

Terms of Reference (TOR)

Engineering Specialist Consultant (Solar Systems)

Project Title: Solar System Installation at Shandi Teaching Hospital, River Nile State

Project Duration: 2 Months (April – May 2025)

Implementing Agency: UNFPA

Duty Station: Shandi Teaching Hospital, River Nile State

Introduction:

Near East Foundation (NEF) is a non-profit international development organization that has supported livelihoods recovery and community-based economic development in the Middle East, Africa, and Caucasus since 1915. NEF in partnership with UNFPA implementing SRH, GBV/PSEA, cross cutting FGM and mobile temporary PHC health facilities across Gazira, River Nile, Northern State and Kassala States.

1. Background

Under the UNFPA project, Shandi Teaching Hospital requires a reliable solar power system to ensure uninterrupted electricity supply for critical medical services. An Engineering Specialist in Solar Systems is needed to conduct assessments, develop a Bill of Quantities (BoQ), and supervise the installation of the solar system and submit after one-month final technical report.

2. Objectives of the Assignment:

The Engineering Specialist will:

- Conduct a technical assessment of the hospital's energy needs.
- Design an appropriate solar power system based on the budget availability and needs of the hospital.
- Prepare a detailed and accurate technical BoQs and cost estimates.
- Supervise and ensure quality installation of the solar system.
- Provide training and handover documentation to State MoH.

3. Scope of Work:

A. Technical Assessment and System Design:

- Conduct join a site assessment to evaluate energy demand, load requirements, and solar potential.
- Assess existing electrical infrastructure and integration needs.
- Recommend optimal solar PV system specifications (capacity, battery storage, inverters, etc.).

B. Development of Bill of Quantities (BoQ) and Procurement Support:

- Prepare a detailed BoQ with specifications for all required components.
- Support procurement by reviewing technical bids and supplier evaluations.

C. Installation Supervision and Quality Assurance:

- Oversee the installation process to ensure compliance with design and safety standards.
- Conduct tests (voltage checks, system performance, battery efficiency).
- Provide progress reports and troubleshoot technical issues.

D. Capacity building and Handover:

- Train hospital technicians on system operation and maintenance.
- Submit final installation reports, warranties, and manuals.

4. Deliverables

1. Inception Report (Work plan and methodology).
2. Technical Assessment Report (Load analysis, solar potential, system design).
3. BoQ supported with cost estimates (Approved by NEF).
4. Installation Supervision Reports (Daily/weekly updates).
5. Final Technical Report (Including test results, training records, and handover documents).

5. Duration and Work Schedule

- Total Duration: 3 months **(April – July 2025)**.
- Assessment and Design: maximum of 2 weeks.
- BoQ and Procurement Support: maximum of 1 week.
- Installation Supervision: maximum of 3 weeks.
- Training and Reporting: maximum of 1 week.

6. Qualifications and Experience

- Education: Bachelor's degree in Electrical/Energy/Renewable Energy Engineering.
- Experience: Minimum 3-5 years in solar PV system design and installation (healthcare projects preferred).

Skills:

- Proficient in solar energy software (PVsyst, AutoCAD, etc.).
- Knowledge of international solar standards (IEC, NEC).
- Strong reporting and training skills.
- Languages: Fluency in Arabic and preferable in English.

7. Reporting and Coordination

- Reports to: NEF Project Manager.
- Coordinates with: NEF Procurement team, contractors, NEF GBV and Protection Specialist, NEF Program officer River Nile State, State MoH RH and PHC departments, and Shandi Teaching Hospital Administration department.

8. Payment Terms

- 30% upon submission of the assessment report and BoQ.
- 40% upon completion of installation.
- 30% after final handover and approval.

9. Logistics & Support

- NEF will facilitate the communication and all arrangement related to access Shandi hospital facilities and available data.
- The specialist will remain in close coordination with NEF Program officer consultant River Nile State for update in coordination and support of the GBV and Protection Specialist and Administrative support from the Project Manager.

Application Instructions:

Interested consultants should submit the following documents:

1. **Updated CV** (clearly outlining relevant experience and qualifications).
2. **Technical Proposal** (brief methodology, approach, and understanding of the assignment).
3. **Financial Proposal** (consultancy fees, including all costs – travel, accommodation, etc.).
4. **Cover Letter** (stating interest and availability for the assignment).
5. **Three professional references** with contact details.