OF 20W LED BASED SOLAR STREET LIGHTING SYSTEM ALONG WITH DISPLAY BOARD ON TURNKEY BASIS

S.No	Name of Item	Unit Rate (Rs)	
		Non-Remote Areas	Remote Areas
1	<p>Design, Supply, Installation, Testing and Commissioning of 20W LED based Solar Street Lighting System along with display board with the following components & specifications including installation and transportation charges on Turnkey basis</p> <ol style="list-style-type: none"> 1. SPV Module - 12V, 100Wp capacity poly crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure. 2. Battery Bank - 12.8V, 30Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers. 3. LED Luminaire - 20W capacity LED based Solar luminary with inbuilt MPPT charge controller to operate dusk to dawn. The Luminaire must use high efficacy W-LED with minimum 135 lumens per watt and UV free. 4. Light output - Multiple light levels The lamp should have two levels of light to take care of different lighting needs during the night. 5. Mounting of light - Pole mounted, minimum 5.0 meters above the ground level 6. GI Pole - 3 inch dia, 6 meters length and 3 mm thick GI Pole 7. Civil Foundation - The foundation size is 0.45 m X 0.45 m X 0.90 m. The Foundation shall be RCC pile foundation in CC(1:2:4). 8. Duty Cycle - Dusk to Dawn: 4 hours full light, rest of the time at lower level, with motion sensor. i) In case any movement is there, it senses it and glows to full level. ii) Then it comes back to lower level after sometime, automatically. 9. Electronics - Overall total efficiency of the Electronics should be minimum 85% 10. Display Board - Size of 450 MM (18 inch) x 600 MM (24 inch) along with SS Nuts& Bolts, Clamp set to fix for round pole of 75 mm (3 inch) Dia at a height of 8 ft from ground level. Frame and Support arms made with 25 mm (1 inch) HDG square tube with 3 mm thick. Fixing Plate made with 5 mm thick Flat 50 mm wide and 50 mm height, with 12 mm Dia Hole as per the design attached. 11. Warranty: i) The Street Lighting System (including the battery) will be warranted for a period of five years from the date of installation. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation. 		
2	GST @12% on 70% of item no: 01		
3	GST @18% on 30% of item no: 01		
4	Total (Rs.)		

Annexure – F

**FINANCIAL OFFER FOR SUPPLY& INSTALLATION OF 40W (2 Nos x 20W) LED
BASED SOLAR STREET LIGHTING SYSTEM ALONG WITH DISPLAY BOARD ON
TURNKEY BASIS**

S.No	Name of Item	Unit Rate (Rs)	
		Non-Remote Areas	Remote Areas
1	<p>Design, Supply, Installation, Testing and Commissioning of 40W (2 Nos x 20W) LED based Solar Street Lighting System along with display board with the following components & specifications including installation and transportation charges on Turnkey basis</p> <p>1. SPV Module - 2 Nos X 12V, 100Wp capacity poly crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure.</p> <p>2. Battery Bank - 2 Nos X 12.8V, 30Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers.</p> <p>3. LED Luminaire - 2 Nos X 20W capacity LED based Solar luminary with inbuilt MPPT charge controller to operate dusk to dawn. The Luminaire must use high efficacy W-LED with minimum 135 lumens per watt and UV free.</p> <p>4. Light output - Multiple light levels The lamp should have two levels of light to take care of different lighting needs during the night.</p> <p>5. Mounting of light - Pole mounted, minimum 5.0 meters above the ground level.</p> <p>6. GI Pole - 3 inch dia, 6 meters length and 3 mm thick GI Pole</p> <p>7. Civil Foundation - The foundation size is 0.45 m X 0.45 m X 0.90 m. The Foundation shall be RCC pile foundation in CC (1:2:4).</p> <p>8. Duty Cycle – Dusk to Dawn: 4 hours full light, rest of the time at lower level, with motion sensor. i) In case any movement is there, it senses it and glows to full level. ii) Then it comes back to lower level after sometime, automatically.</p> <p>9. Electronics - Overall total efficiency of the Electronics should be minimum 85%</p> <p>10. Display Board - Size of 450 MM (18 inch) x 600 MM (24 inch) along with SS Nuts & Bolts, Clamp set to fix for round pole of 75 mm (3 inch) Dia at a height of 8 ft from ground level. Frame and Support arms made with 25 mm (1 inch) HDG square tube with 3 mm thick. Fixing Plate made with 5 mm thick Flat 50 mm wide and 50 mm height, with 12 mm Dia Hole as per the design attached.</p> <p>11. Warranty : i) The Street Lighting System (including the battery) will be warranted for a period of five years from the date of installation. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation.</p>		
2	GST @12% on 70% of item no: 01		
3	GST @18% on 30% of item no: 01		
4	Total (Rs.)		

FINANCIAL OFFER FOR SUPPLY & INSTALLATION OF 60W LED BASED SOLAR STREET LIGHTING SYSTEM ON TURNKEY BASIS

S.No	Name of Item	Unit Rate (Rs)
1	<p>Design, Supply, Installation, Testing and Commissioning of 60W LED based Solar Street Lighting System with the following components & specifications including installation and transportation charges on Turnkey basis</p> <ol style="list-style-type: none"> 1. SPV Module - 2 Nos X 12V, 100Wp capacity 'A' Grade Mono crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure (Powder coated). 2. Battery Bank - 12.8V, 60 Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers separately mounted in battery box. (Series and parallel combination of 48 Nos of 3.2V, 5000 mAh (or) 40 Nos of 3.2V, 6000 mAh rechargeable cells). 3. Battery Box - 250X250X200 mm of 2 mm thick battery box (powder coated) with reinforcement as required to house the above battery along with fixing arrangement to GI Pole. 4. LED Luminaire - 60W capacity LED based Solar luminary with inbuilt MPPT charge controller to operate dusk to dawn and with 2 core, 2.5 Sq mm copper cable of required length. The Luminaire must use high efficacy W-LED with minimum 135 lumens per watt and UV free. 5. Light output - Multiple light levels The lamp should have two levels of light to take care of different lighting needs during the night. 6. Mounting of light - Pole mounted, 9 meters above the ground level 7. GI Octagonal Pole - 9 meters of length, 3 mm thick (111mm dia x 3 mtrs + 90 mm dia x 3 mtrs + 76 mm dia x 3 mtrs with minimum Galvanizing of 85 microns on hot dip Galvanizing process) along with suitable Luminary arm to fix luminary. 8. J Bolts & Base Plate - 25 mm dia X 600 mm length GI J bolts along with base plate for making foundation to the GI Octagonal pole. 9. Accessories : <ol style="list-style-type: none"> i) Hard ware such as GI Nut & Bolts and SS Nut & Bolts for fixing Solar PV module and Battery box and Luminary arms as required. ii) 2.5 Sq sq.mm copper lugs (Ring type). 	

Expression of Interest (EoI) for finalization of rate contract prices for Supply, Installation and
Commissioning of various Solar Off-Grid Systems under Solar Off-Grid Programme
EoI Reference No: NREDCAP/SE/Off-Grid/01/RC Rates/2024-25

	<p>10. Civil Foundation - The Foundation shall be RCC pile foundation in CC(1:2:4). The soil stratum at work location is mostly hard rock covered with ordinary gravel and mixture of soft rock at varying depths. The foundation shall be cast by drilling 300 mm dia bore hole of minimum depth of 1.5 m below the OGL, laying of RCC (1:2:4) with 6 No's 10 mm dia main reinforcement and 8 mm dia stirrups at 250 mm c/c after inserting the G.I J bolts in position with the help of base plate.</p> <p>11. Duty Cycle - Dusk to Dawn 4 hours full light, rest of the time at lower level, with motion sensor. i) In case any movement is there, it senses it and glows to full level. ii) Then it comes back to lower level after sometime, automatically.</p> <p>12. Electronics - Overall total efficiency of the Electronics should be minimum 85%</p> <p>13. Warranty : i) The Street Lighting System (including the battery) will be warranted for a period of five years from the date of installation. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation.</p>	
2	GST @12% on 70% of item no: 01	
3	GST @18% on 30% of item no: 01	
4	Total (Rs.)	

**FINANCIAL OFFER FOR SUPPLY & INSTALLATION OF 120 W (2 Nos X 60W) LED
BASED SOLAR STREET LIGHTING SYSTEM ON TURNKEY BASIS**

S.No	Name of Item	Unit Rate (Rs)
	<p>Design, Supply, Installation, Testing and Commissioning of 120W (2 Nos X 60W) LED based Solar Street Lighting System with the following components & specifications including installation and transportation charges on Turnkey basis</p> <p>1. SPV Module - 4Nos X 12V, 100Wp capacity 'A' Grade Monocrystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure (Powder coated).</p> <p>2. Battery Bank - 2 Nos X 12.8V, 60 Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers separately mounted in battery box. (Series and parallel combination of 48 Nos of 3.2V, 5000 mAh (or) 40 Nos of 3.2V, 6000 mAh rechargeable cells for each bank).</p> <p>3. Battery Box - 2 Nos X 250X250X200 mm of 2 mm thick battery box (powder coated) with reinforcement as required to house the above battery along with fixing arrangement to GI Pole.</p> <p>4. LED Luminaire - 2 Nos X 60W capacity LED based Solar luminary with inbuilt MPPT charge controller to operate dusk to dawn and with 2 core, 2.5 Sq mm copper cable of required length. The Luminaire must use high efficacy W-LED with minimum 135 lumens per watt and UV free.</p> <p>5. Light output - Multiple light levels The lamp should have two levels of light to take care of different lighting needs during the night.</p> <p>6. Mounting of light - Pole mounted, 9 meters above the ground level</p> <p>7. GI Octagonal Pole - 9 meters of length, 3 mm thick (111mm dia x 3 mtrs + 90 mm dia x 3 mtrs + 76 mm dia x 3 mtrs with minimum Galvanizing of 85 microns on hot dip Galvanizing process) along with suitable Luminary arm to fix luminary.</p> <p>8. J Bolts & Base Plate - 25 mm dia X 600 mm length GI J bolts along with base plate for making foundation to the GI Octagonal pole.</p> <p>9. Accessories: i) Hard ware such as GI Nut & Bolts and SS Nut & Bolts for fixing Solar PV module and Battery box and Luminary arms as required. ii) 2.5 Sq sq.mm copper lugs (Ring type).</p> <p>10. Civil Foundation - The Foundation shall be RCC pile foundation in</p>	

Expression of Interest (EoI) for finalization of rate contract prices for Supply, Installation and
Commissioning of various Solar Off-Grid Systems under Solar Off-Grid Programme
EoI Reference No: NREDCAP/SE/Off-Grid/01/RC Rates/2024-25

	<p>CC(1:2:4). The soil stratum at work location is mostly hard rock covered with ordinary gravel and mixture of soft rock at varying depths. The foundation shall be cast by drilling 300 mm dia bore hole of minimum depth of 1.5 m below the OGL, laying of RCC (1:2:4) with 6 No's 10 mm dia main reinforcement and 8 mm dia stirrups at 250 mm c/c after inserting the G.I J bolts in position with the help of base plate.</p> <p>11.Duty Cycle - Dusk to Dawn 4 hours full light, rest of the time at lower level, with motion sensor. i) In case any movement is there, it senses it and glows to full level. ii) Then it comes back to lower level after sometime, automatically.</p> <p>12.Electronics - Overall total efficiency of the Electronics should be minimum 85%</p> <p>13.Warranty - i) The Street Lighting System (including the battery) will be warranted for a period of five years from the date of installation. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation.</p>	
2	GST @12% on 70% of item no: 01	
3	GST @18% on 30% of item no: 01	
4	Total (Rs.)	

**FINANCIAL OFFER FOR SUPPLY& INSTALLATION OF 160W (4 Nos X 40W)
CAPACITY LED BASED SOLAR HIGH MAST LIGHTING SYSTEM ON TURNKEY
BASIS**

S.No	Name of Item	Unit Rate (Rs)
1	<p>Design, Supply, Installation, Testing and Commissioning of 160W (4 Nos X 40W) LED based Solar High Mast Lighting System with the following components & specifications including installation and transportation charges on Turnkey basis</p> <ol style="list-style-type: none"> 1. SPV Module - 4 Nos X 12V, 150Wp capacity mono crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure. 2. Battery Bank - 4 Nos X 12.8V, 75Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers. 3. LED Luminaire - 4 Nos X 40W capacity LED based Solar luminary with inbuilt MPPT charge controller to operate dusk to dawn.The Luminaire must use high efficacy W-LED with minimum 135 lumens per watt and UV free. 4. Light output - Multiple light levels The lamp should have two levels of light to take care of different lighting needs during the night. 5. Mounting of light - Pole mounted, 9 meters above the ground level 6. GI Octagonal Pole - 9 meters of length, 3 mm thick (111mm dia x 3 mtrs + 90 mm dia x 3 mtrs + 76 mm dia x 3 mtrs with minimum Galvanizing of 85 microns on hot dip Galvanizing process) along with suitable Luminary arm to fix luminary. 7. J Bolts & Base Plate - 25 mm dia X 600 mm length GI J bolts along with base plate for making foundation to the GI Octagonal pole. 8. Accessories : <ol style="list-style-type: none"> i) Hard ware such as GI Nut & Bolts and SS Nut & Bolts for fixing Solar PV module and Battery box and Luminary arms as required. ii) 2.5 Sq sq.mm copper lugs (Ring type). 9. Civil Foundation - The Foundation shall be RCC pile foundation in CC(1:2:4). The soil stratum at work location is mostly hard rock covered with ordinary gravel and mixture of soft rock at varying depths. The foundation shall be cast by drilling 300 mm dia bore hole of minimum depth of 1.5 m below the OGL, laying of RCC (1:2:4) with 6 No's 10 mm dia main reinforcement and 8 mm dia stirrups at 250 mm c/c after inserting the G.I J bolts in position with the help of base plate. 	

Expression of Interest (EoI) for finalization of rate contract prices for Supply, Installation and Commissioning of various Solar Off-Grid Systems under Solar Off-Grid Programme
EoI Reference No: NREDCAP/SE/Off-Grid/01/RC Rates/2024-25

	<p>10. Duty Cycle - Dusk to Dawn 6 hours full light, rest of the time at lower level 50% / customer requirement, automatically.</p> <p>11. Electronics - Overall total efficiency of the Electronics should be minimum 85%</p> <p>12. Warranty - i) The Solar High Mast Lighting System (including the battery) will be warranted for a period of five years from the date of installation. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation.</p>	
2	GST @12% on 70% of item no: 01	
3	GST @18% on 30% of item no: 01	
4	Total (Rs.)	

FINANCIAL OFFER FOR SUPPLY & INSTALLATION OF 9W (3X3W) CAPACITY LED BASED SOLAR PATHWAY LIGHTING SYSTEM ON TURNKEY BASIS

S.No	Name of Item	Unit Rate (Rs)
1	<p>Design, Supply, Installation, Testing and Commissioning of 9W (3X3W) LED based Solar Pathway Lighting System with the following components & specifications including installation and transportation charges on Turnkey basis</p> <ol style="list-style-type: none"> 1. SPV Module - 12V, 30Wp capacity poly crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure. 2. Battery Bank - 12.8V, 15Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers. 3. LED Luminaire - 3X3W capacity LED based Solar luminaires with inbuilt MPPT charge controller fitted in Hexagonal shaped pole of 1.0 to 2.0 mtrs height. The Luminaire must use high efficacy W-LED with minimum 135 lumens per watt and UV free. 4. Civil Foundation -The foundation size is 0.2 m X 0.2 m X 0.4 m. The Foundation shall be RCC pile foundation in CC(1:2:4). 5. Duty Cycle - Dusk to Dawn 6. Electronics - Overall total efficiency of the Electronics should be minimum 85% 7. Warranty <ol style="list-style-type: none"> i) The Solar Pathway Lighting System (including the battery) will be warranted for a period of five years from the date of installation. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation. 	
2	GST @12% on 70% of item no: 01	
3	GST @18% on 30% of item no: 01	
4	Total (Rs.)	

**FINANCIAL OFFER FOR SUPPLY & INSTALLATION OF 15W CAPACITY LED
BASED SOLAR BLINKER ON TURNKEY BASIS**

S.No	Name of Item	Unit Rate (Rs)
1	<p>Design, Supply, Installation, Testing and Commissioning of 15W LED based Solar Blinker with the following components & specifications including installation and transportation charges on Turnkey basis.</p> <p>1. SPV Module - 12V, 80Wp capacity poly crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure.</p> <p>2. Battery Bank - 12.8V, 24Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers.</p> <p>3. LED Blinker :</p> <p>15W capacity LED based Blinker Size – 300 mm (12 inch) & 200 mm (8inch) Body- Molded Polycarbonate, suitable for extreme weather conditions LENS-UV Stabilized, Transparent Polycarbonate GASKET-Rubber Gasket for sealing between Lens & Signal unit COLOUR – Red/Amber/Green PCB-1.5mm thick, Glass Epoxy for power supply/LED display LED used-Ultra bright, Water clear Viewing Angle – 24 degree for LED's No. of LED's – 176 LED (300mm) 140 LED (300mm) (Power Saver mode) 96 LED (200 mm) Charge Control – Built in Type helps to protect battery UNIT(CCU) – from deep charging as well as overcharging. Also protect panel from Reverse voltage.</p> <p>4. GI Pole - 3 mm thick, 3 inch dia and 6 meters length</p> <p>5. Civil Foundation - The foundation size is 0.45 m X 0.45 m X 0.90 m. The Foundation shall be RCC pile foundation in CC(1:2:4).</p> <p>6. Electronics - Overall total efficiency of the Electronics should be minimum 85%</p> <p>7. Warranty</p> <p>i) The Solar Blinker (including the battery) will be warranted for a period of five years from the date of installation.</p> <p>ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation.</p>	
2	GST @12% on 70% of item no: 01	
3	GST @18% on 30% of item no: 01	
4	Total (Rs.)	

**FINANCIAL OFFER FOR SUPPLY & INSTALLATION OF SIM BASED SOLAR 360°
PTZ CAMERA ON TURNKEY BASIS**

S.No	Name of Item	Unit Rate (Rs)
1	<p>Design, Supply, Installation, Testing and Commissioning of Sim Based Solar 360° PTZ Camera with the following components & specifications including installation and transportation charges on Turnkey basis.</p> <p>1. SPV Module - 12V, 80Wp capacity mono crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure.</p> <p>2. Battery Bank - 12.8V, 24Ah capacity Lithium Ferro Phosphate (LiFePO4) Battery with IEC/BIS test certification from MNRE / MNRE authorized test centers.</p> <p>3. Camera: Sim Based 360° PTZ Camera Sensor: 1/2.8 " Progressive Scan CMOS Image Sensor Compression format: H.265 High Profile Pixel: 1920 * 1080P, 2MP Lens: 3.6mm Rotation Angle: Horizontal 0-320° / Vertical 0-90°</p> <p>Number of White Lights: 4 nos, Number of Infrared Lights: 4 nos, SD Storage: Support 128GB Memory Card Support Email Notification and FTP Rotation Speed: Horizontal: 40°/s, Vertical: 40°/s Night Vision: Infrared Night Vision, Full Color Night Vision Waterproof Rating: IP65 Water Resistance APP: CAM HI</p> <p>4. GI Pole - 3 mm thick, 3 inch dia and 6 meters length 5. Civil Foundation - The foundation size is 0.45 m X 0.45 m X 0.90 m. The Foundation shall be RCC pile foundation in CC(1:2:4). 6. Electronics - Overall total efficiency of the Electronics should be minimum 85% 7. Warranty: i) Camera : 1 year warranty ii) Battery: 5 years warranty iii) PV Module: 25 years</p>	
2	GST @12% on 70% of item no: 01	
3	GST @18% on 30% of item no: 01	
4	Total (Rs.)	

FINANCIAL OFFER FOR SUPPLY OF MODEL-1 SOLAR HOME LIGHTING SYSTEM

S.No.	Name of the Item	Unit Cost (Rs.)
01	Supply & Transport of Model-I Solar Home Lighting System with the following components as per specifications on Turnkey basis 1. SPV Module - 30Wp capacity poly crystalline module with IEC/BIS test certification along with suitable Solar PV module support Structure. 2. Battery - 12.80V Lithium-Ferro Phosphate (LiFePO4) Battery capacity 6.0 AH with IEC/BIS test certification. 3. LED Luminaire : 3 Nos X 9W LED Light 4. Accessories : 5A Charger Controller and Load Controller, Wires & Cables 5. Mounting Structure : 1 Unit 6. Backup time : 3-4 Hours 7. Electronics - Overall total efficiency of the Electronics should be minimum 85% 8. Warranty : i) The Solar Home Lighting System (including the battery) will be warranted for a period of two years from the date of supply. ii) The PV Module will be warranted for a minimum period of 25 years from the date of supply.	
02	GST @12% on item no: 01	
03	Total (Rs.)	

FINANCIAL OFFER FOR SUPPLY OF MODEL-II SOLAR HOME LIGHTING SYSTEM

S.No.	Name of the Item	Unit Cost (Rs.)
01	<p>Supply & Transport of Model-II Solar Home Lighting Systems with the following components as per specifications on Turnkey basis</p> <ol style="list-style-type: none"> 1. SPV Module - 50Wp capacity poly crystalline module with IEC/BIS test certification along with suitable Solar PV module support Structure along with suitable Solar PV module support Structure. 2. Battery - 12.80V Lithium-Ferro Phosphate (LiFePO4) Battery capacity 18.0 AH with IEC/BIS test certification. 3. LED Luminaire : 3 nos X 9W LED Light 4. DC Pedestal Fan : 01 no X 35 Watt 5. Accessories : 5A Charge Controller and Load Controller Cables & Wires 6. Mounting Structure : 1 Unit 7. Backup time : 4-5 Hours 8. Electronics - Overall total efficiency of the Electronics should be minimum 85% 9. Warranty : <ol style="list-style-type: none"> i) The Solar Home Lighting System (including the battery) will be warranted for a period of two years from the date of supply. ii) The PV Module will be warranted for a minimum period of 25 years from the date of supply. 	
02	GST @12% on item no: 01	
03	Total (Rs.)	

FINANCIAL OFFER FOR SUPPLY OF SOLAR VENDOR CART LIGHT

S.No.	Name of the Item	Unit Cost (Rs.)
01	Supply & Transport of Solar Vendor Cart light with the following components as per specifications on Turnkey basis. 1. SPV Module - 12V, 10Wp capacity poly crystalline module with IEC/BIS test certification from MNRE / MNRE authorized test centers along with suitable Solar PV module support Structure. 2. Battery - 11.10V Lithium Ion Battery capacity 6.60 AH with IEC/BIS test certification from MNRE / MNRE authorized test centers. 3. LED Luminaire - 9W LED Light 4. Accessories - Electricity Charger, USB Mobile Charging Kit, MS Stand with Battery & Junction Box 5. Charging time - 6-8 hours 6. Backup time - 6 hours 7. Electronics - Overall total efficiency of the Electronics should be minimum 85% 8. Warranty: i) The Solar Vendor Cart light (including the battery) will be warranted for a period of two years from the date of supply. ii) The PV Module will be warranted for a minimum period of 25 years from the date of supply.	
02	GST @12% on item no: 01	
03	Total (Rs.)	

TECHNICAL SPECIFICATIONS OF SOLAR WATER PUMPING SYSTEMS

S.No	Name of the Component	Technical Specifications												
1	SPV mono crystalline Module	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">1HP</td> <td style="text-align: center;">2HP</td> <td style="text-align: center;">3HP</td> <td style="text-align: center;">5HP</td> <td style="text-align: center;">7.5HP</td> <td style="text-align: center;">10HP</td> </tr> <tr> <td style="text-align: center;">1200Wp</td> <td style="text-align: center;">1800Wp</td> <td style="text-align: center;">3000Wp</td> <td style="text-align: center;">4800Wp</td> <td style="text-align: center;">6750Wp</td> <td style="text-align: center;">9000Wp</td> </tr> </table>	1HP	2HP	3HP	5HP	7.5HP	10HP	1200Wp	1800Wp	3000Wp	4800Wp	6750Wp	9000Wp
1HP	2HP	3HP	5HP	7.5HP	10HP									
1200Wp	1800Wp	3000Wp	4800Wp	6750Wp	9000Wp									
2	Pumpset	1/2/3/5/7.5/10HP Surface / Submersible Pumpset												
3	Maximum Power Point Tracker (MPPT)	MPPT is an algorithm that is included in the pump controller used for extracting maximum available power from SPV array under a given condition. The voltage at which SPV array can produce maximum power is called 'maximum power point' voltage (or peak power voltage)												
4	SPV Controller	<p>Pump Controller converts the DC voltage of the SPV array into a suitable DC or AC, single or multi-phase power and may also include equipment for MPPT, remote monitoring, and protection devices.</p> <p>Controller shall be integrated with GSM/GPRS Gateway with Geo tagging. GSM/GPRS Charges to be included in the Costing till the end of Warranty period of the Pump set.</p>												
5	Structure	The PV modules should be mounted on metallic structures of adequate strength and appropriate design, which can withstand load of modules and high wind velocities up to 150 km per hour. The raw material used and process for manufacturing of module mounting structure including welding of joints should conform to applicable IS. The module mounting structure should be hot dip galvanized according to IS 4759. Zinc content in working area of the hot dip galvanizing bath should not be less than 99.5% by mass.												
6	Suction / Delivery pipe	HDPE or uPVC column pipes of appropriate size, the minimum pressure rating as appropriate as per MNRE guidelines.												
7	Electrical Cable	All cables used shall be as per IS 694. Suitable size of cable shall be used in sufficient length for inter-connection between the SPV array to SPV Controller and the SPV Controller to solar powered pump set. Selection of the cable shall be as per IS 14536.												
8	Earthing Arrangement	<p>Earthing of the motor shall be done as per IS 9283 in accordance with the relevant provisions of IS 3043. Separate earthing shall be provided for Controller, pump and SPV array.</p> <p>For safety purpose, it shall be ensured during installation that the earthing is capable of taking care of leakage current.</p>												

Expression of Interest (EoI) for finalization of rate contract prices for Supply, Installation and
Commissioning of various Solar Off-Grid Systems under Solar Off-Grid Programme
EoI Reference No: NREDCAP/SE/Off-Grid/01/RC Rates/2024-25

		In case of uPVC/HDPE pipes used as discharge pipe, a separate non-corrosive, low resistance conductor from motor earth terminal to control panel earth terminal shall be provided for earthing.
9	Lightening arrestor	Lightening arrestor shall be provided with every SPV Water Pumping System.
10	Civil Foundation	The general hardware for structure fitment should be either SS 304 or 8.8 grade. Modules should be locked with antitheft bolts of SS 304 Grade. Foundation should be as per the site condition, based on the properties of Soil. Foundation can be done either with the help of 'J Bolt' (refer IS 5624 for foundation hardware) or direct piling, it should be decided as per the site and relevant IS i.e. IS 6403 / 456 / 4091 / 875 should be referred for foundation design.
11	Warranty	i) The Solar Water Pumping System will be warranted for a period of five years from the date of installation. ii) The PV Module(s) will be warranted for a minimum period of 25 years from the date of installation.

FINANCIAL OFFER

FINANCIAL OFFER FOR SUPPLY & INSTALLATION OF SOLAR WATER PUMPING SYSTEMS OF VARIOUS MODELS & CAPACITIES ON TURNKEY BASIS

A) Surface Mounted Model Solar Water Pumping Systems

S.No	Name of the Item	Unit Cost (Rs)					
		1HP	2HP	3HP	5HP	7.5HP	10HP
1	Supply, Installation, Testing and Commissioning of AC Surface Mounted Model Solar Water pumping Systems as per Annexure - P on Turnkey basis as per specifications of MNRE (Including pipes & cables)						
2	GST 12% on 70% of unit cost (Rs)						
3	GST 18% on 30% of unit cost (Rs)						
4	Total (Rs)						

B) Submersible Model Solar Water Pumping Systems:

S.No	Name of the Item	Unit Cost (Rs)					
		1HP	2HP	3HP	5HP	7.5HP	10HP
1	Supply, Installation, Testing and Commissioning of AC Submersible Model Solar Water pumping Systems as per Annexure - P on Turnkey basis as per specifications of MNRE (Including pipes & cables)						
2	GST 12% on 70% of unit cost (Rs)						
3	GST 18% on 30% of unit cost (Rs)						
4	Total (Rs)						