

**REQUEST FOR EXPRESSIONS OF INTEREST  
METERING ARRANGEMENTS REVIEW**

**Project ID No.: 2012-01  
Expression of Interest**

The Philippine Electricity Market Corporation (PEMC), through the PEM Audit Committee (PAC), invites eligible auditing firms to indicate their interest in providing services that include review of the metering arrangements. Interested auditing firms must submit a Letter of Interest together with the following documents indicating their qualification to perform the services:

1. Company Profile;
2. List of previous projects or engagements relative to metering arrangements, market operations audits or similar audits;
3. List of available resources (skills among staff, relevant software, etc.);
4. Certificate authorizing the representative to sign the Letter of Interest on behalf of the Company;
5. Affidavit of the authorized representative attesting to the authenticity of the submitted documents; and
6. Affidavit of the authorized representative attesting that no member of the company is related within the 4<sup>th</sup> degree of consanguinity or affinity to any employee of PEMC, NGCP-MSP or any WESM Participant.

The auditing firms will be short-listed according, but not limited, to the following criteria:

1. Experience in metering arrangements audits ,market operations audits or similar audits; and
2. List of available resources (skills among staff, relevant software, etc.)

Interested auditing firms may obtain further information on the description of the project, format of Letter of Interest, and operations of the Philippine Wholesale Electricity Spot Market (WESM) at [www.wesm.ph](http://www.wesm.ph) and [www.doe.gov.ph](http://www.doe.gov.ph) or you may contact Ms. Dece Marwit M. Bongcawel of the Market Assessment Group (MAG) through electronic mail: [pac@wesm.ph](mailto:pac@wesm.ph) and [mag@wesm.ph](mailto:mag@wesm.ph) or telephone number (632) 631- 8734 loc 359 starting 29 February 2012 until 20 March 2012.

Original copies of Letter of Interest and associated documents must be submitted following the prescribed format on or before 20 March 2012, 5:00 PM (Philippine time) to:

**Ms. Melinda L. Ocampo**  
President  
Philippine Electricity Market Corporation (PEMC)  
18/F Robinsons Equitable Tower  
ADB Avenue, Ortigas Center  
1605 Pasig City, Philippines

Attention: Mr. Felixberto U. Bustos, Jr.  
Chairperson, PAC

The PEMC/PAC reserves the right to reject any or all applications without recourse.

(Company Letter Head)

**Letter of Interest**

(Date)

**Ms. Melinda L. Ocampo**  
President  
Philippine Electricity Market Corporation  
18/F Robinsons Equitable Tower  
ADB Avenue, Ortigas Center  
1600 Pasig City, Philippines

**Attention : Mr. Felixberto U. Bustos, Jr.**  
Chairperson, PEM Audit Committee

Dear **Ms. Ocampo**:

We refer to the competitive selection process being conducted by the Philippine Electricity Market Corporation (PEMC)/PEM Audit Committee (PAC) in connection with the Metering Arrangements Review.

The [NAME OF INTERESTED PARTY/COMPANY] hereby confirms its interest to participate in the process, and accordingly submits the following documents for consideration:

1. Company Profile;
2. List of previous projects or engagements relative to metering arrangements audits, market operations audit or similar audits;
3. List of available resources (skills among staff and relevant software, etc.);
4. Certificate authorizing the representative to sign the Letter of Interest on behalf of the Company;
5. Affidavit of the authorized representative attesting to the authenticity of the submitted documents; and
6. Affidavit of the authorized representative attesting that no member of the company is related within the 4<sup>th</sup> degree of consanguinity or affinity to any employee of PEMC, NGCP-MSP or any WESM Participant.

The [NAME OF INTERESTED PARTY/COMPANY] hereby understands the criteria to be considered in the selection process as stated in the Request for the Expression of Interest and agrees to be bound and fully abide by the decisions and directives of the PEMC/PAC.

Very truly yours,

For and on behalf of  
[NAME OF INTERESTED PARTY/COMPANY]  
Signature of Authorized Representative  
Name of Authorized Representative  
Designation

## Request for Expressions of Interest

### *Frequently Asked Questions:*

- 1. Can we send the Letter of Interest (LOI) and the associated documents electronically? Will LOIs be accepted by e-mail or only in hard copy?***

Yes, LOI and associated documents may be sent thru e-mail at [pac@wesm.ph](mailto:pac@wesm.ph) and [mag@wesm.ph](mailto:mag@wesm.ph) in a secured PDF format on or before 16 March 2012. Please ensure that the size of the documents does not exceed 10MB. However, original copies consistent with the emailed PDF file must be received on or before 20 March 2012, 5:00 PM (Philippine time). Original copies not received by 20 March 2012 will invalidate the submission of LOI.

- 2. What is the indicative timeline for audit commencement and submission of final audit report?***

All details, including schedules, regarding the project will be provided in the Request for Proposal (RFP), which will be issued to Shortlisted Firms.

- 3. Is there currently any additional information apart from the Project Brief that is available and relevant to this Audit? If so, could we request this information?***

Additional information about metering arrangements is available in the WESM website at [www.wesm.ph](http://www.wesm.ph) and NGCP website at [www.ngcp.ph](http://www.ngcp.ph).

- 4. Is there a need for a consularized affidavit of the interested Foreign Consulting Firms?***

Yes. The notarized documents submitted by the authorized representative of a Foreign Consulting Firm should be authenticated by a Philippine Consul.

## PROJECT BRIEF METERING ARRANGEMENTS REVIEW

### I. BACKGROUND

The Electric Power Industry Reform Act of 2001 (EPIRA) mandates the establishment of the Wholesale Electricity Spot Market (WESM) that will facilitate a competitive market environment in the Philippine electricity industry. Section 30 of the EPIRA provides, among others, that the Department of Energy (DOE) will constitute an autonomous group, with equitable representation from electric power industry participants, to act as the market operator. In November 2003, the DOE constituted the Philippine Electricity Market Corporation (PEMC), a non-stock and non-profit organization, to operate the WESM.

Governed by the WESM Rules, the WESM is a venue for trading electricity as a commodity. It serves as a clearing house to reflect the economic value of electricity as indicated by the spot price. The wholesale electricity market uses the concept of a gross pool where all electricity output of the generators are centrally coordinated for scheduling and dispatch. Generators, as well as buyers of bulk electricity, compete for a share of this pool to be dispatched and scheduled to meet the electricity demand in real time.

Regulatory oversight functions over the WESM are performed by the DOE and the ERC. The DOE formulates and provides the country's overall energy policy, including evolution of WESM design. The ERC possesses authority extending from the enforcement of the rules and regulations of the EPIRA to investigative and quasi-judicial powers against any industry participant for violations of any law, rule or regulation. The ERC approves, among others, the market fees being collected by PEMC from the market participants to recover the cost of administering and operating the WESM.

PEMC operates the market and ensures the optimal dispatch of generation based on the submitted offers from generators and bids from customers, and from which a spot price for electricity throughout the grid is set. It also facilitates the settlement of financial accounts of the trading participants.

On the other hand, the operation, improvement, expansion and maintenance of the nationwide transmission system are provided by the National Grid Corporation of the Philippines (NGCP). These functions include the centralized operation and control of high-voltage transmission facilities, grid interconnections and ancillary services, i.e. system operations.

Additionally, NGCP operates and maintains the metering facilities of generators, distribution utilities and other load customers as the metering services provider. On 23 May 2011, the Energy Regulatory Commission (ERC) granted the authority to NGCP

to be a "Wholesale Electricity Spot Market Metering Services Provider". Currently, NGCP is the sole Metering Services Provider (MSP) of the WESM.

In accordance with the Philippine Grid Code, MSPs have the responsibility to supply, install, connect, own, test, calibrate, place in service, operate, check, and maintain the metering system for settlement, ensuring the accuracy and traceability of calibration and test results. Additionally, each MSP shall take all reasonable steps to prevent unauthorized interference with the metering equipment.

This review provides an assessment of the adequacy of security arrangements and requirement of metering installations in accordance with the WESM Rules and related WESM Manuals. The review of the Metering Arrangements under the WESM Rules and associated WESM Manuals will include relevant provisions of the Philippine Grid Code (PGC), whenever referred to by the WESM Rules.

The review shall be undertaken by the PEM Audit Committee (PAC) through an External Auditor and in consultation with the Market Operator, Trading Participants, the Technical Committee (TC) and the MSP. All project activities (e.g. finalization of the Request for Proposals, Bidding Process and Implementation of the Review) will be overseen by the PAC and supervised by the Department of Energy (DOE), assisted by the Market Assessment Group (MAG) of the PEMC and Metering Arrangements Review - Technical Working Group (TWG), constituted by the DOE.

## **II. BASIS FOR THE REVIEW**

The PEM Board established the PAC under the WESM Rules, which is mandated, on its own or through appointment of external auditors, to conduct, coordinate and supervise effective and independent audits of the operations of the spot market and of the Market Operator in order to reinforce Trading Participants' confidence in the transparency and adequacy of the operation of the WESM. This mandate is provided under Clause 1.5 of the WESM Rules, as amended, and under Section 3.1 of the PEM Audit Market Manual (Manual).

In accordance with 4.5.5.4 of the WESM Rules, the PAC, in consultation with PEMC and MSP, shall review the security arrangements and requirement of metering installations, i.e. Review of Metering Arrangements. This requirement is further detailed in Section 11 of the Manual.

To ensure sufficient and adequate expertise, the services of independent persons, teams or companies, who shall act as the External Auditor, will be engaged for the said review, in accordance with Section 3.2.2 of the Manual.

## **III. AUDIT OBJECTIVES**

In accordance with Section 11.2.2 of the Manual, the general objective of this metering review is to assess the adequacy of the metering standards and security systems and processes in the WESM. Further, the metering review shall be conducted to confirm that the Metering Arrangements Provider and Market Operator (MO) comply with the WESM Rules and associated manuals and to identify and report any non-compliance. The review of the Metering Arrangements under the WESM Rules and associated WESM Manuals will include relevant provisions of the PGC, whenever referred to by the WESM Rules.

#### IV. SCOPE OF WORK

The auditor shall review the metering arrangements of the Metering Service Provider and Market Operator of the Luzon and Visayas metering sites for the period 26 June 2009 to 25 June 2011.

##### TASK 1: Review of Metering Arrangements

The External Auditor shall review the adequacy and compliance with the requirements of metering installations under the WESM Rules and related Manuals and relevant provisions of the PGC taking into consideration –

- a. Best practices in other competitive electricity markets;
- b. Available technology and its costs; and
- c. Actual performance in relation to:
  - i. Timeliness in addressing Meter Trouble Reports (MTRs);
  - ii. Adequacy and conformance to good utility practice of preventive maintenance performed on metering equipment, including completeness of maintenance programs, test results and sealing records;
  - iii. Availability and reliability of the meter communication links and interfaces to the meter data collection of system of MSP;
  - iv. Adequacy of the software and programs used by the MSP in meter data collection, metering database and data validation;
  - v. Adequacy of the process used by the Market Operator in estimating and editing of meter data;
  - vi. Reliability of communication link and interfaces between MSP and Market Operator;
  - vii. Adequacy of internal procedures/protocols of the MSP in meter data collection, including but not limited to, manual retrieval of meter data in times remote communication failure;
  - viii. Adequacy of remote monitoring facilities to alert the Market Operator of any failure of any components of the metering installation;
  - ix. Adequacy of physical security provided to the metering equipment;
  - x. Adequacy of physical and logical access security provided to metering data held in metering installations and to the metering installation database;
  - xi. Availability of recovery plan and procedures in case of erased or corrupted metering data and of an off-site data storage location;
  - xii. Adequacy of cyber security;
  - xiii. Accuracy of metering installation test results;
  - xiv. Availability of spare parts (e.g. meters, Current Transformers and Potential Transformers) in case of defective metering installations that needs immediate replacement;
  - xv. Availability of check meters for WESM main meters;
  - xvi. Appropriateness of the revenue metering and remote terminal facilities' location<sup>1</sup>; and
  - xvii. Accuracy of the results of the Site-Specific Loss Adjustments (SSLA) calculations.

Further, the External Auditor shall refer to the other mentioned rules/manual whichever provides the more specific and detailed requirements noting that there are

---

<sup>1</sup> WESM Rules 3.2.2.2 (b) and 4.5.2.1

requirements which may not be specific or detailed under the WESM Rules, related Manuals, and relevant provisions of the PGC, whenever referred to by the WESM Rules.

#### **Task 2: ON-SITE INSPECTION**

The External Auditor shall select a sample of metering sites, where at least thirty percent (30%) of which shall correspond to the metering points with largest volume within the WESM, where metering errors or inadequacy can create the biggest impact and volume error in the WESM.

At least 202 of the metering sites with the largest volume within the WESM and at least 36 of the metering sites identified by the PAC and DOE-TWG will be inspected. It shall be upon the concurrence of the External Auditor, PAC and Metering Arrangements Review-TWG, on what metering sites should be reviewed with respect to the Manual likewise taking into consideration the locations of the meters and needed resources during the actual review implementation.