

# **TERMS OF REFERENCE**

## **POSITION: SENIOR POWER ENGINEER**

### **1. BACKGROUND**

The Gambia Electricity System Rehabilitation and Expansion Project (GESREP) represents a pivotal initiative aimed at addressing critical infrastructure and service enhancements within the energy sector. This African Development Bank-funded project is designed to achieve several key objectives, including the construction of new 33/11kV substations, the upgrading, reinforcement, and modernization of existing 11/0.415kV substations, and the rehabilitation and expansion of low voltage distribution lines throughout the Banjul Greater Area. Additionally, it places a strong focus on fortifying the Customer Service Department through the establishment of five fully equipped Customer Service Centers, the creation of a Countrywide Data Center, and the implementation of a Computerized Plant Management System.

Within the framework of the implementation of these initiatives, the Government of the Gambia, through the Ministry of Petroleum and Energy (MOPE) has received a grant from the African Development Bank for the implementation of **The Gambia Electricity System Rehabilitation and Expansion Project (GESREP) referred to as the Project.**

The major part of the Project which is Component 1 is about the Rehabilitation and Expansion of the of the Gambia electricity distribution infrastructure and the provision of some institutional development infrastructure of NAWEC. Furthermore, the GESREP project will provide substantial support for institutional development and capacity building in the energy sector.

### **2. OBJECTIVE OF THE ASSIGNMENT**

To ensure the successful execution of these objectives, NAWEC - The Gambia Project Implementation Unit (PIU) is currently recruiting a Senior Power Engineer (Consultant). This expert will play a vital role in supporting the bidding process and supervising the design, supply, and installation of MV/MV, MV/LV substations, and MV and LV lines. The consultant will also engage in other pertinent project activities within the unit. The objective of the Assignment is also for the Consultant to provide support to the National Water and Electricity Company (NAWEC) in the supervision of the construction works and to provide hands-on training to technical staff associated with the Project. This assignment is initially for a one-year period and may be subject to renewal based on project requirements.

### **3. SCOPE OF SERVICES**

The Consultant's responsibility will be ensuring technical preparation, strictly reviewing the designs, and monitoring of implementation of the construction of MV/MV substations,

rehabilitation of MV/MV substations, construction of packaged substations, construction of medium voltage lines both underground and overhead, extension of MV and LV networks.

Activities to be performed by the Consultant under the general management of the PIU coordinator, and in full collaboration with the PIU technical team and NAWEC - T&D shall include but are not limited to the following:

- i. Review and approve all the detailed designs to be prepared by the Contractor(s);
- ii. Provide engineering support to the PIU during bidding, managements, and implementations;
- iii. Provide inputs to specifications/employers' requirements/ToRs for bidding documents;
- iv. Provide technical support during bidding stages, bid evaluations, request for clarifications, contract negotiations, drafting contracts, etc.;
- v. Oversee project preparations, particularly in aspects related to designs, works, equipment specifications, and other technical aspects like substation protection and control system;
- vi. Ensure that bidding documents, project implementations, and contracts adhere to all technical details and international standards, for the lines and substations as well;
- vii. Review all technical documents; designs, specifications, and construction schedule submitted by Contractors, ensuring strict control for proper and quality implementations of the project; ;
- viii. Attend Factory Acceptance Tests, and inspect the quality and quantity of the equipment
- ix. Supervise the implementations of all the projects to conform to the approved design;
- x. Supervise commissioning conducted on all the projects and issue reports;
- xi. Monitor the implementation of the projects schedules to ensure adherence with the project timeline;
- xii. Review the reporting from Contractors and the invoices of contractor(s);
- xiii. Monitor the implementation of the Quality Management Plan set up by contractors and safety arrangements during works (Personal protective equipment, Staff certifications to handle specific electricity-related tasks, etc.);
- xiv. Collect all relevant information on the constructions, anticipate and identify problems and risks arising and recommend necessary actions to the Project Coordinator;
- xv. Assess and address all proposed technical variations and report on justification or otherwise of claims;
- xvi. Respond effectively to any other job assigned by the Project Coordinator;
- xvii. Elaborate Annual Work Plans, annual budgets, as well as the quarterly, biannual, annual reports of the projects, and project completion reports;
- xviii. Be readily available and provide technical support during Bank and/or other stakeholders' supervision missions;
- xix. Provide hands-on training to NAWEC-assigned staff specifically in the area of substation regular operations and maintenance;
- xx. Lead the project closing processes.

#### **4. QUALIFICATION REQUIREMENTS**

##### **Qualifications and skills requirements**

- i. Must hold a first degree in Electrical Engineering from a recognised University. A Master's degree in Electrical Engineering would be recognized as additional advantage;
- ii. Minimum 10 years of relevant practice experience. Strong knowledge and skills in Electric Power System Design, Planning, Operations, and network protection are necessary;
- iii. Fluent in English
- iv. Good skills in information technology and communication tools
- v. Ability to work in a multidisciplinary team
- vi. Experienced computer user, including excellent knowledge of Microsoft Office suite

### **General Experience**

- vii. Excellent writing and reporting skills
- viii. Significant exposure to the electricity sector with a minimum of 10 years' professional experience in power engineering.

### **Specific experience**

- ix. Demonstrable experience in Procurement of Works, Goods and Selection of Consultants, according to Guidelines of the AfDB, World Bank or other Development agencies;
- x. Have been involved at least in two (2) large engineering projects on power grid extension/reinforcement including the construction of Medium Voltage Substations in the last five (5) years;
- xi.
- xii. Experience and understanding of the methodology of power system planning and analysis software, as well as rules for the interconnection of electricity networks;
- xiii. Specific experience in substation design, construction, protection, control setting and coordination;
- xiv. Relevant practice experience in developing countries will be considered an added advantage.

## **5. DELIVERABLES**

### **i. Inception Report**

Within two (2) weeks of assumption of duty, and upon the completion of his first visit to the Sites, the Consultant shall submit an Inception Report on his assessment of the Assignment. The Report would indicate

- a) Identification of any potential bottlenecks in the network and how they may be addressed to ensure optimum operations and integration of the new system and equipment;
- b) A preliminary evaluation of the capacity of the PIU Staff and how they may be supported should that be necessary.

## **ii. Monthly and Quarterly Reports**

The Consultant shall submit Monthly progress updates and Quarterly full implementation Reports to all identified stakeholders of the Project. These Reports shall comprehensively address all activities associated with the Assignment and make recommendations for improvements as necessary. The Quarterly Reports shall highlight, among others the following:

- a. Risks of delays to timely completion of specific Supply, Works, and Services contracts and recommendations for mitigation;
- b. Other Non-performance of Contractors and Suppliers;
- c. Challenges to obtaining approvals from Government regulatory bodies and Financiers.

The Consultant shall be required to submit other reports such as bi-weekly progress reports as may be requested by the PIU Coordinator.

## **iii Draft Final Report**

About one month preceding the completion of the assignment, the Consultant shall submit a Draft Final Report on the conduct of the Assignment.

## **iv Final Report**

The Consultant shall submit the Final Report within two weeks of receiving the Employer's comments on the Draft Final Report and after addressing any comments raised by the Employer. In full collaboration and cooperation with the PIU Coordinator, the consultant shall as well be responsible for writing the Project Completion Report (PCR).

## **6 DURATIONS OF THE ASSIGNMENT:**

This assignment is full-time and is initially for a one-year period and may be subject to renewal based on project requirements, the Consultant's performance, and availability of funds.