



GOVERNMENT OF SIERRA LEONE
MINISTRY OF ENERGY

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REQUEST FOR EXPRESSIONS OF INTEREST (REOI) FOR AN OPERATION AND MAINTENANCE (O&M) OPERATOR FOR SIX (6) SOLAR PV MINIGRIDS IN BO DISTRICT, SOUTHERN PROVINCE, SIERRA LEONE

Procurement Number: MOE/CDE/QCBS/2026/001

TERMS OF REFERENCE (ToR)

Engagement of an O&M Operator for Six (6) Solar PV Mini-Grids in Bo District, Sierra Leone.

Client: Ministry of Energy (MoE), Government of Sierra Leone
Project: Japan-funded mini-grid distribution networks in Bo Lots/Sites: Six (6) communities in the Bo District:

- Grima Tikonko,
- Lower Saama
- Naiagolehun
- Kpetewoma
- Serabu
- Upper Saama

Context: The project aims to provide reliable electricity services to social facilities and households/businesses, benefiting 15,000+ people. Regulator: Sierra Leone Electricity and Water Regulatory Commission (SLEWRC) Mini-Grid Regulations, 2019 (Statutory Instrument No. 7 of 2019).

1. Purpose of the ToR

The purpose of this ToR is to recruit a qualified Independent Power Producer / Operator to take over and sustainably operate and maintain the six (6) mini-grid schemes in Bo District under the

mini-grid PPP model, ensuring reliable service, strong customer care, financial sustainability, and full regulatory compliance.

2. Background and Rationale

With the support from the Government of Japan, UNOPS implemented a project on behalf of MoE to expand access in remote villages by constructing grid distribution networks for solar PV mini-grid systems in six underserved rural communities in Bo District.

Under the RREP “split-asset” PPP approach used in Sierra Leone, distribution assets (including household connections) are typically financed/owned by MoE, while private operators finance/own generation assets and operate the service on a commercial basis (subject to licensing/tariff rules).

SLEWRC’s Mini-Grid Regulations provide the licensing framework (basic and full licences), consumer service rules, metering rules, interconnection and grid-arrival provisions, and tariff-setting requirements.

3. Objectives

3.1 Overall Objective

To ensure a reliable, safe, affordable, and commercially sustainable electricity supply in the six beneficiary communities through professional operation and maintenance, in line with MoE policy goals and SLEWRC regulatory requirements.

3.2 Specific Objectives

1. Achieve high system uptime through preventive and corrective maintenance.
2. Deliver quality customer service, transparent billing, and efficient revenue collection.
3. Maintain compliance with SLEWRC licensing, reporting, tariff, metering, and safety obligations.
4. Protect project assets through robust asset management, spares planning, and anti-theft measures.
5. Support electrification of priority social loads (e.g., health facilities) including any agreed service commitments (e.g., free service quotas where applicable).
6. Strengthen local capacity (training, local technicians, local content) and community engagement.

4. Scope of Services

The Operator shall provide full technical, commercial, and customer operations for the six mini-grids, including (as applicable to the final PPP arrangement):

4.1 Mobilisation, Due Diligence, and Takeover

- Participate in a formal handover/takeover process with MoE and relevant partners.
- Conduct technical due diligence: site inspections, asset verification, commissioning/acceptance tests (where needed), baseline performance assessment.
- Prepare an Asset Register (generation, storage, distribution, meters, service drops, public lighting if any, tools, spares).
- Establish site O&M bases, recruit/assign staff, and deploy tools/test equipment.

4.2 Licensing, Regulatory & Permit Compliance

- Obtain/maintain the appropriate mini-grid license from SLEWRC (basic or full, depending on system/portfolio size and regulatory classification).
- Comply with SLEWRC license conditions including service quality, health & safety, environmental protection, metering rules, reporting, complaints handling, and dispute resolution.
- Maintain all required insurances, statutory registrations, and local authority permissions.

4.3 Technical Operations & Maintenance (O&M)

- Operate and maintain (as applicable): PV arrays, inverters, battery energy storage (BESS), diesel backup (if any), control systems, protection systems, and the LV distribution network.
- Implement a Preventive Maintenance Plan (daily/weekly/monthly/quarterly/annual tasks).
- Provide 24/7 fault response arrangements and emergency restoration.
- Maintain power quality within acceptable limits (voltage, frequency, harmonics) per applicable standards and regulator requirements.
- Implement vegetation management, pole line inspection, earthing/grounding checks, and transformer/protection maintenance (if installed).
- Maintain a spares inventory (critical spares list and reorder levels).

4.4 Commercial Operations, Metering, Billing & Revenue Collection

- Customer onboarding, account management, connection control, and service contracts.
- Install/operate/maintain approved electricity measurement devices/meters and vending systems (prepaid/postpaid as approved).

- Billing, receipts, arrears management, disconnections/reconnections according to approved procedures and consumer protection rules.
- Fraud/theft detection and meter interference prevention measures (technical and community-based).
- Maintain transparent financial records suitable for audit and regulatory review.

4.5 Customer Connections and Service Standards

- Maintain and repair service drops, meters, and customer interface equipment up to the agreed point of supply.
- Establish and operate a complaints and call-logging system, including escalation and resolution timelines (aligned to SLEWRC rules).
- Community sensitization on safe use of electricity and tariff/service rules.

4.6 Priority Social Loads (Health/Education/Public Services)

- Ensure reliable service to community health centres, schools, and other priority facilities.
- Where applicable, implement agreed commitments (e.g., some health centres receiving a daily free electricity allocation) and track/report delivery transparently.

4.7 Environmental, Social, Health & Safety (ESHS)

- Implement an ESHS management system proportionate to the project.
- Occupational safety: LOTO, working at height, electrical safety, PPE, first aid, incident reporting.
- Environmental protection: waste management (including batteries/e-waste), spill prevention (if diesel), noise control.
- Maintain community safety measures: signage, fencing, public awareness, safe clearances.

4.8 Data, Reporting, and Performance Monitoring

- Maintain accurate operational data (generation, load, losses, outages, customer numbers, revenue, collections).
- Provide routine reports to MoE and SLEWRC as required by licence/reporting rules.
- Deploy monitoring (SCADA/remote monitoring if available) and ensure cybersecurity/basic access controls.

4.9 Grid Arrival / Interconnection Readiness

- Comply with the Mini-Grid Regulations provisions regarding arrival of the main grid, including required notifications and technical/commercial options (where applicable to licence type).
- Maintain documentation and asset valuation records needed for any future transition.

5. Key Performance Indicators (KPIs) and Service Levels (minimum expectations)

The Operator will be assessed against performance standards such as:

1. System availability: $\geq 95\%$ monthly (excluding force majeure and pre-approved planned outages).
2. Fault response time:
 - Critical faults affecting priority loads: respond within 2 hours; restore within 24 hours (where feasible).
 - General faults: respond within 6 hours; restore within 48 hours (where feasible).
3. Planned maintenance/outages: notified in advance and kept within approved windows.
4. Metering accuracy & billing integrity: $\geq 99\%$ of customers correctly billed/vended.
5. Collection efficiency: target to be proposed and agreed (with improvement plan).
6. Customer service: complaint acknowledgement within 24 hours; resolution within defined timelines.
7. Safety: zero tolerance for fatal incidents; mandatory reporting of incidents and corrective actions.
8. The Company should have the capacity for the expansion of the minigrid system.
9. Reporting compliance: 100% on-time submission of required reports.

(Final KPI thresholds may be refined in the PPP/Concession Agreement and SLEWRC licence conditions.)

6. Deliverables

Within 30 days of contract start

- Inception Report and Mobilization Plan
- Due diligence findings and initial asset register (site-by-site)

- Draft O&M Manuals/Procedures and Preventive Maintenance Schedule
- Staffing plan and training plan
- ESHS Plan (including battery end-of-life plan)

Within 60–90 days

- Customer management system operational (database, metering, vending/billing, complaint logging)
- Spare parts inventory established (minimum critical spares)
- Performance baseline report and KPI monitoring dashboard

Ongoing (Monthly/Quarterly/Annually)

- Monthly O&M and commercial performance reports (energy, outages, customers, revenue, collections, incidents, spares)
- Quarterly stakeholder meeting minutes and community engagement reports
- Annual audited accounts (as applicable), asset condition report, and replacement plan update

7. Duration of Assignment

- Mobilization/Takeover period: 3 months (maximum)
- Operating term: to be defined under the IPP/PPP arrangement (typical multi-year term), aligned with SLEWRC licensing provisions.

8. Reporting and Coordination

The Operator shall report to:

- Ministry of Energy (Client/Contract Manager): Chief Director of Energy/PS office designated by MoE
- Coordinate with:
 - SLEWRC (licensing, tariff approvals/notifications, compliance reporting)
 - Bo District local authorities and chieftom leadership
 - Community Energy Committees (where established)

9. Minimum Qualification Requirements for the Operator

9.1 Firm Experience

- At least 5 years proven experience in operating and maintaining solar PV (and hybrid) mini-grids.
- Demonstrated experience managing customer service, metering, billing, and revenue collection.
- Proven ability to operate a portfolio of sites with remote monitoring and structured maintenance.
- Experience working under a regulated environment and producing compliance reports.

9.2 Technical Capacity

- Certified/experienced electrical engineers/technicians for LV networks, PV, inverters, and batteries.
- Tools, test equipment, and O&M systems (CMMS preferred).
- Ability to maintain reliable supply for health/education loads.

9.3 Financial Capacity

- Evidence of financial strength to sustain operations (working capital), including spares replacement and logistics.
- Ability to prepare a bankable financial model and tariff proposal where required.

9.4 Local Content and Capacity Building

- Commit to local hiring and training, in line with local content expectations in the Mini-Grid Regulations.

10. Key Personnel (minimum)

- Project/Operations Manager (mini-grid portfolio experience)
- Electrical Engineer / Technical Lead
- Solar PV/BESS Technician(s)
- Distribution Line Technician(s)
- Commercial Manager / Billing & Revenue Officer
- Community Liaison Officer

- ESHS Officer
- Finance/Accounts Officer

11. Proposal Submission Requirements

Bidders shall submit Technical and Financial proposals.

11.1 Technical Proposal (minimum contents)

- Company profile and relevant assignments (similar scale/terrain)
- Understanding of the project and the six sites
- O&M methodology (preventive/corrective, spares, logistics, remote monitoring)
- Staffing plan and organogram
- Customer management approach (connections, metering, vending/billing, complaints)
- ESHS plan and risk management plan
- Community engagement and productive-use stimulation approach
- Regulatory compliance plan (licensing, reporting, tariff pathway)
- Implementation schedule for takeover and stabilization

11.2 Financial Proposal

- Detailed OPEX budget (site and portfolio level)
- Proposed commercial model (tariff approach consistent with SLEWRC rules; subsidy requirement if any; assumptions)
- Revenue collection and affordability strategy
- Major replacement schedule assumptions (batteries/inverters, etc.)
- Any proposed operator fee / management fee structure (if applicable)

12. Evaluation Criteria (suggested)

Technical (70%)

- Relevant experience on similar mini-grid portfolios (20%)
- Quality of O&M approach and reliability strategy (20%)

- Commercial operations, metering/billing, customer service approach (15%)
- ESHS and risk management (10%)
- Local content and capacity building plan (5%)

Financial (30%)

- Financial realism/value for money and sustainability of proposed model (20%)
- Robustness of assumptions, replacement planning, and risk buffers (10%)

Bidders must submit the following valid documents in their Expressions of Interest: -

- Valid Certificate of Business Registration or Certificate of Incorporation from the Corporate Affairs Commission.
- National Revenue Authority (NRA) Tax Clearance Certificate
- National Social Security and Insurance Trust (NASSIT) Clearance Certificate, and
- Registration Certificate from the National Public Procurement Authority (NPPA)

Date and deadline for the submission of Expressions of Interest is Thursday 23rd April 2026 at 12:00 noon.

All Expressions of Interests (EOIs) must be addressed to: -

**The Assistant Director of Procurement
Ministry of Energy
Procurement Unit
6th Floor, Electricity House
36A Siaka Stevens Street
Freetown.**