

PAC-ANREP-2016

PEM Audit Committee 2016 Annual Report

January 2016 to December 2016

This Report is prepared by the Philippine Electricity Market
Corporation-Market Assessment Group for the PEM Audit
Committee
3-14-2017

TABLE OF CONTENTS

I.	2016 ACCOMPLISHMENTS.....	1
	A. Submission of PEM Audit Committee Reports.....	1
	<u>1.</u> 2015 Annual Report.....	1
	<u>2.</u> 2 nd Metering Arrangements Review Report (AP2014-01).....	1
	B. 2016 Market Audit.....	2
	<u>1.</u> Consultation with MSPs on the Conduct of the 3 rd RMIA.....	2
	<u>2.</u> Call for Comments on the Draft Terms of Reference for the Joint Conduct of the 6 th MO Audit and 3 rd RMIA	3
	<u>3.</u> Dissemination of the Request for Information	4
	C. 2 nd Metering Arrangements Review	9
	D. Meetings and Other Activities	10
II.	2017 WORK PLAN	10
III.	MEMBERSHIP	11
IV.	RESPONSIBILITIES	11

The PEM Audit Committee (PAC) submits this Annual Report covering the activities undertaken and accomplished by the PAC for the year 2016. This report also presents the proposed activities of the PAC for the year 2017.

I. 2016 ACCOMPLISHMENTS

A. Submission of PEM Audit Committee Reports

In accordance with the PEM Audit Market Manual, the PAC submitted to the PEM Board the following reports:

1. 2015 Annual Report

This report provides a summary of the accomplishments of the PAC in 2015, the highlights of which include the completion of the 5th Independent Audit of the Systems, Procedures and Performance of the Market Operator, and the conduct of close-out meetings with the Auditees of the 2nd Metering Arrangements Review.

The report was submitted to the PEM Board on 29 February 2016.

2. 2nd Metering Arrangements Review Report (AP2014-01)

This report covering the period 26 June 2013 to 25 December 2014, submitted by Intelligent Energy Systems Pty Ltd (IES) in partnership with Alliance of Power and Energy Xponents (APEX) and Navarro Amper & Co., provides a summary of the review findings and recommendations on the metering arrangements in the WESM. This report was submitted to the PEM Board, DOE and ERC and thereafter published in the WESM Market Information Website for the information of all interested parties.

Together with this report, IES submitted four (4) issue papers which narrate expert opinions and best practices in the field of metering and other related topics.

The project ended on March 2016.

B. 2016 Market Audit

The 2016 Market Audit is an activity for the joint conduct of the 6th Independent Audit of the Systems, Procedures and Performance of the Market Operator (6th MO Audit) and the 3rd Review of Metering Installations and Arrangements¹ (3rd RMIA).

To assist the PEM Audit Committee in the conduct of the said joint audit project, the DOE issued DO2016-06-0009 creating a unified Technical Working Group (TWG) to assist the PEM Audit Committee with its activities pertaining to the audit and review of the Market Operator's systems, procedures and performance, as well as of the Metering Service Providers' (MSP) metering installations and arrangements.

To ensure sufficient and adequate expertise, the services of independent persons, teams or companies, were engaged for the said review in accordance with the PEM Audit Manual. A competitive public bidding was held for the selection of the External Auditor. Activities prior to the competitive public bidding have also been held to ensure the viability of the project, as follows:

1. Consultation with MSPs on the Conduct of the 3rd RMIA

Following the PEM Board's approval to procure external audit services for the Joint Conduct of the 6th MO Audit and the 3rd RMIA, notice was sent to all MSPs with active contestable customers as of 25 June 2016 regarding the conduct of the 3rd RMIA.

The PEM Audit Committee discussed with the Auditees the background for the said review, the metering sites for inspection, the review process, the comments of NGCP and MERALCO regarding the terms of reference, and other activities relative thereto on 25 August 2016 during the consultation held for the purpose. Among others, the mechanics of the selection of metering sites for review were discussed, providing the basis for the inclusion of the eight other MSPs. It was explained that the sampling was based on the following criteria – largest metered

¹ Previously called as Metering Arrangements Review (MAR), but which was renamed to Review of Metering Installations and Arrangements (RMIA), to avoid confusion with a similarly named document, the MAR or the Market Assessment Report prepared by the Market Assessment Group and submitted to the Market Surveillance Committee (MSC) for approval.

quantity volume, previous metering sites with major non-conformance findings, classification of the customer, whether Directly Connected Contestable Customer (DCC) or embedded-FIT generators, and reports of defect based on the Meter Trouble Report (MTR).

Representatives from the following MSPs joined the said discussion: AEC, BATELEC II, BEZ, CEDC, CELCOR, INEC, MERALCO, NGCP, SFELAPCO, TARELCO II, TEI, and VECO. Also present during the activity were the Audit TWG members as well as PEMC President Melinda L. Ocampo who served as one of the resource speakers during the open forum.

During the said activity, the PEM Audit Committee emphasized the importance of the active participation of all Auditees in the review proper, including the on-site inspection for the metering review; and in the finalization of reports by providing prompt and clear response to requests for comment and submission of data/document. Coordination with respective contestable customers was also given emphasis to avoid delays in the conduct of the on-site metering inspection.

On 25 August 2016, the PEM Audit Committee likewise met with PEMC to discuss the scope of the 6th MO Audit and the other activities related to the audit and the audit process.

All Auditees of the 6th MO Audit and the 3rd RMIA were assured of transparent and accurate review results.

2. Call for Comments on the Draft Terms of Reference for the Joint Conduct of the 6th MO Audit and 3rd RMIA

The draft was posted in WESM Market Information Website for reference of all interested parties on 14 April 2016. MERALCO and NGCP responded to the request, and their inputs were deliberated upon by the PAC and the Audit TWG.

3. Dissemination of the Request for Information

The request was addressed to all external audit firms which joined the previous public biddings for the MO Audit and Metering Review. The said request was sent to thirty-five firms with the aim to determine the viability of the conduct of a joint audit.

4. Presentation to the PEM Board of the Request for the Joint Conduct of the 6th MO Audit and the 3rd RMIA

Equipped with the inputs coming from both the Auditee and the prospective bidders, the PAC requested before the PEM Board the approval to jointly conduct the 6th MO Audit and 3rd RMIA, and the subsequent engagement of an external audit party on 25 May 2016.

5. Dissemination of the Request for Expression of Interest

This request was posted in the WESM Market Information Website and DG Portal, an international bidding platform. A notice regarding this request was also published in the Philippine Star and Manila Bulletin. The posting was done on 05 June 2016.

6. Shortlisting of Eligible Bidders

With the assistance of the Audit TWG, a short list of eligible bidders was determined on 29 June 2016, in accordance with the guidelines and criteria prescribed by the PEM Audit Committee.

Notice regarding the upcoming metering review and market operations audit was also posted in the WESM Market Information Website for information of interested parties with updates on the same directly provided to the Auditees through emails.

After the precursor activities have been conducted, a series of bidding activities followed for the selection of the External Auditor on the following dates:

- 15 August 2016 – *Issuance of the Request for Proposal*. This invitation was issued to the three shortlisted bidders as follows: (1) RSM Australia in partnership with Market Reform (Australia), TechSafe (Australia) and Cicero Ray Rufino; (2) PA Consulting (New Zealand) in consortium with Snowy Owl Energy Inc. (Philippines); and (3) Intelligent Energy Systems (Australia) in partnership with Alliance of Power & Energy Xponents (Philippines) and Navarro Amper and Co. (Philippines).
- 25 August 2016 – *Meeting with the Auditees for the 6th MO Audit and 3rd RMIA*. The details of this meeting was explained in Item C (2) of this report.
- 05 September 2016 – *Conduct of Pre-Bid Conference*. This activity was conducted to ensure that issues and concerns of the prospective bidders were addressed prior to the submission of the technical and financial proposal. All the representatives of the shortlisted eligible bidders, including its foreign partners attended the said activity.

AEC, MERALCO, NGCP and VECO presented an overview of their metering activities as an input to the preparation of bidders' proposal. Other MSPs, such as TARELCO II, SFELAPCO, TEI, CELCOR and SEZ, which were included as Auditees also sent their representatives during the activity. PEMC's spot market operations, including registration, metering, billing, settlement and trading as well as the WESM's software and system were also discussed.

- 17 to 23 September 2016 – *Submission and Receipt of Technical and Financial Proposals*. All the three shortlisted bidders submitted their respective proposals.
- 26 September 2016 – *Opening of Technical Proposal*. This activity was attended by the Audit TWG, DOE and ERC Representatives.
- 27 September 2016 to 03 October 2016 – *Evaluation of Technical Proposals*. The Audit TWG, which was created by the DOE to assist the

PEM Audit Committee in its activities, sat down to assess the proposals submitted and assign numerical ratings.

- 11 October 2016 – *Opening of Financial Proposal*. This activity was participated in by the local representatives of the bidders, DOE and ERC Representatives.
- 12 to 20 October 2016 – *Post-Qualification*. This activity was conducted as part of due diligence and to ensure the correctness of the submitted documents by the bidders and the computation of scores by the Audit TWG.
- 10 November 2016 – *Presentation to the PEM Board of the Results of the Procurement of External Audit Services for the 2016 Market Audit*. During the meeting, the PEM Board approved the results of the procurement. The PEMC President was also given the authority to negotiate and award the contract, among others, to the winning bidder.
- 11 to 17 November 2016 – *Negotiation on the Terms of the Contract and Audit Scope*. Mr. Charles Hugh Bannister, the Chairman and CEO of Intelligent Energy Systems Pty Ltd, on behalf of the IES, APEX and NACO Consortium and PEMC President Melinda L. Ocampo together with the members of the PEM Audit Committee and Audit TWG discussed and agreed on the terms and conditions of the audit contract.

Other activities such as contract signing, posting of performance bond and issuance of the notice to proceed, as required prior to the implementation of the contract thereafter followed.

The contract was awarded to Intelligent Energy Systems (Australia) and its partners upon the PEM Board approval on 10 November 2016. The 2016 Market Audit commenced on 12 December 2016 and is expected to be completed by June 2017.

The 6th MO Audit aims to achieve the following objectives:

- a. Review and assess the procedures and working processes of the MO/CRB;
- b. Review and assess the usefulness and appropriateness of the settlement systems, data management and other procedures and working processes used by the MO/CRB to administer the WESM/RCOA, in order to:
 - i. identify the appropriate steps and measures to help the MO/CRB effectively and efficiently perform its responsibilities in accordance with the WESM Rules, Retail Rules and Market Manuals;
 - ii. assess if the MO practices and work processes ensure transparency, independence, predictability and non-discrimination, and are in compliance with the WESM Rules, Retail Rules and best international practices; and
 - iii. assess if the systems, calculations, information flows and data management protect the accuracy and quality of the data and results in non-discriminatory generation scheduling, dispatch, prices and settlement, and evaluate if internal controls exist and are sufficient to guarantee security and confidentiality where appropriate; and to propose recommendations to improve the: (1) procedures to collect and process the information, and (2) controls of quality and security of data in the WESM/RCOA.
- c. Review and assess the usefulness and appropriateness of the interfaces and exchange of information among the MO, System Operator (SO), Metering Service Provider (MSP) and other service providers in relation to generation scheduling, constraints, dispatch, prices and settlement, and metering;
- d. Review and assess the compliance of the MO/CRB with the WESM Rules, Retail Rules and Market Manuals and its documented internal business procedures;
- e. Review and assess the appropriateness of actions taken by the MO, SO and MSPs to address previous audit findings;
- f. Identify room for improvement in the current systems and processes with the view to enhancing the efficiency of the WESM and the Retail Market; and

- g. Review and assess MO's market operations performance in line with standards established by the DOE and recommend improvements in the said standards.

The records and processes of the Market Operator from 26 December 2014 up to 26 June 2016 are currently under review by the engaged experts.

The 3rd Metering Review aims to assess the adequacy of the metering standards, security systems and processes in the WESM/RCOA and recommend changes in the Rules that would ensure cost-effectiveness and innovativeness of the MO, SO and MSPs. It is also being conducted to confirm that the metering arrangements and installations comply with the WESM Rules, Retail Rules, Market Manuals and related laws, as well as to identify and report any possible non-compliance.

The scope of the 3rd Metering Review was expanded with the inclusion of eight more Metering Services Providers. Joining the National Grid Corporation of the Philippines (NGCP), Manila Electric Company (MERALCO), Angeles Electric Corporation (AEC) and San Fernando Electric Light & Power Co. (SFELAPCO), the previous Auditees under the 2nd Metering Review, are Batangas II Electric Cooperative (BATELEC II), Cabanatuan Electric Corporation (CEDC), Clark Electric Distribution Corporation (CELCOR), Ilocos Norte Electric Cooperative, Inc. (INEC), Subic Enerzone Corporation (SEZ), Tarlac Electric, Inc. (TEI), Tarlac II Electric Cooperative, Inc. (TARELCO II), and Visayan Electric Company, Inc. (VECO). With this expansion in scope, the number of metering sites to be inspected increased to 245 sites from 197 sites of the previous metering review.

The table below provides further details on the sample population of metering sites per MSP.

	Wholesale MSP	No. of Sites
1	NGCP	121
2	MERALCO	7
3	AEC	2
4	CEDC	1
5	CELCOR	1
6	INEC	2
7	TEI	2
Total		136

	Retail MSP	No. of Sites
1	AEC	2
2	BATELEC II	1
3	CEDC	1
4	MERALCO	94
5	SEZ	3
6	SFELAPCO	3
7	TEI	2
8	TARELCO II	1
9	VECO	2
Total		109

The metering inspection covering the respective franchises of the said MSPs shall be undertaken under this audit project. Documents and processes of the MSPs from 26 December 2013 up to 25 June 2016 will also be reviewed.

7. Pre-Inception Report Discussion for the 2016 Market Audit

Shortly after the contract was signed on 05 December 2016, a team of external experts from Intelligent Energy Systems Pty Ltd arrived in the Philippines for data gathering in preparation for the drafting of the Inception Report.

The External Auditors were able to conduct technical discussions on data and methodologies for each audit task across all concerned PEMC departments. The draft inception report was submitted to all Auditees for review and comments on 22 December 2016.

A series of discussions with the 3rd RMIA Auditees regarding the content of the inception report was likewise scheduled in January 2017.

C. 2nd Metering Arrangements Review

To finalize the 2nd Metering Arrangements Review Report, meetings were held in the 1Q of 2016 between PEMC, MERALCO and NGCP regarding the final results of the metering review that was conducted during the year.

The results of the said review was finally presented to the PEM Board on 31 March 2016, copies of which, including the issue papers were submitted to the ERC and DOE.

D. Meetings and Other Activities

As part of its regular activity, the PEM Audit Committee conducted twelve (12) meetings for CY 2016.

During the covered period, the members of the PEM Audit Committee actively participated as resource speakers for PAC presentations to the Management and the PEM Board regarding its various activities. Similarly, the PAC enthusiastically joined PEMC in its various activities with WESM Stakeholders.

II. 2017 WORK PLAN

The PAC's work plan for CY 2017 contains the following activities:

Item	Activity	Tentative Timetable	Deliverables
1	Submission of 2016 Annual Report	1Q 2017	Report
2	Joint Conduct of the 6 th MO Audit & 3 rd Metering Review	1Q 2017 to 2Q 2017	Inception Report, Progress Reports, Significant Issue Report (if applicable), and Draft Audit Reports
3	Submission of the 6 th MO Audit Report and 3 rd Metering Review Report	June 2017	Audit Reports & Software Certificate
4	Submission of Proposed Rules Change to WESM Rules, Retail Manual and PAC Market Manual	2Q 2017	Proposed Amendments
5	Regular Conduct of Meetings	At least once a month	Resolutions/Memoranda
6	Submission of Assessment Report	Quarterly	Report

Item	Activity	Tentative Timetable	Deliverables
7	Conduct of other Audits as may be requested in accordance with Compliance and Enforcement Market Manual and with the directive by DOE, ERC and PEM Board	As required	Report

III. MEMBERSHIP

The PEM Audit Committee is currently composed of the following experts in the fields of risk and financial management, information technology, and information systems:

Chairperson : Prof. Felixberto U Bustos, Jr.
Members : Mr. Eduardo Alejandro O. Santos
Engr. Christian M. Orias

Prof. Bustos was appointed as member of the Audit Committee on 27 April 2007 and was designated as the Chairperson. Mr. Santos and Engr. Orias have been appointed to the PAC as members since September 2011, and were re-appointed as PAC members on May 2015.

The Market Assessment Group (MAG) provides both technical and administrative support to the PAC in performing its functions and obligations under the WESM Rules and applicable WESM Manuals.

IV. RESPONSIBILITIES

Pursuant to WESM Rule 1.5.2, the responsibilities of the PEM Auditor² are as follows:

² Pursuant to Guidelines Governing the Constitution of PEM Committees, the PEM Auditor was already changed to constitute as PEM Audit Committee (PAC). The WESM Rules, PEM Audit Market Manual Issue 2.0 and Retail Market Manual are currently being revised in harmony with the existing guidelines.

- a. Conduct annual audits of the Market Operator and the settlement system and any other procedures, persons, systems or other matters relevant to the spot market;
- b. Test and check any new items or versions of software provided by the Market Operator for use by WESM members;
- c. Review any procedures and practices which are covered by the WESM Rules at the direction of the PEM Board;
- d. Recommend changes to the WESM Rules where the PEM Auditor detects deficiencies as a consequence of an audit, review, test, check or other form of review; and
- e. Publish on the market information website the results of any findings and recommendations under WESM Rules 1.5.1.

The PEM Auditor's main responsibility is summarized in the PEM Audit Committee Market Manual Section 3.1, which states that it has to conduct, on his own or through an appointment of auditor, and to coordinate and supervise effective and independent audits of the operation 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.

Moreover, Section 11.2.2 of the same manual provides that the PEM Auditor shall review the security arrangements and requirements of metering installations.

Submitted By:

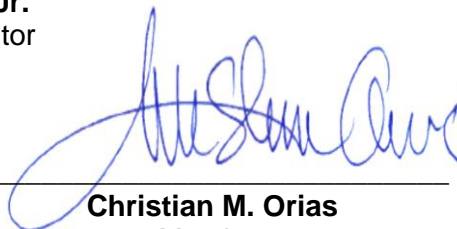
PEM AUDIT COMMITTEE



Felixberto U. Bustos, Jr.
Chairperson / PEM Auditor



Eduardo Alejandro O. Santos
Member



Christian M. Orias
Member