

**TERMS OF REFERENCE TO APPOINT A PANEL OF NON-GRID PROFESSIONAL SERVICE PROVIDER (PSP) TO CONDUCT MONITORING AND EVALUATION ON SOLAR HOME SYSTEM INSTALLED FOR A PERIOD OF THREE YEARS STARTING FROM 2020/21 FY AND ENDING ON 31 MARCH 2023.**

**1. BACKGROUND**

1.1 The Department of Mineral Resources and Energy (DMRE) through the Non-Grid Electrification Planning unit which is within the Integrated National Electrification Planning (INEP) hereby issues the terms of reference to guide the monitoring and evaluation of solar home systems' installations and maintenance under INEP's non-grid program. The Department is thus seeking the services of a Professional Service Provider (PSP), an individual or a firm, to undertake this exercise.

1.2 INEP is intending to install an estimated 45 000 solar home systems (SHS) in the next three financial year and intending to install 15 000 SHS during the 2020/21 financial year. The Department have always conducted a physical inspection on a sample of only 10% of the installed solar home systems per Non-Grid service Provider.

1.3 The size of the sample have always been limited to the personnel capacity within the Department, however, it has always been envisaged that a thorough monitoring and evaluation coupled with an increased monitored and evaluated percentage sample for installed SHSs is deemed necessary across the country.

1.4 Established technical specifications exist for equipment and installation quality. All PV systems supplied and/or installed in the Non-Grid Electrification project areas must meet these requirements. The technical specifications are formulated to ensure that the SHS meet applicable standards for optimum operation, functionality, reliability, longevity and safety.

1.5 The Non-Grid Service Providers responsible for the supply and installation of SHSs are also required to comply with requirements of the provision of the user manual, user training, component warranties, and a predetermined maintenance period.

1.6 In terms of SHS monitoring and evaluation, the following areas are earmarked:

1.6.1 Limpopo

1.6.2 Kwa-Zulu Natal

1.6.3 Eastern Cape

1.6.4 Northern Cape

1.6.5 Western Cape

1.7 The Department of Mineral Resources and Energy reserves the right to allocate a PSP within the appointed panel of PSPs, any area listed above to conduct the monitoring and evaluation exercise.

## **2 THE ESTIMATED SYSTEM PER YEAR FOR AUDIT AND MONITORING ARE AS FOLLOWS**

The number of SHSs that will be monitored and evaluated by the appointed panel of PSPs (an individual or a firm) will be limited to the available budget per financial year starting from 2020/21 FY and ending in 2022/23 FY. The appointed PSPs to conduct the monitoring and evaluation exercise shall be appointed over the MTEF period; however, the Department will monitor the performance and make a determination whether to renew contracts for the next two outer FYs, that is, 2021/22 FY and 2022/23 FY.

## **3 OBJECTIVES**

The objectives of this assignment is to appoint a professional service provider (PSP) to conduct enhanced monitoring and evaluation of installed SHSs.

## **4 SCOPE OF WORK**

- 4.1 Confirm that the system installed is per the contracted system;
- 4.2 Confirm the quality and estimated lifespan of different solar home system components through obtaining relevant certification from designated suppliers prior the installation of the SHSs. These will include:
  - a) The PV Module;
  - b) Battery;
  - c) Charger regulator; and
  - d) Lights;
- 4.3 To verify the compliance of installed SHSs to the specifications. This will include:
  - a) System dimensioning of PV-modules and other system components;
  - b) Module orientation and shading;

4.4 To evaluate the end-user experiences. This exercise will focus on the following:

- a) Reliability of the solar home system;
- b) Quality of power supply provided by the system;
- c) Impact on quality of life provided by the system;
- d) User awareness and understanding of the system; and
- e) Willingness and ability to pay (for future maintenance of the system)

In addition to the above-mentioned activities, the appointed professional service provider will also conduct the following:

- 4.5 Conduct visual inspection and verify that the installation of each SHS is complete and available to the designated customer.
- 4.6 Verify that the SHS is installed to public in the identified project areas.
- 4.7 Verify the physical location of the SHS by using the GIS Coordinates supplied by the Non-Grid Service Provider.
- 4.8 Witness sample measurement of the output expectation of the system supplied and installed by the NGSPs. The NGSPs will conduct measurements in the presence of a PSP.
- 4.9 Provide accurate reports to the Department of Mineral Resources and Energy with recommendations on non-compliance (if any) by NGSP.

## **5 REPORTS AND OUTPUTS**

- 5.1 Monitoring and Evaluation shall be conducted monthly. The Department shall provide identification data of the specific systems to be monitored and evaluated. Separate reports for monitoring and evaluation exercises conducted by the PSPs per project area shall be submitted to the Department.
- 6 At all times, the PSP shall submit a set of technical tests conducted on PV modules, batteries, battery chargers, voltage regulators and associated components of the SHS installations to the Department.
- 6.1 Customer surveys on end-user's experience as highlighted in 4.4 above shall be conducted in all areas where technical tests mentioned in (b) above were

conducted. These shall be submitted to the Department in a format that will be agreed upon between the Department and the appointed PSP.

**7** In cases where SHSs installations are non-compliant, reports that highlights these instances as well as corrective action plans shall be compiled by the PSP and be submitted to the Department. These reports shall be shared with the NGSP in order to rectify the instances of non-compliance.

**8** The PSP must submit an installation verification report and a detailed installation report within seven (7) days of the receipt of a request from the Department.

## **9 FOLLOW-UP MONITORING AND VERIFICATIONS**

The PSP will be required to conduct follow-up monitoring and evaluation where instances of non-compliance were identified during the initial exercise. The reports linked to this exercise should indicated to the Department if corrective actions have been implemented that addresses the instances of non-compliance.

## **10 FINAL REPORT**

The final report must contain the summary of all reports submitted previously as well as recommendations to the Department.

## **11 DETAILED PROCESS SPECIFICATION**

This section describes detailed specification for verifications activities.

- a) Department shall provide a "Verification List" at the initial stage, in softcopy format on an EXCEL-based format. The PSP shall verify the information in a procedure acceptable to Department.
- b) The PSP staff will visit the addresses provided by the Department in the Verification List to gather information on the SHS installed at those addresses.
- c) The PSP shall physically inspect the SHS type including the SHS components per installation for adherence to regulatory standards and specifications. All information pertaining findings shall be captured and be reported to the Department.

- d) During the visit, the PSP shall also interview the end users of the installed SHS regarding the performance and expectations of the SHS and other details, and note any useful comments. This data shall be captured submitted to Department in agreed spreadsheet format.
- e) The information to be independently verified and captured includes, but is not limited to, the following:
- i. Name of the supplying company;
  - ii. Name and address of the customer, and ID number;
  - iii. Address of the customer, including township, district and village;
  - iv. GPS co-ordinates to be verified and or updated by the PSP;
  - v. A photograph of the customer/representative along with the SHS;
  - vi. Date of installation as per verification list, compared with the Practical Completion date of public systems;
  - vii. Module type, module manufacturer, rating, quantity and serial numbers;
  - viii. Battery type and Ah capacity and voltage, quantity, barcode numbers;
  - ix. Charge controller type, capacity, barcode serial number;
  - x. Inverter type, capacity(VA), voltage, barcode serial number;
  - xi. Number of lamps;
  - xii. Lamp type and capacity, voltage;
  - xiii. Inspection of quality of installation shall include at least, Array location, orientation, tilt and shading;
  - xiv. Quality of cabling and joins;
  - xv. Battery enclosure and fuse;
  - xvi. Signs and safety;
  - xvii. Lightning protection if available;
  - xviii. AC distribution board and slave relays if installed;
  - xix. List of non-compliances if any;
  - xx. Availability of warranty card and user's guide;
  - xxi. Confirmation that the end user was instructed in operating the SHS as well as maintenance routines;
  - xxii. Confirmation of customer payment of deposit if applicable;
  - xxiii. Information on the use of the system (hours per day, uses), performance (e.g., failures, shutdowns);
  - xxiv. Customer satisfaction; and

- xxv. The end user/representative should sign the data sheet to confirm that the validity of the monitoring and evaluation exercise.
- xxvi. The PSP will use the spreadsheet based Monitoring Information System (MIS) acceptable to Department, and submit the spreadsheet in softcopy. This shall include PV Verification Forms and a completed end user questionnaires.

## **12 DELIVERABLES AND SCHEDULE**

**12.1** The PSP shall be responsible for all aspects of quality, performance, timing and reporting of the verification program.

**12.2** The PSP will submit the following reports:

- i. Inception report, with acceptable PV Verification Forms, Performance Review forms, Commissioning procedures and Monitoring Information System: within 2 weeks of appointment.
- ii. Sign off on invoices to be paid by the Department;
- iii. Monthly Verification Reports
- iv. Follow-up Reports – as may be requested by the Department
- v. Final Report.

## **13 CONTRACT PERIOD**

**13.1** The appointed panel of PSPs will be on the Departmental database for period ending 31 March 2023.

**13.2** The contracting shall be on an annual basis based on both the available budget per financial year and the need to re-appoint.

**13.3** Project areas shall be assigned to the appointed panel of PSPs and travel and accommodation will be paid as per government rates.

## **14 PROPOSALS AND BUDGET**

**14.1** Bidders for the PSP contract must prepare individual bids comprising a proposal and budget. The proposals and budget submitted by bidders shall indicate the costs breakdown that entails the scope of work as indicated in section 4 of this document.

- 14.2 The PSP should prepare a technical proposal detailing the methodology of the PV verification work, quality assurance, proposed roll-out, equipment used, time line and detailed staffing schedule.
- 14.3 The proposal shall make provision for a Time-Based Fee method of remuneration for the work conducted by the appointed panel of PSP per SHS monitored and evaluated (including a survey on end-user experience).
- 14.4 The proposal shall include the following to enable the Department to verify the costs associated with each SHSs to be monitored and evaluated:
- i. Total cost of employment of the person(s).
  - ii. Available working hours.
  - iii. A factor to make allowance for overhead costs.
  - iv. A utilization or productivity factor to distinguish between chargeable, and non-chargeable time.
  - v. An allowance for profit
- 14.5 The hourly rate to be used to determine the available working hours shall be determined by the use of the below indicated equation:

$$\text{Hourly Rate} = \frac{\text{Total annual cost of employment} \times \text{overhead factor} \times \text{mark-up}}{\text{Available hours} \times \text{utilization rate}}$$

- 14.6 The figures for overhead factor, mark-up, available hours and utilization rate to calculate the hourly rate shall be used as approved by the ECSA in tables 1, 2 and 3 of the Framework for Determination of Professional Fees.

## 15 REPORTING

The reports on each activity area and overall assignment will be directed to attention of the Programme Director for the Integrated Electrification Planning Programme.

## **16 TAX CLEARANCE CERTIFICATE**

- 16.1 The potential panel of service providers (PSPs) must ensure compliance with their tax obligations.
- 16.1** The potential service provider is required to submit its unique personal identification number (pin) issued by SARS to enable the Department to view the taxpayer's profile and tax status.
- 16.2** Application for tax compliance status (TCS) or pin may also be made via e-filing. In order to use this provision, the taxpayer will need to register with SARS as an e-filer through the website [www.sars.gov.za](http://www.sars.gov.za).
- 16.3** The potential service provider may also submit a printed TCS together with the proposal.
- 16.4** In proposals where consortia / joint ventures / sub-contractors are involved, each party must submit a separate proof of TCS / pin / CSD number.
- 16.5** Where no TCS is available but the potential service provider/s is registered on the central supplier database (CSD), a CSD number must be provided.

## **17 SECURITY BACKGROUND CHECK**

The Department reserves the right to conduct Security background checks in respect of the selected bidders, their Directors and staff.

## **18 EVALUATION CRITERIA**

### **18.1 Broad-Based Black Economic Empowerment (B-BBEE)**

- 18.1.1 Provision of the Preferential Procurement Regulations of 2017 will apply in terms of awarding points.
- 18.1.2 Bidders are required to submit original and valid B-BBEE status level Verification to substantiate their B-BBEE rating claims.
- 18.1.3 Bidders who do not submit their B-BBEE status level verification certificates or are non-compliant contributors to B-BBEE will not qualify for preference points for B-BBEE.
- 18.1.4 In case of Exempted Micro Enterprises, the following document must be submitted  
(a) Verification agencies accredited by SANAS.



18.1.5 Bidders who qualify as EMS's

(a) Sworn affidavit signed by EME representative and attested by a Commissioner of oaths.

18.1.6 The table below depicts the B-BBEE status level of contribution:

<b>B-BBEE Status Level of Contributor</b>	<b>Number of points (80/20 system)</b>
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

**19 EXPERIENCE OF THE PROFESSIONAL SERVICE PROVIDER**

The PSP previous experience in Monitoring and Evaluation (M&E) of Solar Home Systems (SHSs), the scale of past projects and the role undertaken within those projects highlighted and proof of referees must be attached. The minimum required experience in Monitoring and Evaluation of SHSs must be at least 3 years.

Proof accompanied by correspondence letters from at least three (3) contactable referees (previous and/or current clients) confirming that M&E in SHSs has been provided.

## **20 QUALIFICATION AND EXPERIENCE OF THE TEAM LEADER AND TEAM MEMBERS**

### **20.1 TEAM LEADER**

20.1.1 A university degree on Electrical Engineering and/or Renewable Energy studies.

20.1.2 Must have at least 5 years experience in Electrical Engineering Field/Renewable Energy.

20.1.3 Registration of 2 years minimum, with Engineering Council of South Africa as Professional Engineer/Technologist is a must.

20.1.4 Certified copies of degree certificates must be attached to the proposal and failure to attach bidders will forfeit functionality points.

### **20.2 TEAM MEMBERS**

20.2.1 Trade test certificates for all team members is a must.

20.2.1 Must have at least 2 years experience in electrical field.

A professional indemnity insurance, minimum of R 1 million rand from an approved financial service provider shall be required on request by the Department from the appointed PSP.

## **21 PROJECTS PROGRAMME**

Project programme outlining the project tasks and resources allocation by:

- a) Dividing the project into task;
- b) Assigning the resources;
- c) Resource Levelling;
- d) Resource attributes;
- e) Re-allocation of resource; and
- f) Track resource usage.

## 22 METHODOLOGY

PSP must outline the Project integration Management (PIM) process for delivery of the proposed services. Inclusion of diagrammatic representation of the proposed processes, reporting relationships, systems, procedures etc. A PSP response should make a distinct linkage between the request and proposed solutions, not simply repeat the Terms of Reference

## 23 VALUE ADDING SERVICES

PSP can introduce innovative approaches to solving issues and should define the value for money benefits that would exceed those described in Terms of Reference, including how these are to be achieved and their relevance to the project.

## 24 EVALUATION CRITERIA

24.1 Bids will be evaluated on 80/20 preference point system as outlined in the Preferential Procurement Regulations of 2017.

24.2 The proposals will be evaluated in two phases:

**Phase 1:** Bidders will be evaluated based on functionality. The minimum threshold for functionality is **70 out of 100 points**. Bidders who fail to meet minimum threshold will be disqualified and will not be evaluated further for price and preference points.

### Evaluation Method

EVALUATION CRITERIA	SCORE	WEIGHT
<b>ORGANIZATIONAL EXPERIENCE</b>  (a) Company Profile: The PSP previous experience in Monitoring & Evaluations of SHSs to the project, the scale of past projects and the role undertaken within those projects highlighted and proof of referees must be attached. (Minimum related experience is 3 yrs.)	5 years and above = <b>5 points</b> 4 years = 4 points 3 years = 3 points 2 years = 2 points 0-1 year =1 point 5 and above letters = <b>5 points</b>	20

<p>(b) Proof accompanied by correspondence letters from at least three (3) contactable referees (previous and/or current clients) confirming that M&amp;E in SHSs has been provided.</p>	<p>4 letters = <b>4 points</b>  3 letters = <b>3 points</b>  2 letters = <b>2 points</b>  1 letter = <b>1 point</b></p>	<p>5</p>
<p><b>QUALIFICATION</b></p> <p><b>Team Leader</b></p> <p>(a) A university degree in Electrical Engineering and/or Renewable Energy studies.</p> <p>(b) Registration of 2 years minimum, with Engineering Council of South Africa as Professional Engineer/Technologist is a must.</p> <p><b>Team Members</b></p> <p>(a) Trade test certificates for all team members is a must</p> <p><b>EXPERIENCE</b></p> <p><b>Team Leader</b></p> <p>(a) Must have at least 5 years' experience in Electrical Engineering Field/Renewable Energy.</p> <p>(*Proof of CV (with an indicative of 2 years minimum experience in Electrical/Renewable Energy field post graduate) and Certificates must be</p>	<p>Masters + ECSA Registration = <b>5 points</b></p> <p>Honours + ECSA Registration = <b>4 points</b></p> <p>Degree + ECSA Registration = <b>3 points</b></p> <p>Diploma + ECSA Registration = <b>2 points</b></p> <p>Trade Test Certificate Registration = <b>1 point</b></p> <p>Master Electrician Certificate = <b>5 points</b></p> <p>Installation Electrician Certificate = <b>4 points</b></p> <p><b>Trade Test = 3 points</b></p> <p>Possession of N2 Certificate = <b>2 Points</b></p> <p>No Certificate = <b>1 point</b></p> <p>More than 7 years = <b>5 points</b></p> <p>More than 6 years = <b>4 points</b></p> <p><b>Exactly 5 years = 3 points</b></p> <p>4 years = <b>2 points</b></p> <p>3 years = <b>1 point</b></p>	<p>10</p> <p>10</p> <p>10</p>

<p>attached.)</p> <p><b>Team Members</b></p> <p>(b) minimum of 2yrs in electrical installations and/ or testing and verifications of SHSs</p> <p>(*Proof of CV (with an indicative of 3 years minimum experience in Electrical/Renewable Energy field post graduate) and Certificates must be attached.)</p>	<p>More than 4 years= =5</p> <p>More than 3 years =4 points</p> <p><b>Exactly 2 years =3 points</b></p> <p>1year =2 points</p> <p>Less than year =1 points</p>	<p>5</p>
<p><b>PROJECT PROGRAMME</b></p> <p>Programme outlining the project tasks and resources allocation:</p> <ol style="list-style-type: none"> <li>1. Divide project into task</li> <li>2. Assign the resources.</li> <li>3. Resource Levelling.</li> <li>4. Resource attributes,</li> <li>5. Re-allocation of resource,</li> <li>6. Track resource usage</li> </ol>	<p>Discussing all 6 items in details and including other aspects and more =5 points</p> <p>Discussing all 6 items in details = 4 points</p> <p>Discussing all 6 items =3 points</p> <p>Discussion only 4 items = 2 points</p> <p>Discussing only 3 or less items = 1 point</p>	<p>15</p>
<p><b>METHOD STATEMENT</b></p> <ul style="list-style-type: none"> <li>• Project approach</li> </ul>	<p>PIM including diagrammatic representation of the proposed processes linked to project in detail and additional information provided = 5 points</p> <p>PIM process outlined in detail =4 points</p> <p>PIM process outlined as per the ToR = 3 points</p> <p>PIM outlined but not linked to the project = 2 points</p> <p>No PIM submitted = 1 point</p>	<p>20</p>

<b>VALUE ADDING PROPOSAL</b>	<p>Innovative proposal that is demonstrable and provides value to the project with least cost = <b>5 points</b></p> <p>Innovative proposal that is demonstrable and provides value to the project. = <b>4 points</b></p> <p>Demonstrable and add value to the project = <b>3 points</b></p> <p>Demonstrable <b>but</b> no value add to the project = <b>2 points</b></p> <p>No value add to the project = <b>1 point</b></p>	<b>5</b>
<b>Total</b>		<b>100</b>

Bidders meeting the minimum of 70 requirements on the functionality points will be evaluated further based on BBEE and Price

<b>Category</b>	<b>Criteria</b>	<b>Points</b>
BBEE	Level	20
Price	Financial Offer	80
<b>Total Points</b>		<b>100</b>

## 25 **FORMAT AND SUBMISSION OF THE PROPOSAL**

- a) All the official forms (SBD) that are included in the bid document must be completed in all respects by bidders. Failure to comply will invalidate a bid.

- b) Bidders are requested to submit two (2) copies: 1 original plus copy of the proposal and bid documents.

26 **COMPULSORY BRIEFING SESSION**

- 26.1 A compulsory briefing session will be held at the Department of Mineral Resources and Energy offices at 192 Visagie Street, Pretoria on 21 October 2020.

27 **CLOSING DATE**

Proposals must be submitted by 11 November 2020 at 11H00 at 192 Visagie Street, Pretoria, in the bid box marked Department of Mineral Resources and Energy.

28 **ENQUIRIES**

All general enquiries relating to bid documents should be directed to:

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Samuel Msiza

Tel No. (012) 406 7910

**Email:** [Samuel Msiza@dmre.gov.za](mailto:Samuel Msiza@dmre.gov.za)

Technical enquiries should be directed to:

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