



PUBLIC

WESM Manual

PEM Audit Market Manual

Issue 3.0 | WESM-PEMAUD

This document covers objectives, scope, and procedures of various audits of the Market Operator and the WESM to be conducted by the PEM Auditor.

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Document Approval

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**Declaring the Commercial Operations of Enhanced WESM Design and Providing Further Policies*

Reference Document

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	WESM Rules

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SECTION 1. INTRODUCTION

1.1 BACKGROUND

- 1.1.1 The *Wholesale Electricity Spot Market Rules* (the “*WESM Rules*” or the “*Rules*”), under Clause 1.4.6 provides for the formation of a *PEM Audit Committee* to conduct of audits of the operation of the spot market, the *Market Operator* and *Metering Service Providers*.
- 1.1.2 This Manual is developed in accordance with Clauses 1.5.2, 5.2.6.2 and 5.2.6.3 of the *WESM Rules*, and Clauses 1.4.3.1 and 4.8.1 of the *Retail Rules* which mandate the *PEM Audit Committee* to be responsible for:
- a) Conduct of audits of the procedures, persons and systems of the *Market Operator* and the *Metering Services Providers* as they relate to the operation of the spot market;
 - b) Test and check any enhancements or updates in the market infrastructure including any new items or version of software provided by the *Market Operator* for use of *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*, *Retail Rules* and relevant *Market Manuals* where the *PAC* identified deficiencies as a consequence of an audit, review, test, check or other form of review;
 - e) Prepare and publish in the Governance Arm website the results of any findings and recommendations relative to the conduct of market audits.

1.2 PURPOSE

- 1.2.1 The general objectives of this Manual are the following:
- a) Establish the requisites and mechanisms to ensure the independence and transparency of the market audits and review by the *PEM Audit Committee*;
 - b) Establish the requisites and mechanisms to ensure independent and effective audits of the spot market and of the *Market Operator*, and the *Metering Services Providers*, as well as to ensure compliance and non-discrimination in applying the *WESM Rules*, the *Retail Rules* and its *Market Manuals*;

- c) Establish effective procedures and audit processes when the *PEM Audit Committee* is requested to assess compliance or identify problems in the implementation or application of the *WESM Rules* regarding generation scheduling, dispatch, price setting and settlement;
 - d) Clarify the different types of audits that may be requested from the *PEM Audit Committee*, including special audits of a *WESM Member*, a *Metering Services Provider*, the *System Operator* or the *Market Operator* when requested by the *PEM Board* or in the assessment or investigation of an alleged breach;
 - e) Clarify the rights and responsibilities of the *PEM Audit Committee* in proposing amendments to the *WESM Rules*, the *Retail Rules* or its *Market Manuals* when identifying, through audit processes, problems in the design or implementation or application of the *WESM Rules*, the *Retail Rules* or its *Market Manuals*.
 - f) Establish the role of the *PEM Audit Committee* in relation to the review of metering installations and arrangements; and
 - g) Establish the rights and mechanisms for the *PEM Audit Committee* to engage qualified team of auditors and the mechanisms for field audits.
- 1.2.2 This Market Manual provides the objectives, scope and the procedures for the conduct of the audits of the *Market Operator* and the spot market, and *Metering Services Providers* or specific audits of *WESM Members* requested of the *PEM Audit Committee*.
- 1.2.3 This Market Manual also defines the responsibilities and the functions of the *PEM Audit Committee* pursuant to the relevant provisions of the *WESM Rules* and the *Retail Rules* and *Market Manuals*.

1.3 SCOPE

- 1.3.1 This Market Manual covers all related activities and procedures in relation to the *PEM Audit Committee* audit of the spot market and the *Market Operator*, the *Metering Services Providers* and special audits of *WESM Members*. This includes the following:
- a) A description of the functions, reports and responsibilities of the *PEM Audit Committee*;
 - b) Access rights to the audit reports, proposed recommendations by auditors and the final recommendations of the *PEM Audit Committee*;
 - c) Review of implementation and results of audit recommendations;
 - d) Procedures, general methodology and scope of an audit and the audit results;

- e) Interaction between the *PEM Audit Committee* and the Enforcement and Compliance Office (ECO) or the *PEM Board* when requested an assessment or audit related to an investigation of an alleged breach;
 - f) Procedures and criteria for the *PEM Audit Committee* to assess the efficiency, validity and justification of new software or modifications to existing software of the *Market Operator*;
 - g) A description of interactions between the *PEM Audit Committee* and the *PEM Board*, and the *Rules Change Committee* in relation to the results and recommendations of the audits, leading to proposals for the amendment of the *WESM Rules*, the *Retail Rules*, or its *Market Manuals*.
- 1.3.2 This Market Manual provides for a streamlined process for the audit of the spot market, the *Market Operator* and its responsibilities as the *Central Registration Body*, and the *Metering Services Providers*.
- 1.3.3 This Market Manual also covers the interaction between the *PEM Audit Committee*, the ECO and the *PEM Board* in relation to any request by the ECO or the *PEM Board* for the *PEM Audit Committee* to assist, through its audits, in the assessment or investigation of an alleged breach.
- 1.3.4 For the purpose of this Market Manual, any act, omission, conduct or behavior and the like contrary to or not in compliance with the *WESM Rules*, *Retail Rules* and Market Manuals shall be considered a breach, as defined in the *WESM Penalty Manual*.

SECTION 2. DEFINITIONS, INTERPRETATION AND CONSTRUCTION

2.1 DEFINITIONS

Unless otherwise defined in this Manual, terms and acronyms used in this Manual shall have the same definition as that in the *WESM Rules*.

- Audit Report refers to the report of the *PEM Audit Committee* or the auditors that presents the audit results and recommendations.
- Independent Auditor refers to the third party entity with adequate expertise, organized to conduct market audits or special audits of the processes and the systems of the *WESM* and the Retail Market and review of the *Metering Service Providers (MSPs)* and metering installation and arrangement.
- Independent means a person that is considered as independent of the Philippine electric power industry, in accordance with the criteria set forth in the *WESM Rules*.

2.2 INTERPRETATION AND CONSTRUCTION

- 2.2.1 Any Annex to this Manual shall be considered an integral part hereof.
- 2.2.2 Any reference to "this Market Manual " or "this Manual" is a reference to the whole of this PEM Audit Market Manual, including all its Annexes.
- 2.2.3 The singular includes the plural and vice versa.
- 2.2.4 The words "such as", "include", "including", "for example" and "in particular" shall be construed as being by way of illustration or emphasis only and shall not limit or prejudice the generality of any foregoing words.
- 2.2.5 Headings in this Manual are for convenience only and shall not affect the construction and interpretation of the provisions of this Manual.
- 2.2.6 Any reference to any law, regulation made under any law, rules or codes shall be to that item as amended, modified, revised or replaced from time to time.
- 2.2.7 Unless otherwise stated or contextually inherent, any reference to a numbered rule corresponds to that clause in the *WESM Rules*.
- 2.2.8 The provisions in this Manual, the *WESM Rules*, the *Retail Rules* and other *Market Manuals* shall be read, construed and interpreted in such a manner as to harmonize and reconcile each and every provision thereof. In the event of inconsistency, the *WESM Rules* or the *Retail Rules*, whichever is applicable, shall prevail.
- 2.2.9 Should any provision of this Manual be declared invalid or nullified by any court or authority of competent jurisdiction, the other provisions not affected by the declaration of invalidity or nullity shall continue to be in full force and effect.
- 2.2.10 If part of a provision of this Manual should be invalidated or nullified by any court or authority of competent jurisdiction, but the rest of such provision would remain valid if part of the wording were deleted, the provision shall apply with such minimum modification as may be:
 - a) Necessary to make it valid and effective; and
 - b) Most closely achieves the result of the original wording but without affecting the meaning or validity of any other provision of this Manual.

SECTION 3. THE PEM AUDIT COMMITTEE

3.1 RESPONSIBILITIES

- 3.1.1 Pursuant to *WESM Rules* Clause 1.5.2, the *PEM Audit Committee* shall conduct the effective and independent audits of the operation of the spot market and of the *Market Operator* and the *Metering Services Providers* in accordance with the processes discussed in this Manual and provide recommendations consistent with the *WESM Objectives*, in order to reinforce the *Trading Participants'* confidence in the transparency and adequacy of the operation of the *WESM* and the Retail Market.
- 3.1.2 The *PEM Audit Committee* shall support and facilitate the assessment or investigation of an alleged breach of the *WESM Rules*, the *Retail Rules* or its *Market Manuals*, whenever requested by the ECO, *Compliance Committee* or the *PEM Board*. In this regard, the *PEM Audit Committee* may initiate the conduct of specific audits of *WESM Members*, *Metering Services Providers*, the *System Operator*, or the *Market Operator* pursuant to the standards, systems and procedures established in the *WESM Rules*, the *Retail Rules* or its *Market Manuals*. The *PEM Audit Committee* shall coordinate and supervise the required audits, inform the *PEM Board* and/or the *Compliance Committee*, and/or the ECO of its audit findings and give its opinion in relation to the alleged breach.
- 3.1.3 In the performance of its responsibilities, the *PEM Audit Committee* shall endeavor to conduct audits and provide its recommendations consistent with -
- a) The development of the *WESM* and the Retail Market in a manner that is sustainable, competitive, efficient, transparent and reliable;
 - b) Consistency and transparency; and
 - c) Efficient and effective systems, software and working processes.
- 3.1.4 The *PEM Audit Committee* shall observe all provisions of the *WESM Rules*, the *Retail Rules* and *Market Manuals* that are applicable to its functions and responsibilities, as well as any standard of conduct or conflict of interest guidelines prescribed by the *PEM Board*.
- 3.1.5 The *PEM Audit Committee* shall implement effective data management of its audit processes and organize, maintain and review audit results, findings and the implementation of audit recommendations.
- 3.1.6 The *PEM Audit Committee* shall ensure adequate follow up of all audit recommendations, and verify, in relation to problems and issues identified in an audit, whether the action plans to address the audit findings and recommendations were implemented. Likewise, the *PEM Audit Committee* shall assess if the action plans addressed the audit findings and achieved the desired outcomes and solved the identified problems.

- 3.1.7 The *PEM Audit Committee* shall implement a mechanism to track the status of action plans committed to address deficiencies identified in the audits.
- 3.1.8 The *PEM Audit Committee* shall implement for each audit conducted a post-implementation review to ensure that appropriate attention is given to the audit findings and that the concerned parties are implementing the action plans committed to address the audit findings. In particular, the *PEM Audit Committee* shall include the following as part of the scope of work of each audit, viz.:
- a) The review of the measures implemented and actions taken in view of the recommendations made for the same type of audit conducted previously;
 - b) Comments on the adequacy of the measures implemented and actions taken in view of the findings and recommendations of the previous audit; and
 - c) Further recommendations, if problems found in the previous audit continue to be unsolved or if the party was unable to put in place the enhancements recommended in the previous audit.
- 3.1.9 The *PEM Audit Committee* shall review this Manual annually to identify any need for updates and amendments.

3.2 SCOPE OF WORK AND FUNCTIONS

- 3.2.1 The *PEM Audit Committee* has the following scope of work and specific functions:
- a) Administer and ensure the effective implementation and operation of the audit provisions of this Manual;
 - b) Review the adequacy and test any new, upgraded or modified software of the *Market Operator* for the *WESM* or provided to *WESM Members* for their own use;
 - c) Conduct effective and independent market audits, particularly but not limited to:
 - i. The audit of the generation scheduling and dispatch process, price calculation, market settlement; and
 - ii. The audit of any other procedures, processes, persons, systems or other matters relevant to the *WESM* and the implementation of the *WESM Rules*;
 - d) Conduct an audit of the *Market Operator's* systems, processes, procedures, related facilities including market-related software used and other matters relevant to the operations of the Retail market and the performance of the *Market Operator* as the *Central Registration Body*;
 - e) Review or audit specific procedures, standards, facilities or systems related to generation scheduling, dispatch, prices and settlement at the request of the *PEM*

Board, either to assess adequacy of such matters, procedures or processes, or to audit compliance;

- f) During an investigation of an alleged breach, and upon the request of the ECO or the *PEM Board*, assess or audit compliance by a *WESM Member*, *Metering Services Provider/s*, the *System Operator* or the *Market Operator* on systems or procedures in relation to generation scheduling, dispatch and settlement, or other systems and procedures established in the *WESM Rules* or ;
- g) Submit written proposals for changes to the *WESM Rules*, the *Retail Rules* and applicable *Market Manuals* concerning generation scheduling, central dispatch, settlement and other matters covered in its auditing activities, if the *PEM Audit Committee* identifies deficiencies as a result of an audit or review process, or other tests or checks performed in the course of its duties;
- h) Participate in the process for the selection of *Independent Auditors* to be contracted for specific and specialized audits;
- i) Prepare audit reports containing the main audit findings and the recommendations to be implemented, and ensure that the reports are published in the Governance Arm Website;
- j) Maintain data, reports and other information related to the development and results of the audit processes; and,
- k) Conduct an audit of the market assessment system to determine if the system is producing outcomes consistent with the *WESM Rules* and the *WESM* objectives.

3.2.2 In performing its audit work, the *PEM Audit Committee* may engage the services of qualified team of auditors.

3.3 REPORTS

3.3.1 The *PEM Audit Committee* shall submit an *Audit Report* to the *PEM Board* within thirty (30) calendar days after an audit is finalized.

3.3.2 The *Audit Report* to be submitted to the *PEM Board* shall contain the following:

- a) An executive summary that provides a concise description of the audit process, its results and recommendations;
- b) A description of the scope and nature of the audit, and the parties audited;
- c) If auditors were used, the name of the auditors or team of auditors, the description of its relevant expertise and the report prepared by the auditors;

- d) The description of the audit process and outcomes; and
- e) The main findings and recommendations.

All information or data included in the *Audit Report* will take into consideration the confidentiality practices established in this Manual and the *WESM Rules*.

3.3.3 The *PEM Audit Committee* shall submit the results of the audit conducted to the *PEM Board* for its information. A copy of said report shall be provided to the following:

- a) *WESM Governance Committees*;
- b) *Department of Energy*; and
- c) *Energy Regulatory Commission*.

3.3.4 Within fifteen (15) working days after its presentation to the *PEM Board*, the *PEM Audit Committee* shall prepare a public version of the *Audit Report* and publish the same in the Governance Arm Website. The *Audit Report* to be published shall include:

- a) A description of the scope and nature of the audit, indicating parties audited and auditors engaged, if any;
- b) A summarized description of the audit process and main findings; and
- c) The audit results and recommendations to be implemented.

No information or data that qualifies as confidential shall be included in the *Audit Report* for publication.

3.3.5 Any *WESM Member*, the *Market Operator*, the DOE or the ERC may request for copies of the complete *Audit Report*, provided that the version given as a copy shall not include information that qualifies as confidential in accordance with this Manual, with the exemptions to confidentiality provisions established in the *WESM Rules*.

3.3.6 After finalizing an audit requested by the ECO in the course of an assessment or investigation of an alleged breach, the *PEM Audit Committee* shall prepare and send to the ECO its Compliance Assessment Report. A copy of the report shall also be furnished to the *PEM Board* for its information.

3.3.7 The *PEM Audit Committee* shall prepare and submit to the *PEM Board* Quarterly Audit Assessment Reports, which shall contain:

- a) A list of the audits in progress and the corresponding status of the same;
- b) A summarized description of the scope, main finding and recommendations of the audits, assessment and reviews finalized during the month;
- c) An update on the implementation of the audit recommendations and committed action plans; and

- d) Any recommendation that may arise from the experiences in the audits conducted.
- 3.3.8 No later than three (3) months after the end of the calendar year, the *PEM Audit Committee* shall submit to the *PEM Board* its Annual Report, which sets out the accomplishments of the Committee during the subject year and the proposed Work Plan for the coming year.
- 3.3.9 The *PEM Audit Committee* shall publish its Annual Report in the Governance Arm Website.

SECTION 4. ENGAGEMENT OF QUALIFIED AUDITORS

- 4.1 Pursuant to *WESM Rules* Clause 5.2.6.3, and Clause 1.4.3 of the *Retail Rules*, the *PEM Audit Committee* may engage the services of qualified team of auditors in the following:
 - a) audit of *Metering Service Providers*, metering equipment, installations and processes;
 - b) audit and/or certification of the *Market Operator* software;
 - c) audit of the *WESM* and the market processes and systems in relation to generation scheduling, dispatch and settlement of the *Market Operator* to assess adequacy and verify compliance with the *WESM Rules*;
 - d) audit of the *Central Registration Body* and the systems, processes and procedures and other matters relevant to the operation of the *Central Registration Body* and the performance of its functions as set forth in these *Retail Rules*;
 - e) testing and checking any new items or new versions of market-related software used by the *Central Registration Body* or provided by the *Central Registration Body* for use by *WESM Members*;
 - f) audit as may be requested by the Enforcement and Compliance Office, the *Compliance Committee*, or the *PEM Board* to assess the finding of breach; and
 - g) other audits as may be requested by the *PEM Board*.

The *PEM Audit Committee* may engage the services of *Independent Auditors* or the internal audit unit of the Governance Arm. The internal audit unit of the Governance Arm must have the sufficient and adequate expertise, certifications, and resources for the conduct of applicable audits and have completed the required capacity building and training.

The PEM Audit Committee shall define the guidelines in engaging the services of the *Independent Auditors* and the internal audit unit of the *Governance Arm* for the conduct of applicable audits.

- 4.2 The *PEM Audit Committee* shall endeavor to maximize the use of the members of *Technical Committee* as technical experts or resource persons in relevant audit activities that the *PEM Audit Committee* oversees, subject to compliance with the independence provisions and qualifications established by the *WESM Rules*.
- 4.3 The engagement of an *Independent Auditor* by the *PEM Audit Committee* shall be approved according to the established guidelines of the Governance Arm. In each instance where the *PEM Audit Committee* requires external and independent experts for its audits, the *PEM Audit Committee* shall prepare the terms of reference for the audit work, describing the scope of work, timeframe and deliverables. The terms of reference shall also describe the mechanism to evaluate proposals and determine the winner that will be contracted as independent external auditor.

SECTION 5. AUDITS

5.1 GUIDELINES FOR THE CONDUCT OF AUDITS

- 5.1.1 All audits as enumerated under Section 5 of this Manual shall be conducted or supervised and coordinated by the *PEM Audit Committee*.
- 5.1.2 Each audit shall include the following:
- a) Terms of reference with a list of tasks, covering the processes, information and systems to be audited;
 - b) An audit process within a specified timeframe;
 - c) An audit report, describing:
 - i. The audit process;
 - ii. Main findings, highlighting areas where there are non-compliances with the *WESM Rules*, *Retail Rules* or *Market Manuals*; and
 - iii. Conclusions and recommendations.
- 5.1.3 The *PEM Audit Committee*, in consultation with the Auditee, shall prepare the terms of reference for the audit to be conducted.
- 5.1.4 The terms of reference for all audits shall be published in the Governance Arm Website for comments of *WESM Participants* and interested parties. The *PEM Audit Committee* shall take into consideration the comments and observations received and revise the terms of reference accordingly, as applicable.

- 5.1.5 In order to streamline the audit process and avoid unnecessary duplications, where possible, the *PEM Audit Committee* shall coordinate with the Auditee on the scope of the audit to be conducted.

5.2 AUDIT OF THE SPOT MARKET AND THE MARKET OPERATOR

- 5.2.1 The *PEM Audit Committee* shall conduct periodic audits at least once at interval not exceeding three years from the last audit considering the results of past audits that indicate that the *Market Operator* has demonstrated an acceptable level of maturity in its compliance with the *WESM rules* and related standards.

After the first three (3) audits of a particular system or process, the PAC may consider reducing the frequency of the periodic audits based on the *Market Operator's* compliance maturity level. The PAC deems a system or process to be mature when it has consistently exhibit no or minimal audit findings for the past three (3) audits and whose impact do not pose significant operational, legal or market risks.

- 5.2.2 The general objectives of the audit of the spot market and the *Market Operator* are to:

- a) Assess the procedures and working processes of the *Market Operator*;
- b) Assess the usefulness and appropriateness of the settlement system, data management and other procedures and working processes of the *Market Operator* to administer the *WESM*, in order to:
 - i. Identify appropriate steps and measures to help the *Market Operator* effectively and efficiently perform its responsibilities in time and form in accordance with the *WESM Rules*, *Retail Rules* and *Market Manuals*;
 - ii. Review the *Market Operator's* practices and work processes to ensure the necessary transparency, independence, predictability and non-discrimination, and compliance with the *WESM Rules* and best international practices; and
 - iii. Assess if the systems, calculations, information flows and data management protect accuracy and quality of the data and results in non-discriminatory generation scheduling, dispatch, prices and settlement, as well as evaluate if internal controls exist and are sufficient to guarantee security and confidentiality where appropriate.
- c) Assess the usefulness and appropriateness of the interfaces and exchange of information between the *System Operator* and the *Market Operator* in relation to generation scheduling, constraints and dispatch;
- d) Review compliance by the *Market Operator* with the *WESM Rules*, its *Market Manuals*, and among other things, the *Market Operator's* compliance with the

scheduling and central dispatch procedures under the *WESM Rules* and applicable *Market Manuals* and the feasibility and adequacy of the scheduling and central dispatch procedures; and

- e) Recommend improvements in the spot market and the operation of the *Market Operator* where necessary.

5.2.3 The following criteria shall be used to assess the spot market and the *Market Operator*:

- a) Clear accountability in the performance of *Market Operator* functions and responsibilities;
- b) Adequacy of trained staff to perform the assigned tasks and use the systems;
- c) Efficiency of processes (e.g. time response);
- d) Accuracy of tasks (e.g. number of errors in settlement statements);
- e) Compliance with the *WESM Rules* and its *Market Manuals*;
- f) Alignment of processes with the *WESM Rules* and its *Market Manuals*; and
- g) Quality of the service measured in terms of frequency and level of complaints.

5.2.4 In order to streamline the audit process and avoid unnecessary duplications, where possible, the *PEM Audit Committee* shall coordinate with the *Market Operator* on the scope of the audit of the spot market.

5.2.5 The *PEM Audit Committee* with the assistance of the *Market Operator*, shall prepare the standard terms of reference for the audit of the spot market and the *Market Operator* covering the general scope described in Section 5.2.2. The standard terms of reference shall include the following tasks:

- a) Verification that all market-related software that have been modified or newly-deployed by the *Market Operator* for the *WESM* comply with the *WESM Rules* and *Market Manuals*;
- b) Review of the calculations and allocations performed to determine energy for the settlement calculations in each trading point and for each *Trading Participant*, and the adequacy of the metering systems;
- c) Review of the calculations and allocations performed in the settlement process, and the adequacy and usefulness of the settlement systems;
- d) Review and assessment of the billing and settlement system;
- e) Review and assessment of the procedures, processes and systems for generation scheduling and dispatch, including management of submission and validation of

bids and offers as well as the adequacy and usefulness of the coordination arrangements and systems of the *System Operator*;

- f) Review and assessment of the processes for software management and data protection;
- g) Review of the *Market Operator's* compliance with the *WESM Rules* and *Market Manuals* and as necessary, recommendations for enhancements in processes to achieve best international practices;
- h) Review of the market assessment system administered by the Market Assessment Group, and any procedures used by the Market Assessment Group in the collection, validation and processing of market monitoring data, and calculation of monitoring indices; and
- i) Except for the first audit, review of the measures and actions taken by the *Market Operator* in view of the findings and recommendations of the previous audit, and assessment of the adequacy and effective results of such measures and actions.

5.3 AUDIT OF THE SOFTWARE OF THE MARKET OPERATOR

5.3.1 The Market Operator shall not implement a new software or associated system, or modify an existing software or its associated system for generation scheduling, dispatch or settlement or price calculation relevant to the *WESM* without –

- a) Prior notice to all *WESM Members*, *PEM Audit Committee*, the *PEM Board*, the DOE and the ERC; and
- b) Undergoing the ICT Change Management Process instituted by the Market Operator in accordance with *WESM Rules* Clause 5.2.6.2.

5.3.2 All new software or modifications to existing software shall be implemented through the ICT Change Management Process and shall be subject to post audit and/or certification to ensure proper and timely review, approval, and monitoring of all activities on all stages of the change management process.

5.3.3 If the *Market Operator* wants to implement a new software for generation scheduling, dispatch, price calculation or settlement, or modify or replace an existing one, the *Market Operator* shall send a report to the *PEM Audit Committee* describing –

- a) The software to be implemented (a new software) or the software to be modified;
- b) If an existing software is going to be modified or replaced, a description of –
 - i. The reasons that justify the change, including any problem or shortfall identified in the existing software, if any;

- ii. Expected improvements, particularly in relation to transparency, efficiency, data processing and response time; and
 - iii. The scope of the proposed modification or, if the existing software is going to be replaced, the description of the new software and main differences with the existing one.
 - c) If a new software is going to be implemented, a description of -
 - i. The reasons that justify the new software, particularly the expected improvements in efficiency, data processing and response time;
 - ii. The description of the new software;
 - iii. The description of the tests performed and results that prove that the software has been sufficiently and adequately tested in trial mode, produces accurate results and is ready for implementation; and
 - iv. Findings and details thereof, proving that the modified or new software will be in full compliance with the *WESM Rules*.
- 5.3.4 As part of the software review, the following information shall be submitted to the *PEM Audit Committee*:
- a) list of all software that have been implemented and modified within the covered audit period; and
 - b) documentation of all the tests performed and results that prove that the software has been sufficiently and adequately tested in trial mode, produces accurate results and is ready for implementation.
- 5.3.5 The *PEM Audit Committee* shall review the report of the *Market Operator* and may request clarifications and further information. In particular, the *PEM Audit Committee* may organize a meeting with the relevant staff of the *Market Operator* to discuss the characteristics, any limitation or potential problem, and other conditions of the software that may impact predictability, transparency or compliance with the *WESM Rules*.
- 5.3.6 The review of the software of the *Marker Operator* shall encompass the testing of the software to verify accuracy of results and compliance with all the requirements and procedures established in the *WESM Rules*. The *PEM Audit Committee* shall request a series of test runs of the software to verify that it works properly, even in special conditions.
- 5.3.7 After finalizing the review and tests, as applicable, and based on the information gathered, the *PEM Audit Committee* shall prepare and submit to the *Market Operator* and the *PEM Board* a Software Review Report. The outcome of the review and recommendation shall indicate –

- a) If the software is ready for implementation and in compliance with the *WESM Rules* and the *WESM* objectives; or
- b) Recommendations on measures or changes prior to implementing the software, to ensure full compliance with the *WESM Rules* and the *WESM* objectives.

5.3.8 Once the *PEM Audit Committee* determines that the software is accurate and ready for use, the *PEM Audit Committee* will prepare and submit to the *Market Operator* a Software Review Report approving the software, with copy thereof furnished to the *PEM Board*. For software ready for use by *WESM Members*, the *Market Operator* shall publish the approval of the new software or the change to the existing software in the Governance Arm Website for the information of the *WESM Members*.

5.3.9 The certification issued by the auditor that the settlement software is consistent with the *WESM Rules* shall serve as evidence that the charges or payments shown in a settlement statement have been calculated by a method consistent with the *WESM Rules*.

5.4 REVIEW OF METERING INSTALLATIONS AND ARRANGEMENTS

5.4.1 In accordance with the *Philippine Grid Code* and the *Philippine Distribution Code*, *Metering Services Providers*, both in the *WESM* and in the Retail Market, 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 *Metering Services Provider* shall take all reasonable steps to prevent unauthorized interference with the metering equipment.

5.4.2 As established in both the *Philippine Grid Code* and the *Philippine Distribution Code*, a User shall have the right to request an audit of the settlement data related to its account and the right to choose an independent third party qualified to perform the audit. In such cases, the *System Operator*, *Metering Services Providers* and *Market Operator* shall cooperate in the auditing process.

5.4.3 The general objective of the Review of Metering Installations and Arrangements is to assess the adequacy of the metering standards and security systems and processes in the *WESM* and in the Retail Market.

5.4.4 The *PEM Audit Committee* in consultation with the *Market Operator* and *Metering Service Providers (MSP)* shall review the security arrangements and requirements of metering installations.

The *PEM Audit Committee* shall conduct periodic audits at least once at interval not exceeding three years from the last audit considering the results of past audits that

indicate that the *Metering Service Providers* have demonstrated an acceptable level of maturity in its compliance with the *WESM rules* and related standards.

After the first three (3) audits of a particular system or process, the PAC may consider reducing the frequency of the periodic audits based on the *Metering Service Providers'* compliance maturity level. The PAC deems a system or process to be mature when it has consistently exhibit no or minimal audit findings for the past three (3) audits and whose impact do not pose significant operational, legal or market risks.

5.4.5 The *PEM Audit Committee*, supported by the *Technical Committee*, shall conduct an audit regarding the following:

- a) Compliance with the requirements of metering installations;
- b) Compliance with the security arrangements associated to metering systems and processes; and
- c) Adequacy of security arrangements by the *Market Operator* and work procedures by *Metering Services Providers*.

5.4.6 The *PEM Audit Committee*, in consultation with the *Technical Committee*, 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*.

5.5 AUDIT OF THE CENTRAL REGISTRATION BODY

5.5.1 The *PEM Audit Committee* shall conduct an audit of the *Central Registration Body (CRB)* and its systems, processes and procedures and other matters relevant to the operation of the *Central Registration Body*.

The *PEM Audit Committee* shall conduct periodic audits at least once at interval not exceeding three years from the last audit considering the results of past audits that indicate that the *Central Registration Body* has demonstrated an acceptable level of maturity in its compliance with the *WESM rules* and related standards.

After the first three (3) audits of a particular system or process, the PAC may consider reducing the frequency of the periodic audits based on the *Central Registration Body's* compliance maturity level. The PAC deems a system or process to be mature when it has consistently exhibit no or minimal audit findings for the past three (3) audits and whose impact do not pose significant operational, legal or market risks.

5.5.2 The general objectives of the audit of the *Central Registration Body* are to:

- a) Assess the procedures and working processes of the *Central Registration Body*;

- b) Assess the usefulness and appropriateness of the systems, data management and other procedures and working processes of the *Central Registration Body* to administer the Retail Market in order to:
 - i. Identify appropriate steps and measures to help the *Central Registration Body* effectively and efficiently perform its responsibilities in time and form in accordance with the *Retail Rules* and its *Market Manuals*;
 - ii. Review that the *Central Registration Body's* practices and work processes to ensure the necessary transparency, independence, predictability and non-discrimination, and compliance with the *Retail Rules* and best international practices; and
 - iii. Assess if the systems, calculations, information flows and data management protect accuracy and quality of the data and results are non-discriminatory, as well as evaluate if internal controls exist and are sufficient to guarantee security and confidentiality where appropriate.
- c) Review compliance by the *Central Registration Body* with the *Retail Rules* and its *Market Manuals*; and
- d) Recommend improvements in the retail market and the operation of the *Central Registration Body*, where necessary.

5.5.3 The following criteria shall be used to assess the *Central Registration Body*:

- a) Clear accountability in the performance of the *Central Registration Body's* functions and responsibilities;
- b) Adequacy of trained staff to perform the assigned tasks and use the systems;
- c) Efficiency of processes (e.g. time response);
- d) Accuracy of tasks (e.g. numbers of errors in settlement statements);
- e) Compliance with the *Retail Rules* and its *Market Manuals*;
- f) Alignment of processes with the *Retail Rules* and its *Market Manuals*; and
- g) Quality of the service measured in terms of frequency and level of complaints.

5.5.4 In order to streamline the audit process and avoid unnecessary duplications, where possible, the *PEM Audit Committee* shall coordinate with the *Central Registration Body* on the scope of the audit of the market.

5.5.5 The *PEM Audit Committee* with the assistance of the *Central Registration Body*, shall prepare the standard terms of reference for the audit of the *Central Registration Body*

covering the general scope described in the previous paragraph. The standard terms of reference shall include the following tasks:

- a) Review of the systems, processes and procedures of the *Central Registration Body* and other matters relevant to the operation of the *Central Registration Body* and the performance of its functions as set out in the *Retail Rules*;
- b) Test and check any new items or new versions of market-related software used by the *Central Registration Body* or provided by the *Central Registration Body* for use by *WESM Members*;
- c) Review of the calculations and allocations performed to determine energy for the settlement calculations in each trading point and for each *Trading Participant*;
- d) Review and assessment of the processes for software management and data protection; and
- e) Review of the *Central Registration Body's* compliance with the *WESM Rules*, *Retail Rules* and relevant *Market Manuals* and as necessary, recommendations for enhancements in processes to achieve best international practices.

5.6 AUDIT AS REQUESTED BY THE ENFORCEMENT AND COMPLIANCE OFFICE

5.6.1 If requested by the *Enforcement and Compliance Office* or the *Compliance Committee*, the *PEM Audit Committee* may audit a *WESM Member*, a *Metering Services Provider*, the *System Operator* or the *Market Operator* in relation to compliance with specific rules or standards or procedures in relation to generation scheduling, dispatch, bidding, prices and settlement, as established by the *WESM Rules*. The *Enforcement and Compliance Office* shall inform the party or parties to be audited on the conduct of an audit, the specific type of audit to be conducted, and the facilities, processes, systems or information to be audited.

5.6.2 The *PEM Audit Committee* may conduct specific audits of:

- a) *WESM Members'* facilities, processes and/or information provided to the *Market Operator/Central Registration Body*; or
- b) Specific systems and processes of the *System Operator/Central Registration Body*; or
- c) Specific systems and processes of the *Market Operator/Central Registration Body* in relation to generation scheduling, constraints, bids and offers, dispatch, price calculation and settlement.

- 5.6.3 The *Enforcement and Compliance Office* shall request and coordinate with the *PEM Audit Committee* on the required audit, as established in the previous paragraph.
- 5.6.4 Under confidentiality obligation, the *Enforcement and Compliance Office* shall provide the *PEM Audit Committee* all the required information and data to assess the alleged breach or to identify the details to be audited.
- 5.6.5 The party in alleged breach has the obligation to cooperate with the *PEM Audit Committee* in the audit process, providing all the relevant data and other information requested by the *PEM Audit Committee* and allowing the necessary tests and audits.
- 5.6.6 In case the party being audited objects to submitting the data or information requested by the *PEM Audit Committee*, the *PEM Audit Committee* shall ask the *Compliance Committee* to request such data and information, and the *Compliance Committee* shall then provide it to the *PEM Audit Committee* within the established confidentiality provisions. If the party does not provide the data and information requested by the *Compliance Committee*, it shall be considered a breach of the *WESM Rules*.
- 5.6.7 In all cases, the party being audited is obliged to allow and facilitate the tests and audits requested by the *PEM Audit Committee*, provided that the *PEM Audit Committee* shall give an advance notice of not less than fifteen (15) business days for any test or audit required, including a description of the scope and details of the test and audit. Not allowing the test or audits requested by the *PEM Audit Committee* shall be considered a breach.

5.7 AUDIT PROCESS

- 5.7.1 The *PEM Audit Committee* shall inform the party to be audited at least fifteen (15) business days ahead of the proposed date of the audit. In this notification, the following information will also be included;
- a) The criteria, standards, rules or requirements that will be assessed during the audit;
 - b) The length of time that the *PEM Audit Committee* reasonably believes will be required for the audit;
 - c) The information and data required, together with the format and deadlines for its submission; and
 - d) The names of the auditors who shall be conducting the audit.
- 5.7.2 The *PEM Audit Committee*, or through its designated auditors, shall carry out the tests, collection of data and other information, review of documents, processes and other adequate arrangements to assess and verify the standards, requirements and compliance with the *WESM Rules*, *Retail Rules* and its *Market Manuals* as applicable.

5.7.3 As necessary, field audits of facilities or systems shall be undertaken, which may include technical tests and verifications and review of working processes and compliance of such processes by relevant staff.

5.7.4 The field audit shall comply with the following steps:

- a) The *PEM Audit Committee* shall advise the auditor of the facilities to be audited, the scope of the audit, the details of the tests to be conducted and results to be obtained;
- b) The *PEM Audit Committee* shall inform the party to be audited (the one who is responsible for the facilities to be audited) of the audit and the name of the auditor at least fifteen (15) days prior to the schedule of the audit;
- c) The auditor shall contact the party to be audited and inform both the party to be audited and the *PEM Audit Committee* of the proposed timetable and work plan. The party to be audited may request changes to the timetable for valid reasons, but in no case cause a delay greater than five (5) business days to the audit;
- d) The auditor shall visit the site and perform the planned tests on facilities and/or collect the required data. Staff of the party may be audited;
- e) The auditor may ask the *PEM Audit Committee* to request data and other information from the *System Operator* and the *Market Operator* as applicable, to compare the data obtained in the tests or audits from the data submitted to the *System Operator* or the *Market Operator* by the party audited;
- f) The auditor shall conduct an end of audit meeting with the party audited to explain the first preliminary findings; and
- g) The auditor shall submit his report to the *PEM Audit Committee*.

5.7.5 The *PEM Audit Committee* shall review the report and recommendations submitted by the auditor and send the same to the Auditees for comment.

5.7.6 The Auditees shall review the draft final report, and provide comments or request clarifications, as necessary. The *PEM Audit Committee* shall review the comments and observations received from the Auditees and facilitate revisions on the draft final report, as applicable.

5.8 AUDIT RESULTS

5.8.1 The *PEM Audit Committee* or its designated auditor(s), as applicable, shall prepare an *Audit Report* with the audit results, identifying and describing the following:

- a) Main findings;
- b) Conditions that correspond to non- compliance;

- c) Practices or processes or systems that should be enhanced, describing the recommended enhancements;
 - d) Recommendations for rules change if necessary; and
 - e) Other recommendations to solve or address problems or non-compliance, or other issues such as quality control, best practices and staff adequacy.
- 5.8.2 The auditor shall submit all deliverables and at the end of an audit, send its *Audit Report* to the *PEM Audit Committee* for review and acceptance.
- 5.8.3 At the end of the audit, as applicable, the *PEM Audit Committee* shall send to the entity that requested the audit the *Audit Report*, with the audit findings, recommendations and proposed actions. The *PEM Audit Committee* shall also send copy of the report to the party audited.

5.9 AUDIT COSTS

- 5.9.1 PEMC shall shoulder the cost of the audits conducted by the *PEM Audit Committee*.
- 5.9.2 The cost of a special audit shall be paid by the party that requested the audit, unless the audit was requested to verify compliance and the audit findings show non-compliance, in which case the party or parties in non-compliance shall pay the cost of the audit.

SECTION 6. DATA AND INFORMATION
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- 6.1 The *System Operator* shall ensure an audit trail of documentation that is fully adequate to substantiate and reconstruct all relevant actions performed. For data and documents related to the *WESM Rules* and this Manual, such audit trail shall be maintained for a period of at least seven (7) years, unless specified otherwise in the *WESM Rules* or other Applicable Law, Rules and Regulations.
- 6.2 The *System Operator* shall provide the *PEM Audit Committee* or auditors designated by the *PEM Audit Committee*, all the information required for auditing purposes, within the timeframe and format required.
- 6.3 The *System Operator* shall retain the information provided by *WESM Members* and the *Market Operator*, and the data calculated and reports prepared in the planning and operation of the system, for the period and in accordance to the conditions established in the *WESM Rules* and the *Grid Code*. The storing of such information shall be appropriate for reasonable access as may be required for auditing purposes.

- 6.4 The *Market Operator* shall ensure an adequate audit trail of documentation to substantiate and reconstruct all relevant actions performed. For data and documents related to the *WESM Rules* and this Manual, such audit trail shall be maintained for a period of at least seven (7) years, unless specified otherwise in the *WESM Rules* or other Applicable Law, Rules and Regulations.
- 6.5 The *Market Operator* shall provide the *PEM Audit Committee* or auditors designated by the *PEM Audit Committee* all the information required for auditing purposes, within the timeframe and format required.
- 6.6 The *Market Operator* shall retain information provided by the *System Operator* and other *WESM Members*, and the data calculated and reports prepared in generation scheduling, dispatch and administration of the WESM and its settlement system, in accordance with the *WESM Rules*. The storing of such information shall be appropriate for reasonable access as may be required for auditing purposes of the *WESM* and the *Market Operator*.
- 6.7 A party audited shall submit in a timely manner the complete data, documents and other information requested by the *PEM Audit Committee* or its designated auditor.
- 6.8 When a party is notified that an audit will be conducted, the party shall cooperate with the audit and shall provide the *PEMC* staff or designated auditors, access to the facilities, systems and information to be audited.
- 6.9 The *PEM Audit Committee* shall not disclose any information obtained in carrying out its functions and responsibilities, or any finding and recommendations resulting from an audit process, except as provided in this Manual and in the *WESM Rules* and the *Retail Rules*.
- 6.10 The *PEM Audit Committee* shall not use any information, be it confidential or not, obtained in carrying out its functions and responsibilities for other purposes than those established in this Manual and in the *WESM Rules* and in the *Retail Rules*.
- 6.11 When applicable in accordance with the confidentiality provision in the *WESM Rules*, the *Retail Rules* and this Manual, information submitted to the *PEM Audit Committee* will be designated and marked as "Confidential" and will be administered with measures considered by the *PEM Audit Committee* as necessary and reasonable to protect the confidentiality of the information.
- 6.12 A party providing any document or other information in the course of an audit may request that the document or information be designated as confidential, if such document or information qualifies as confidential according to the confidentiality provisions in the *WESM Rules*. The *PEM Audit Committee* shall assess the confidentiality claim and, at its own discretion, determine the validity of the request. If the *PEM Audit Committee* agrees that the document or information qualifies as confidential, the document or information will be designated and marked as "Confidential".

- 6.13 The *PEM Audit Committee*, *Technical Committee* and other auditors, as applicable, shall enter into a confidentiality agreement with the entity providing the information, as necessary.

SECTION 7. LIMITATION OF LIABILITY AND INDEMNIFICATION

- 7.1 In performing its audit and review functions and responsibilities as contained in this Manual, the members of the *PEM Audit Committee* and the *Technical Committee* shall not be personally liable for any loss or damage suffered or incurred by a *WESM Member*, the *System Operator*, the *Metering Services Providers*, *Market Operator* or any other person as a consequence of any act or omission of those persons in the performance of their functions unless the member of the *PEM Audit Committee* or the *Technical Committee* member, as the case may be, acted with malice, manifest partiality, bad faith, gross incompetence or gross negligence.
- 7.2 Except for liability arising out of conduct involving malice, manifest partiality, bad faith, gross incompetence or gross negligence, if any member of the *PEM Audit Committee* or the *Technical Committee* is made liable to pay any amount for loss or damage suffered or incurred by any person or entity as a consequence of any of its acts or omissions in the performance of its duties, the *PEMC* shall indemnify said persons through an indemnification process to be developed by the *PEM Board*. Said indemnification shall cover:
- a) The full amount adjudged; and
 - b) The costs and expenses incurred by the *PEM Audit Committee* or the *Technical Committee*, as applicable, in defending itself in the related proceeding(s).

SECTION 8. AMENDMENT AND EFFECTIVITY OF THE MANUAL

- 8.1 Any amendment to this Manual shall be approved by the DOE, following the procedures for changes to *Market Manuals* set out in the *WESM Rules* and in the relevant *Market Manual*.
- 8.2 This *Market Manual*, as it may be amended from time to time, shall be published in the Governance Arm website.

This *Market Manual* or any amendment thereto shall become effective upon approval of the DOE in accordance with *WESM Rules* Clause 8.6.4. The date of the effectivity shall be indicated in this document.