

**WHOLESALE ELECTRICITY SPOT MARKET
RULES CHANGE COMMITTEE**

RESOLUTION No. 2010-02

**Proposed Changes to the WESM Rules and PEM Audit Market Manual
Concerning Software Changes**

WHEREAS, Section 5.2.6.2 of the WESM Rules (the "Rules") and Section 10 of the PEM Audit Market Manual (the "Manual") require audit certification for all software changes;

WHEREAS, there is a need to amend the Rules and Manual to address the time and resource constraints imposed upon the Market Operator (MO) by the present software audit process;

WHEREAS, on 24 March 2009, the PEMC IS/IT Management Department submitted its proposed changes to the Rules and Manual to the Rules Change Committee (RCC), for approval;

WHEREAS, the proposed amendments to Section 5.2.6.2 of the Rules will allow the MO to implement minor or urgent software changes without prior audit, where the same is approved by the PEM Board ;

WHEREAS, the proposed new Section 10.5 of the Manual reflect the aforementioned proposed revision to the Rules pertaining to new or modified software for immediate implementation;

WHEREAS, during the 26th RCC Meeting on 22 July 2009, the previous RCC approved, in principle, the proposed amendments subject to further revisions to include the criteria for determining "minor software changes" and "urgent software changes";

WHEREAS, during the 28th RCC Meeting on 11 November 2009, the proposed amendments were presented to the newly-reconstituted RCC, for review and approval;

WHEREAS, during the said 28th RCC meeting, the RCC agreed to revise the proposed rules changes to incorporate the following suggestions by the RCC:

- Incorporate definition of "minor software changes" and "urgent software changes" in the WESM Rules;
- Delete MO-proposed Section 10.5.9 limiting the liability of the PEM Board and the Market Operator;

WHEREAS, during the 29th RCC meeting on 02 December 2009, the RCC agreed to adopt the revised proposed rules changes, incorporating the RCC comments/suggestions;

WHEREAS, during the said 29th meeting, the RCC further agreed to elevate to the PEM Board the proposed new Section 10.5.9 of the Manual, for the Board's resolution whether this section will be removed or not;

NOW THEREFORE, we, the undersigned and in behalf of the sector we represent, hereby resolve as follows:

RESOLVED, that the proposed amendments to the WESM Rules (attached as Annex "A") and PEM Audit Manual (attached as Annex "B"), as revised by the RCC, are adopted and approved in full;

RESOLVED FURTHER, that the effectivity of the proposed changes to the PEM Audit Manual shall take effect upon the approval and publication of the proposed changes to the WESM Rules; and

RESOLVED FINALLY, that the proposed amendments to the WESM Rules and PEM Audit Manual be endorsed to the PEM Board for approval.

Done this 10th day of March 2010, Pasig City.

<p>Approved by :</p> <p>RULES CHANGE COMMITTEE</p> <p>Epictetus E. Patalingnug Acting Chairperson Independent University of the Philippines (UP)</p>	
<p>Members:</p>	
<p>Cherry Aquino-Javier Generation Sector AES Philippines (AES)</p>	<p>Ralph T. Crisologo [Redacted] Sector SN Abotiz Power (SNAP)</p>
<p>Liberty Z. Dumiao Generation Sector Power Sector Assets and Liabilities Management Corporation (PSALM)</p>	<p>Alfredo L. Licudine, Jr. Generation Sector National Power Corporation (NAPOCOR)</p>
<p>Raul Joseph G. Seludo Transmission Sector National Grid Corporation of the Philippines (NGCP)</p>	<p>Vicente C. Sison Distribution Sector (PDU) Manila Electric Company (MERALCO)</p>
<p>Jose P. Santos Distribution Sector (EC) Ilocos Norte Electric Cooperative (INEC)</p>	<p>Conrado D. Pecjo Supply Sector Angeles Power, Inc.</p>
<p>Robinson P. Descanzo Market Operator Philippine Electricity Market Corporation (PEMC)</p>	<p>Gloria P. Gerilla-Teknomo Independent CPI-Energy Phils., Inc.</p>
	<p>Certified True and Correct:</p> <p>Elaine D. Gonzales RCC Secretary PEMC</p>

Proposed Changes to the WESM Rules concerning Software Changes
RCC/WESM-09/03

Original Provision	MO Proposed Amendment (As endorsed by the PEM Audit Committee)		RCC-Approved Proposed Amendment	
	On 23 March 2009	Rationale		Remarks
<p>5.2.6.2 Market Audit</p> <p>The spot market audit shall cover and review compliance by the Market Operator with its procedures and the effectiveness and appropriateness of systems utilized in the operation of the spot market, including but not limited to:</p> <p>(a) Valid audit certificates for the current versions of all numeric software;</p> <p>(b) The calculations and allocations performed by the metering and settlements systems;</p> <p>(c) Billing and information systems;</p> <p>(d) The scheduling and dispatch processes;</p> <p>(e) The processes for software management; and</p> <p>(f) The Market Operator's compliance with the WESM Rules.</p>	<p>The spot market audit shall cover and review compliance by the Market Operator with its procedures and the effectiveness and appropriateness of systems utilized in the operation of the spot market, including but not limited to:</p> <p>(a) <u>Review of valid</u> audit certificates for the current versions of all numeric software;</p> <p><u>(b) Review of the current versions of all numeric software:</u></p> <p><u>(c) Review of software which were approved by the PEM Board for implementation prior to the acquisition of an audit certificate:</u></p> <p>(b) <u>Review of</u> the calculations and allocations performed by the metering and settlements systems;</p> <p><u>(d)</u> (e) <u>Review of the</u> billing and information systems;</p> <p><u>(e)</u> (d) <u>Review of the</u> scheduling and dispatch processes;</p> <p><u>(f)</u> (e) <u>Review of</u> the processes for software management; and</p> <p><u>(g)</u> (f) <u>Review of</u> the Market Operator's compliance with the</p>	<p>The proposed amendments to the WESM Rules, particularly item (c), enable the Market Operator to immediately implement urgent software changes (whether developed in-house or by software vendors) without disrupting its daily operations.</p> <p>All other proposed amendments are clerical.</p>	<p>The spot market audit shall cover and review compliance by the Market Operator with its procedures and the effectiveness and appropriateness of systems utilized in the operation of the spot market, including but not limited to:</p> <p>(a) Valid audit certificates for the current versions of all numeric software;</p> <p>(b) <u>Minor software changes or urgent software changes, which were approved by the PEM Board for implementation prior to the acquisition of an audit certificate:</u></p> <p>(c) (b) The calculations and allocations performed by the metering and settlements systems;</p> <p>(d) (e) Billing and information systems;</p> <p>(e) (d) The scheduling and dispatch processes;</p> <p>(f) (e) The processes for software management; and</p> <p>(g) (f) The Market Operator's compliance with the WESM</p>	<p>For clarity purposes, remove the phrase "review of".</p>

Original Provision	MO Proposed Amendment (As endorsed by the PEM Audit Committee)		RCC-Approved Proposed Amendment	
	WESM Rules.		<p>Rules.</p> <p><u>5.2.6.2.1 Minor and Urgent Software Changes:</u></p> <p><u>A minor software change is one that satisfies the following criteria:</u></p> <p><u>(a) does not require a change in the WESM Rules;</u></p> <p><u>(b) affects only the internal processes of the Market Operator; and</u></p> <p><u>(c) does not affect the results of the market.</u></p> <p><u>An urgent software change is one required to implement a decision, order, regulation, circular or issuance of the DOE or the ERC.</u></p>	<p>Section 5.2.6.2.1 was included upon the recommendation of the RCC to define Minor and Urgent Software Changes in the WESM Rules.</p>

Proposed Changes to the PEM Audit Manual, Issue 1.0, concerning Software Changes
RCC/WESM-09/04

Original Provision	MO Proposed Amendment (As endorsed by the PEM Audit Committee)		RCC-Approved Proposed Amendments	
	On 23 March 2009	Rationale		Remarks
<p>10.1.1 Software of the Market Operator</p> <p>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 prior -</p> <p>(a) Notice to all WESM Members and the PEM Board; and</p> <p>(b) Auditing the software and/or system as established in this Manual, to obtain a certification that the software and its associated system are adequate and in full compliance with the Market Rules.</p>	<p><u>Subject to Section 10.5 of this Manual, the Market Operator</u> 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 prior -</p> <p>(a) Notice to all <i>WESM Members</i> and the <i>PEM Board</i>; and</p> <p>(b) Auditing <u>of</u> the software and/or system as established in this Manual, to obtain a certification that the software and its associated system are adequate and in full compliance with the Market Rules.</p>	<p>The present PEM Audit Market Manual (the “Manual”) requires all software changes to undergo audit prior to implementation.</p> <p>Considering the time that it takes to complete the required audit tests (about 6 months) and the rapid rate at which technologies change, software sought to be implemented may no longer be responsive to market needs by the time it is approved by the PEM Auditor.</p> <p>In addition, the reports, meetings and test-runs required under the Manual take up much of the market’s resources, especially since the PEM Auditor is likely to contract highly-paid external experts to test and certify new or modified software.</p> <p>The following proposed revisions address the time and resource constraints imposed upon the MO by the present software audit process. The objective is to give the MO some leeway to immediately implement software changes as needed by the spot market, where the same is approved by the PEM Board for immediate implementation.</p>	<p>10.1.1 Software of the Market Operator</p> <p><u>Subject to Section 10.5 of this Manual, the Market Operator</u> 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 prior -</p> <p>(a) Notice to all <i>WESM Members</i> and the <i>PEM Board</i>; and</p> <p>(b) Auditing <u>of</u> the software and/or system as established in this Manual, to obtain a certification that the software and its associated system are adequate and in full compliance with the Market Rules.</p>	<p>-Approved, as proposed-</p> <p>In the last sentence of the Rationale, deleted the term “immediately” and phrase “for immediate implementation” to read as follows:</p> <p>“The objective is to give the MO some leeway to implement minor or urgent software changes without prior audit, where the same is approved by the PEM Board.”</p> <p>The deletion is to distinguish between minor and urgent software changes and to be consistent with the RCC-approved amendments to Section 10.5.3.</p>
New Provision	<u>10.5 Software for Immediate Implementation</u>		<u>10.5 Minor or Urgent Software Change</u>	In accordance with the comments of the RCC, criteria

Original Provision	MO Proposed Amendment (As endorsed by the PEM Audit Committee)		RCC-Approved Proposed Amendments	
			<p><u>10.5.1 A minor software change is one that satisfies the following criteria:</u></p> <p><u>(a) does not require a change in the WESM Rules;</u> <u>(b) affects only the internal processes of the Market Operator; and</u> <u>(c) does not affect the results of the market.</u></p> <p><u>10.5.2 An urgent software change is one required to implement a decision, order, regulation, circular or issuance of the DOE or the ERC.</u></p>	<p>for determining “minor software changes” and “urgent software changes” are inserted (please see RCC-approved changes to Section 10.5.1).</p>
<i>New Provision</i>	<p><u>10.5.1 Prior audit shall not be required where the software and/or system is approved by the PEM Board for immediate implementation in accordance with this Manual.</u></p>		<p><u>10.5.23 The PEM Board shall evaluate whether the proposed software change is a minor software change or an urgent software change, as defined in this Section. Prior audit shall not be required for minor or urgent software changes.</u></p> <p><u>Provided that, such minor or urgent software change is approved by the PEM Board for immediate implementation in accordance with this Manual.</u></p>	<p>Deletion of the word “immediate” is to distinguish between minor and urgent software changes.</p> <p>By its nature, only urgent software changes have to be “immediately” implemented.</p>

Original Provision	MO Proposed Amendment (As endorsed by the PEM Audit Committee)		RCC-Approved Proposed Amendments
<i>New Provision</i>	<p><u>10.5.1 The Notice furnished by the Market Operator under Section 10.1.1(a) of this Manual may contain a Request for Immediate Implementation of the new or modified software on the ground that the same is required by the exigencies of market operations. In cases where the Notice contains such Request, both Notice and Request must be furnished the Market Assessment Group.</u></p>	<p>As the market administrator, it is the MO that is most aware of software changes that need to be immediately implemented to safeguard market efficiency. Any Request for Immediate Implementation of a software must therefore come from the MO.</p> <p>Giving copies of the Notice and Request to the MAG avoids duplication of work. Upon receipt of the Notice and Request, the PEM Auditor, through the MAG, is advised to defer audit of the software until it receives a report from the MO (pursuant to Sections 10.2 and 10.4 of the Manual) indicating that the immediate implementation of the software was disapproved.</p> <p>Incidentally, the underlying policies of streamlining the audit process and avoiding unnecessary duplication of work are themselves recognized under Section 7.1.4 of the present Manual.</p>	<p><u>10.5.34 If the Market Operator wants to put into effect a minor or urgent software change, it shall send a Request for the implementation to the PEM Board, copy furnished all WESM Members and the Market Assessment Group. The request shall include:</u></p> <p><u>(a) A description of the new or modified software to be implemented;</u></p> <p><u>(b) The reasons that justify the implementation of the new or modified software, including problems identified in the existing software that need to be immediately addressed;</u></p> <p><u>(c) The improvements expected from the implementation of the new or modified software;</u></p> <p><u>(d) A description of the test/s performed on the new or modified software and its results showing that the software complies with the WESM Rules and the pertinent regulatory processes, and is ready for use; and</u></p> <p><u>(e) Notice that documentation from the software vendor describing the functionality of the software is available upon request from the Market</u></p> <p>MO-Proposed Section 10.5.2 is incorporated in this RCC-approved section, with revisions.</p>

Original Provision	MO Proposed Amendment (As endorsed by the PEM Audit Committee)		RCC-Approved Proposed Amendments	
			<u>Operator.</u> <u>(e) A Notice directing all WESM Members to file comments on the request within five (5) days from receipt thereof.</u>	Par. (e) was added upon the suggestion of the RCC that the WESM Members should at least be given the opportunity to comment on the proposed software change.
<i>New Provision</i>	<u>10.5.2 A Request for Immediate Implementation shall include:</u> <u>(a) A description of the software to be implemented;</u> <u>(b) The reasons that justify the implementation of the new or modified software, including problems identified in the existing software that need to be immediately addressed;</u> <u>(c) The improvements expected from the implementation of the new or modified software;</u> <u>(d) A description of the test/s performed on the new or modified software and its results showing that the software complies with the WESM Rules and is ready for use; and</u> <u>(e) Notice that documentation from the software vendor describing the functionality of the software is available upon request from the Market Operator.</u>	The contents of a Request are similar to the contents of the MO report submitted to the PEM Auditor under Sections 10.2 and 10.4 of the Manual. This ensures that the PEM Board's decision to approve/disapprove the MO's Request is an informed one. In order to save time and resources, and consistent with the objective of speeding up the software audit process, tests, meetings with the MO, and certifications, which are ordinarily required prior to the implementation of any new or modified software, will not be required for software approved for immediate implementation.	-See previous section-	Incorporated in previous section, with revisions.
<i>New Provision</i>	<u>10.5.3 The Request for</u>	PAC: It may be unrealistic to first secure the approval of all WESM	<u>10.5.45 The Market Operator</u>	The word "nearest" may not be appropriate as it implies

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	<u>Immediate Implementation shall be presented for approval by the PEM Board at its nearest regular or special meeting.</u>	members before a new software is implemented. This is because WESM members financially benefited by the error in the old software are unlikely to give their consent to the implementation of the new software, to the ultimate prejudice of end-consumers. At least at the PEM Board level, consumer interests are protected, due to the presence of Independent Directors. Also, approval by the PEM Board is sufficient protection for the MO, in case accuracy of the software is later contested by WESM Members.	<u>shall render a report on the Request for Immediate Implementation shall be presented for approval by the PEM Board at its nearest regular or special meeting, together with a summary of the comments received from the WESM Members, if any.</u>	location rather than timing. It is also superfluous since it is understood that the MO report should be submitted for PEMC Board approval as soon as possible, especially when it involves urgent software changes mandated by the DOE/ERC.
<i>New Provision</i>	<u>10.5.4 If the PEM Board approves the Market Operator's Request, the Board Resolution evidencing the approval shall be filed with the PEM Auditor copy furnished all WESM Members within five (5) days from the date of the Board meeting where the approval was secured. The approved software shall be implemented seven (7) days after all WESM members have been provided with a copy of the Board Resolution.</u>	Filing the Board Resolution with the PEM Auditor, copy furnished all WESM Members, serves the purpose of informing all concerned that the software has been approved and would soon be implemented.	<u>10.5.65 If the The PEM Board's Resolution approving the approves the Market Operator's request, the Board Resolution evidencing the approval shall be filed with the PEM Auditor copy furnished all WESM Members within five (5) days from the date of the Board meeting where the approval was secured. The approved software shall be implemented put into effect seven (7) days after all WESM members have been provided with a copy of the Board Resolution.</u>	Renumbering and grammatical corrections.
<i>New Provision</i>	<u>10.5.5 Software that has been immediately implemented in accordance with this Section</u>	To guarantee integrity, even software that is approved by the PEM Board for immediate implementation must	<u>10.5.67 Any software change that has been immediately implemented in accordance</u>	Deletion of the word "immediate" is to distinguish between minor and urgent

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	<u>shall nonetheless be subject to subsequent audit by the PEM Auditor no later than the annual audit of the spot market and the Market Operator.</u>	eventually undergo the normal audit procedure, which may include test-runs, certification by external experts, and meetings with the MO. For convenience, this should occur by the annual audit of the spot market and the MO, which shall not be later than October of each year pursuant to Section 7.2 of the Manual.	<u>with this Section shall nonetheless be subject to subsequent audit by the PEM Auditor, as follows:</u> <u>(a) In case of a minor software change, no later than the annual audit of the spot market and the Market Operator;</u> <u>(b) In case of an urgent software change, no later than three (3) months but not more than six (6) months from the date of its implementation, during which period the PEM Auditor shall have rendered its Software Review Report.</u>	software changes. By its nature, only urgent software changes have to be “immediately” implemented. In response to RCC’s request to review whether the 3-month period is sufficient time to conduct a special audit of an urgent software change, the PAC commented that the three-month period should be sufficient provided that there is a retainer agreement with a local auditing firm and that the PEMC has an Internal Audit staff that has IT Audit expertise. The PAC recommended, however, to have a provision in the Manual stating that the PAC can ask for another three-month extension. Taking into consideration the PAC’s recommendation, the RCC agreed to provide a six-month period for the conduct of an urgent software change.
<i>New Provision</i>	<u>10.5.6 The subsequent audit of immediately implemented software shall be conducted in accordance with the procedure outlined in Sections 10.2 to 10.4 of this Manual.</u>	Proposed revision is for avoidance of doubt.	<u>10.5.6 The subsequent audit of immediately implemented software shall be conducted in accordance with the procedure outlined in Sections 10.2 to 10.4 of this Manual.</u>	-Disapproved- Unnecessary provision.

Original Provision	MO Proposed Amendment (As endorsed by the PEM Audit Committee)		RCC-Approved Proposed Amendments	
<i>New Provision</i>	<u>10.5.7 If the <i>PEM Board</i> disapproves the <i>Market Operator’s Request to dispense with a prior audit (reword- reference provision), then prior audit of the software shall be required in accordance with this Manual.</i></u>	Proposed revision is for avoidance of doubt.	<u>10.5.78 If the <i>PEM Board</i> disapproves the <i>Market Operator’s Request to dispense with a prior audit (reword- reference provision), then prior audit of the software shall be required in accordance with this Manual.</i></u>	Renumbered. -Approved, as proposed.
<i>New Provision</i>	<u>10.5.8 Except for liability arising out of malice, manifest partiality, gross incompetence or gross negligence, the PEM Board and/or Market Operator shall not be liable for any error in the data or calculations retrieved from new or modified software immediately implemented in accordance with this Manual.</u>	There are risks in implementing software without prior audit, i.e. it may later be found that the software is inaccurate, its data erroneous etc. The PEM Board/MO should not be held liable for these errors so long as it followed the procedure prescribed under the Manual.	<u>10.5.89 Except for liability arising out of malice, manifest partiality, gross incompetence, or gross negligence or gross misconduct, the PEM Board and/or Market Operator shall not be liable for any error in the data or calculations retrieved from new or modified software immediately implemented prior to the acquisition of an audit certificate in accordance with this Manual.</u>	-Disapproved- There should be no provision in the Manual that will limit the liability of the PEM Board and the Market Operator.
1.2.1 Scope This Manual covers all related activities and procedures in relation to the PEM Auditor, audits of the spot market and the Market Operator and special audits of WESM Members. This includes the following: xxx (g) Procedures and criteria for the PEM Auditor to assess the	This Manual covers all related activities and procedures in relation to the PEM Auditor, audits of the spot market and the Market Operator and special audits of WESM Members. This includes the following: xxx (g) Procedures and criteria for the PEM Auditor to assess the efficiency, validity and	Proposed revision is for consistency with new sections on immediate implementation. New or modified software may already be in place (no longer “proposed”) by the time it is submitted for audit if it was approved for immediate implementation by the PEM Board.	1.2.1 Scope This Manual covers all related activities and procedures in relation to the PEM Auditor, audits of the spot market and the Market Operator and special audits of WESM Members. This includes the following: xxx (g) Procedures and criteria for the PEM Auditor to assess the efficiency, validity and	-Approved, as proposed-

Original Provision	MO Proposed Amendment (As endorsed by the PEM Audit Committee)		RCC-Approved Proposed Amendments	
efficiency, validity and justification of proposed new software or modifications to existing software of the Market Operator; xxx	justification of proposed new software or modifications to existing software of the Market Operator; xxx		justification of proposed new software or modifications to existing software of the Market Operator; xxx	
3.2.1 Scope of Work and Functions The PEM Auditor has the following scope of work and specific functions: xxx (b) Review the adequacy and test any new, upgraded or modified software of the Market Operator for the WESM or to be provided to WESM Members for their own use; xxx	The PEM Auditor has the following scope of work and specific functions: xxx (b) Review the adequacy and test any new, upgraded or modified software of the Market Operator for the WESM or to be provided to WESM Members for their own use; xxx	Proposed revision is for consistency with new sections on provisional acceptance. New, upgraded or modified software may have already been provided to WESM Members before they are submitted for audit if the same was approved for immediate implementation.	3.2.1 Scope of Work and Functions The PEM Auditor has the following scope of work and specific functions: xxx (b) Review the adequacy and test any new, upgraded or modified software of the Market Operator for the WESM or to be provided to WESM Members for their own use; xxx	-Approved, as proposed-
10.3.1 Settlement Software Each year during the month of June or prior to implementation of any modification to the existing settlement software, an independent auditor competent to carry out such type of audit, shall audit the settlement software to determine its consistency with the WESM Rules.	<u>As part of the annual audit.</u> Each year during the month of June or prior to implementation of any modification to the existing settlement software, an independent auditor competent to carry out such type of audit, shall audit the settlement software to determine its consistency with the WESM Rules.	As originally worded, settlement software shall be audited in June (pursuant to Section 10.3.1 of the Manual) and again in October (during the annual audit of the spot market and the MO pursuant to Section 7.2 of the Manual). This process is tedious for both the PEM Auditor and the MO, as both are compelled to prepare reports, hold meetings and conduct test-runs twice a year, in audits that are only four (4) months apart. To streamline the audit process, the annual audit of settlement software must be deemed part of the annual	10.3.1 Settlement Software <u>As part of the annual audit.</u> Each year during the month of June or prior to implementation of any modification to the existing settlement software, an independent auditor competent to carry out such type of audit, shall audit the settlement software to determine its consistency with the WESM Rules.	-Approved, as proposed-

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	<p>audit of the MO and the spot market.</p> <p>Settlement software is unique only insofar as the time when its annual audit must be commenced. While all other systems of the MO (systems affecting generation schedule, dispatch, price calculation) may be audited at any time before October, the annual audit of settlement software must be commenced by June, although it may be concluded along with the annual audit of the MO in October.</p> <p>A similar wording appears in Section 9.2.1 of the Manual, covering the annual audit of the MO's compliance with scheduling and central dispatch procedures under the WESM Rules.</p>	