



WEST AFRICAN POWER POOL
SYSTEME D'ECHANGES D'ENERGIE ELECTRIQUE OUEST AFRICAIN
General Secretariat / Secrétariat Général

WAPP Integration and Technical Assistance Project

**TERM OF REFERENCE FOR THE RECRUITMENT OF A SENIOR
INTERNATIONAL POWER POOL ADVISOR**

(final: NO April 30,2018)

I. Background

The West African Power Pool (WAPP) is a specialized institution of the Economic Community of West African States (ECOWAS) comprising utilities from 14 of the 15 ECOWAS member countries. The WAPP was set up to ensure integration of the power systems of member countries and the establishment of a unified regional wholesale electricity market.

In order to fulfil its mandate of developing and implementing the unified regional electricity market in West Africa, the **WAPP developed the “West African Power Pool Market Rules” (Regional Market Rules)**, to be used in governing commercial transactions related to cross border flows of electricity utilizing the transmission lines and associated transmission assets of the WAPP Interconnected Power System in compliance with the **policies and procedures outlined in the WAPP Operation Manual**. The WAPP further developed the Market Rules and Market Design and subsequently a market implementation roadmap to facilitate the implementation of the regional electricity market.

In addition to the foregoing, the WAPP is at present undertaking projects to ensure the complete synchronization of the existing synchronous blocks of the WAPP Interconnected Power System, and the construction of the **WAPP Information and Coordination Center (ICC) to be equipped with Supervisory Control and Data Acquisition Systems (SCADA), Energy Management System (EMS) and Market Management System (MMS) for carrying out its reliability coordination and market operation functions.**

In support of WAPP’s vision of creating a unified regional electricity market, and under WAPP Integration and Technical Assistance Project funded by World Bank, the **WAPP Secretariat is seeking the services of a Senior International Consultant** to assist in reviewing and implementing the WAPP Market Roadmap by **providing power pool advisory services to the Director, Information and Coordination Center.**

II. Objective of assignment

The objective of this assignment is to assist WAPP in the transition of the ICC to a Regional System Market Operator (RSMO). WAPP intends to engage a Power Pool Advisor who will serve as an advisor to the WAPP ICC Director for an initial period of one year and renewal for a second year subject to good performances. The responsibility of the Power Pool Advisor will include:

- Technical assistance to the WAPP ICC Director in the Director's function of advising the WAPP Secretariat on organizational strategies and changes to achieve the vision of establishing a WAPP Regional Market as well as changes to be carried out in ECOWAS countries
- Guidance in developing, communicating and implementing effective strategies that support the creation and operation of a Power Pool and a successful transition of the current WAPP Information and Coordination Center (WAPP ICC) into a Regional System Market Operator as outlined in the WAPP Market Roadmap;
- Technical guidance to the WAPP ICC in the performance of its reliability coordination (real-time and operation planning) and market operation functions as a RSMO.

III. Scope of works

Task 1: Review of Market Roadmap and Implementation Plan

1a. The Consultant shall review (i) existing strategy and roadmap on WAPP market and (ii) existing energy exchanges in the sub-region. Based on (i) the diagnosis and lessons learned from existing energy exchanges, (ii) active dialogue with WAPP and ERECA colleagues, and (iii) active participation in existing task forces on related issues (such as on arrears of payments), the Consultant shall share his views and recommendations towards potential updated of existing strategy and roadmap.

In doing so, the Consultant may explore the pillars identified as part of the discussions on arrears of payments in order to strengthen payment security for cross-border electricity trade within the WAPP including: (i) improving sector creditworthiness through a regional power sector policy compact; (ii) strengthening the contractual instruments used for bilateral trading, (iii) providing stronger and more explicit payment guarantees, (iv) giving regional institutions a more proactive role in facilitating bilateral trades...

On this last pillar, the Consultant may further contribute to on-going dialogue on future roles of regional institutions (such as WAPP SG, ERECA, a potential multilateral guarantee facility...) depending on the degree of centralized/regional involvement foreseen for supporting and securing trade. Beyond WAPP's roles in monitoring electricity flows, the Consultant will also support the dialogue in identifying WAPP's involvement in (i) monitoring (and potentially publishing) market information & financial flows, and (ii) in conflict's resolution.

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1b. The Consultant shall review the current state of the Power Pool, operational practice of Transmission System Operators (TSO's), existing reliability coordination efforts between the WAPP and its member utilities, identify gaps and make proposals on how to improve coordination between WAPP and member Utilities. Following this, the Consultant shall review the existing Market Implementation Roadmap in line with the Regional Market Rules and Design, (Phase I, II and III), identify gaps, if any, and recommend any required updates or changes to the WAPP ICC Director and Secretary General. WAPP will seek stakeholder input before incorporating any updates to the Roadmap or Market Rules and Design. In consultation with stakeholders the consultant will propose a revised road map as well as well as an implementation and monitoring plan.

Task 2: Transition of ICC to Regional System Market Operator

The consultant shall conduct a literature review of existing plans, processes, and standards, identify gaps and recommend updates necessary for effective reliability coordination, transition from the current state to a Regional Market, and also for the WAPP ICC to operate as the RSMO.

The Consultant shall also review the existing set up of the WAPP ICC and make proposals to the Director ICC for changes or modifications based on the functions of the ICC as defined in the WAPP Market Design Document and industry standard practices. In addition, the Consultant shall support the WAPP ICC Director in ongoing internal discussions with the management of the WAPP Secretariat, WAPP Organizational Committees, and ECOWAS Regional Electricity Regulatory Authority (ERERA) and provide inputs and recommendations on the transition of the WAPP ICC into a RSMO. The support to be provided by the Consultant shall include but not be limited to the development of a transition plan with recommendations, guidelines and requirements with timelines (if necessary) for the WAPP ICC to transition to a full Regional System Market Operator.

Task 3: Preparation for Roll Out of System Operations (Real-Time and Operation Planning) and Day Ahead Market

The Consultant shall conduct a literature review of existing reliability coordination standards, operational procedures, market operation procedures, planning processes, manuals, etc. identify gaps and recommend updates if necessary. Where, necessary procedures, standards etc. required to enable the ICC to effectively perform its reliability coordination and market operation functions may not be available, the Consultant shall support the WAPP ICC to develop such and put in place necessary processes, procedures, and structures required to carry out the following:

- Operational planning
- Real-Time Operations
- Outage Coordination
- Market Clearing

- Billing and Settlement

Task 4: Market Operation & Reliability Coordination Reports

The Consultant shall work with the WAPP Information and Coordination Center (WAPP ICC) to develop standard templates for reporting various activities related to Reliability Coordination and Market Operations.

Task 5: Support to WAPP Technical Working Groups

The Consultant shall provide technical support to the WAPP Working Groups established to be the backbone for joint coordination efforts to address the implications of interregional operations, planning, business practices, communications and information technology. The consultant will be required to review the existing structure and functions of the Technical Working Groups with the objective of making alignments with the work of the ICC operational staff, identify gaps, and recommend refinements in line with industry best practices.

Task 6: Stakeholder Consultation and Engagement

The Consultant shall propose to the WAPP, Stakeholder consultation processes to engage stakeholders in the implementation of the WAPP Regional Electricity Market. The WAPP shall, based on the Consultant's proposals, organize stakeholder meetings and workshops to discuss and explain the market implementation plan and roadmap to stakeholders, as well as share progress of market implementation during the period of execution of the project.

At the discretion of the Director ICC, the Consultant shall be responsible for preparing workshop presentations to be delivered to stakeholders as well as reports on stakeholder consultations and meetings.

Additional Reference Documents

In carrying out the above tasks, the Consultant shall make reference to the following existing WAPP documents which will be provided by the WAPP ICC:

- WAPP Market Rules and Design
- WAPP Operations Manual
- Open Access Transmission Tariff Document
- Market Participant Agreement
- Market Monitoring Procedure
- WAPP Transmission Pricing Methodology and Model

IV. Required Qualifications and Experience

Qualifications and skills

- At least a Master's level university degree in Electrical Engineering, Power System Engineering or any related technical field, or in lieu of a Master's Degree 15 years of

professional experience in the electricity sector after the first degree. Additional skills in Project Management shall be an added advantage.

Professional Experience/Skills

- At least **15 years** of professional experience in the Power Sector or combination of education, training and experience with at least **8 years'** progressive leadership responsibility;
- The Consultant should have demonstrated at least 10 years' proven extensive experience and knowledge in power system engineering, transmission planning, System Operations (Operations Planning and Real-Time Operations), Wholesale Electricity Market Design and Implementation;
- At least 8 years direct working experience or worked in an advisory role to a large Reliability Coordinator (RC), Independent System Operator (ISO), Regional Transmission Operator (RTO) or a Power Pool environment;
- Experience, knowledge and in-depth understanding of operational planning, real-time energy control center operations, market operations and market surveillance and compliance monitoring etc.
- Experience and knowledge in the development of power system operation procedures, electricity market procedures, business processes, rules and protocols for Reliability Coordination and Market Operations/Services;
- Demonstrated and documented success and proven ability in:
 - Establishing effective working relationships with Executive Management
 - Leading and influencing external membership, industry groups and stakeholders in an RC, ISO, RTO or Power Pool environment
 - Preparing and delivering presentations to internal teams, managers and external stakeholders (ministries, utilities, international organizations...);
- Professional skills required in oral and written English language. Proficiency in French will be considered as an advantage.

V. Selection Method

A Consultant will be selected in accordance with the selection method for individual consultant set out in the *Bank's Guidelines: Selection and Employment of Consultants by World Bank Borrowers (January 2011)*.

VI. Reporting Requirements

The Consultant shall be required to submit the following:

- Inception report to provide understanding of the Terms of Reference (TOR), scopes, implementation schedule, milestones etc.
- Monthly activity report describing performed activities and planned activities for the following month.
- Summary report on the implementation of workshops and stakeholder discussions.
- Bi-annual workshops/presentations on the progress of market implementation to relevant stakeholders.
- Final report at the end of the assignment describing all achievements as per the Terms of Reference (TOR) and outline critical recommendations and future requirements.

VII. Duration of the contract

The assignment is a 1 year fixed term contract from the date of signature of contract with the possibility of an additional year extension subject to the performance of the consultant and satisfactory evaluation of WAPP.

VIII. Location of assignment

The West African Power Pool (WAPP) Secretariat is based in Cotonou, Benin. Over the term of the contract (number of days to be fine-tuned depending on Consultant's availability), the Consultant is expected to spend part of the time (minimum 25% of his contract's time) at the Client's Office in Cotonou or in missions (in other WAPP member's states or more widely abroad such as in USA, other power pools...).
