

**WHOLESALE ELECTRICITY SPOT MARKET
RULES CHANGE COMMITTEE**

RESOLUTION NO. 2013-06

**Proposed Amendments to the WESM Metering Standards and Procedures
Manual Subsection 9.7**

WHEREAS, on 20 March 2013, the Philippine Electricity Market submitted to the Rules Change Committee (RCC) for consideration and approval, the proposed amendments to the WESM Metering Standards and Procedures Manual Subsection 9.7;

WHEREAS, the WESM Rules 4.5.2.2 states the cooperation between the Trading Participant, Network Service Provider, and Market Operator for the computation of losses and Subsection 9.7 of the Metering Standards and Procedures Manual defines the Roles and Responsibilities of the Network Service Provider, Metering Services Providers (MSP), and Market Operator (MO) for the computation of the site specific loss adjustments (SSLA);

WHEREAS, the Market Operator relies on the submitted conductor and power transformer data from the Trading Participants and the Network Service Provider (NSP) , before it computes the physical losses between the metering point and the market trading node (MTN) since the amount of computed losses depends heavily on the completeness and accuracy of the said conductor and power transformer data;

WHEREAS, the proposed amendments seek to expound Subsection 9.7 of the Manual to: (a) incorporate how often the NSP should submit conductor and power transformer data to the Market Operator; (b) incorporate how often the Trading Participant should submit conductor and power transformer data to the Market Operator; (c) indicate the period of use of the equipment data at hand of the Market Operator; and (d) improve the meaning, definition, and sequence of subsections under 9.7.

WHEREAS, during the 73rd RCC Meeting held on 03 April 2013, the proposed amendments were presented by PEMC to the RCC, for discussion;

WHEREAS, it was explained that over time, the data at hand with the Market Operator may no longer reflect the actual physical configuration of the conductor and transformer as changes sometimes happen on the field without the Market Operator's knowledge;

WHEREAS, it was further explained in the discussion that Sections 9.7.1 and 9.7.2 are basically the same and that the proposed changes simply include the following:

1. To update and submit every 6 months or earlier the conductor and power transformer data by both the Network Service Provider and the Trading Participants;
2. The updated data shall be used by the Market Operator starting only on the current billing month upon reconciliation by the MO, Trading Participants and the Network Service Provider; and
3. The updated data shall be used progressively on the succeeding months until a new update is submitted.

WHEREAS in the same meeting, the RCC agreed to publish the proposal in the WESM public information website to solicit comments from market participants and other interested parties;

WHEREAS, the proposal was posted in the public information website on 03 April 2013 and the notification-email requesting comments from interested parties was issued on the same day;

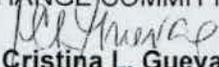
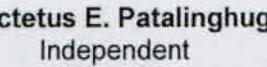
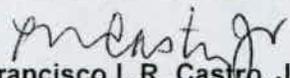
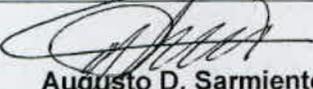
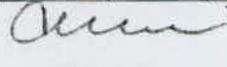
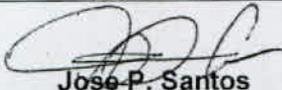
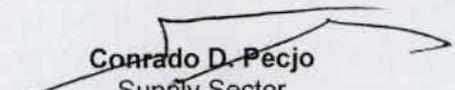
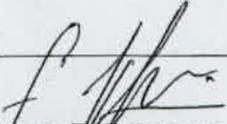
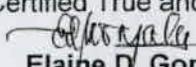
WHEREAS, during the RCC 74th Meeting held on 15 May 2013, the RCC, after its deliberation on the matter, agreed to adopt the proposed amendments, as originally submitted;

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

RESOLVED, that the proposed amendment WESM Metering Standards and Procedures Manual Subsection 9.7 (attached as Annex "A"), is hereby adopted and approved;

RESOLVED FURTHER, that the above proposed amendment to the WESM Rules be endorsed to the PEM Board for approval.

Done this 15 May 2013, Pasig City.

Approved by: RULES CHANGE COMMITTEE  Rowena Cristina L. Guevara Chairperson University of the Philippines (UP)	
Members:	
 Epictetus E. Patalinghug Independent University of the Philippines (UP)	 Francisco L.R. Castro, Jr. Independent Tensaiken Consulting
 Maila Lourdes G. de Castro Independent	 Cherry Aquino-Javier Generation Sector AES Philippines (AES)
Cynthia R. Encarnacion Generation Sector National Power Corporation (NAPOCOR)	 Liberty Z. Dumlao Generation Sector Power Sector Assets and Liabilities Management Corporation (PSALM)
 Augusto D. Sarmiento Distribution Sector (PDU) Dagupan Electric Corporation (DECORP)	 Ciprinilo C. Meneses Distribution Sector (PDU) Manila Electric Company (MERALCO)
 Jose P. Santos Distribution Sector (EC) Ilocos Norte Electric Cooperative, Inc. (INEC)	Sulpicio C. Lagarde Jr. Distribution Sector (EC) Central Negros Electric Cooperative, Inc. (CENECO)
 Conrado D. Pecjo Supply Sector Angeles Power, Inc	
Raul Joseph G. Seludo Transmission Sector National Grid Corporation of the Philippines (NGCP)	 Robinson B. Descanzo Market Operator Philippine Electricity Market Corporation (PEMC)
	Certified True and Correct:  Elaine D. Gonzales RCC Secretary PEMC



REQUEST FOR AMENDMENTS OR CHANGES TO THE WESM MANUALS

Proposals made only under this prescribed form shall be accepted and considered as submitted:

This request for amendments to the WESM Rules can be submitted to:

PEM Board
 Attention: **PEM Committee Secretariat**
 Philippine Electricity Market Corporation
 18/F Robinsons Equitable Tower
 ADB Avenue, Ortigas Center
 Pasig City, 1605 Philippines
 Email address: rcc@wesm.ph
 Fax Number: (+632) 395-2704

I. Proposer's Information

Name	Melinda L. Ocampo
Designation	President
Signature	
Company	Philippine Electricity Market Corporation
Company Address	9 th and 18 th F Robinsons-Equitable Tower, ADB Ave., Ortigas Center, Pasig City 1600
Telephone No.	6318734 local 210, 3952699 local 257
Fax. No.	6360873
Email Address	mlocampo@wesm.ph

II. WESM Manual Amendments Information

Title of WESM Manual being commented: Metering Standards and Procedures
Nature of Request (please indicate with x) <input checked="" type="checkbox"/> Addition <input checked="" type="checkbox"/> Alteration <input checked="" type="checkbox"/> Deletion <input type="checkbox"/> Clarification <input type="checkbox"/> Clerical Correction

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III. Proposed Amendment

Title	Sub-section	Provision	Proposed Amendment	Rationale
ROLES AND RESPONSIBILITIES	9.7	Responsibility for carrying out site-specific loss adjustments is shared among:		
Network Service Provider:	9.7.1			
	9.7.1.1		The Network Service Provider shall submit to the Market Operator every six months all significant conductor and power transformer data between the metering point and the market trading node, or as often as it implements significant changes in the actual physical configuration of the conductor and power transformer between the metering point and the market trading node.	<ul style="list-style-type: none"> • Updated conductor and transformer data, timely, complete and accurate, are needed by the Market Operator to arrive at the best computed amount of losses between the metering point and the MTN. • The grid single-line diagrams enable the Market Operator to see the significant changes in the grid. • The submission of single line diagrams is transferred to 9.7.1.2.
Conductor Data	9.7.1.1.1		<ul style="list-style-type: none"> a. Conductor size b. Number of conductors per circuit c. Line Length (km) d. Line Voltage 	The contents of 9.7.1.3 are transferred here
Power Transformer Data	9.7.1.1.2		<ul style="list-style-type: none"> a. Rated kVA b. Core Loss (Open Circuit Test result) 	The former contents of 9.7.1.2 are transferred here

			<ul style="list-style-type: none"> c. Full-load Copper Loss (Short-Circuit Test result) d. Percent Impedance (% Z) e. Equivalent Transformer Resistance (R_e) f. Equivalent Transformer Reactance (X_e) g. Equivalent Transformer Impedance (Z_e) h. Transformer's Full-Load Output Active Power (kW) i. Transformer's Efficiency (%) at Full-Load Output Active Power j. Transformer's Maximum Efficiency (%) k. Transformer's Output Active Power (kW) at Maximum Efficiency 	
	9.7.1.2		In coordination with the Metering Services Provider, grid single-line diagrams that show the significant changes in the actual physical configuration of the conductor and power transformer shall also be submitted by the Network Service Provider to the Market Operator.	Contents are transferred to 9.7.1.1.2
				This Sub-section is deleted, contents are transferred to 9.7.1.1.1
Metering Services Provider	9.7.2			
	9.7.2.1		The Metering Services Provider shall collect and deliver to the Market Operator the meter data containing the daily energy consumption or delivery of all Trading Participants.	<ul style="list-style-type: none"> • The former contents of 9.7.2.2 are transferred here • The submission of single line diagrams shall be the responsibility of the Network

				Services Provider. The MSP will only coordinate in the preparation and submission
				This Sub-section is deleted, contents are transferred to 9.7.2.1
Trading Participant	9.7.3			<ul style="list-style-type: none"> • WESM Rules 4.5.2.2 states that the Trading Participant is one of the entities involved in the adjustment of metering data to allow for physical losses between the metering point and the market trading node • The responsibilities of the Market Operator are transferred to 9.7.4
	9.7.3.1		The Trading Participant shall submit to the Market Operator all significant conductor and power transformer data between its metering point and the market trading node upon its registration in the WESM, and as often as it notices significant changes in the actual physical configuration of the conductor and power transformer between its metering point and the market trading node. The Trading Participant shall submit the same type of data stated in Sub-sections 9.7.1.1.1 and 9.7.1.1.2.	<ul style="list-style-type: none"> • Updated conductor and transformer data, timely, complete and accurate, are needed by the Market Operator to arrive at the best computed amount of losses between the metering point and the MTN. • Contents are transferred to 9.7.4.2
				This Sub-section is deleted. SSLF in an indicator of amount of losses, not the determinant

				This Sub-section is deleted, contents are transferred to 9.7.4.3
Market Operator	9.7.4			The responsibilities of the Market Operator are transferred here
	9.7.4.1		The Market Operator shall reconcile the data submitted by the Network Service Provider and the Trading Participant. The reconciled data shall be agreed by the Market Operator, Network Service Provider and the Trading Participants. The Market Operator shall use the reconciled data starting on the current billing month only, then progressively for the succeeding billing months until a new conductor and power transformer data is submitted.	<ul style="list-style-type: none"> • The Market Operator shall evaluate the equipment data first before implementing in the computation of losses • If retro-active computation of losses would be performed by the Market Operator for configuration changes not updated, it will only adversely affect the previous settlement results
	9.7.4.2		Calculate the loss adjustment in accordance with this procedure.	The former contents of 9.7.3.1 are transferred here
	9.7.4.3		Develop in consultation with the WESM Participants, a standard table of reference, containing data for power transformers and conductors.	The former contents of 9.7.3.3 are transferred here

Note: For convenience, please underline and put in bold letters the proposed changes to the WESM Manual.

IV. Proposed Scheme to Monitor the Effectiveness of the Proposed Changes to the WESM Manual

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V. Referral

MAG Date Received: 20 March 2013 ref

Proposed Amendment: Urgent Minor General

A. For Urgent Amendment (For the use of PEMC President only)

Date Referred to PEMC President	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Certifies as urgent	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Convene the RCC within 48 hrs.		
Remarks:		

B. For Minor and General Amendment (For the use of RCC only)

Date Referred to RCC:	<u>20 March 2013 ref</u>
Remarks:	
Action taken:	
Request for comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Request written comments from:	

	<input type="checkbox"/> DRG <input type="checkbox"/> MSC <input type="checkbox"/> PA <input type="checkbox"/> MO <input type="checkbox"/> ECO <input type="checkbox"/> RCC <input type="checkbox"/> TC <input type="checkbox"/> Other PEM Board Committees <input type="checkbox"/> Other Interested Parties
For further review of the Technical Sub-Committee:	<input type="checkbox"/> Yes Assigned to: <input type="checkbox"/> SO Sub-Committee <input type="checkbox"/> MO Sub-Committee <input type="checkbox"/> Metering Sub-Committee <input type="checkbox"/> Billing and Settlement Sub-Committee <input type="checkbox"/> Legal and Regulatory Sub-Committee <input type="checkbox"/> No
For public consultation:	<input type="checkbox"/> Yes <input type="checkbox"/> No
RCC Resolution:	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
RCC Resolution No.:	RCC Resolution No. 2013-06
Date of Resolution:	15 May 2013
RCC Meeting No.	74th
Date of endorsement to the PEM Board:	17 May 2013

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**Wholesale Electricity
Spot Market**

RCC/WESM--WM-13/06

**Amendments in
Metering Standards and Procedures
Sub-section 9.7
Melinda L. Ocampo**

March 7, 2013

I. SUMMARY OF THE PROPOSED MANUAL CHANGE

The WESM Rules 4.5.2.2 states the cooperation between the Trading Participant, Network Service Provider, and Market Operator for the computation of losses:

The Trading Participant, the Network Service Provider, and the Market Operator shall use their best endeavors to agree to adjust the metering data to allow for physical losses between the actual metering point and the relevant market trading node.

The Sub-section 9.7 of the Metering Standards and Procedures defines the Roles and Responsibilities of the Network Service Provider, Metering Services Providers (MSP), and Market Operator (MO) for the Site – Specific Loss Adjustment (SSLA). The Metering Working Group would like to expound Sub-section 9.7 to:

- A. Incorporate how often the Network Service Provider should submit conductor and power transformer data to the Market Operator.
- B. Incorporate how often the Trading Participant should submit conductor and power transformer data to the Market Operator.
- C. Indicate the period of use of the equipment data at hand of the Market Operator.
- D. Improve the meaning, definition, and sequence of sub-sections under 9.7.

II. BACKGROUND

PEMC as the Market Operator relies on the submitted conductor and transformer data from the Trading Participants and the Network Service Provider, before it computes the physical losses between the metering point and the market trading node (MTN). The amount of computed losses depends heavily on the completeness and accuracy of the conductor and transformer data. Over time, the data at hand of the Market Operator may no longer reflect the actual physical configuration of the conductor and transformer as changes sometimes happen on the field without the knowledge of the Market Operator, such as:

- A. New connection/metering point
- B. Decommissioned metering point
- C. Re-arrangement of breakers/feeders
- D. Sectionalizing of loads
- E. Transfer of metering installation from low voltage side to high voltage side of the transformer, and vice-versa
- F. Operation of disconnect switches along looped lines

The Network Service Provider usually submits grid single-line diagrams together with the conductor and transformer data that the Market Operator uses for the comparison of the meter readings versus the snapshot readings at the MTN, before proceeding with the computation of losses.

III. THE PROPOSED MANUAL CHANGE

Sub-section 9.7 is proposed to be read as:

9.7 ROLES AND RESPONSIBILITIES

Responsibility for carrying out site-specific loss adjustments is shared among:

9.7.1 Network Service Provider:

9.7.1.1 The Network Service Provider shall submit to the Market Operator every six months all significant conductor and power transformer data between the metering point and the market trading node, or as often as it implements significant changes in the actual physical configuration of the conductor and power transformer between the metering point and the market trading node.

9.7.1.1.1 Conductor Data

- a. Conductor size
- b. Number of conductors per circuit
- c. Line length (km)
- d. Line voltage

9.7.1.1.2 Power Transformer Data

- a. Rated kVA
- b. Core Loss (Open Circuit Test result)
- c. Full-load Copper Loss (Short-Circuit Test result)
- d. Percent Impedance (% Z)
- e. Equivalent Transformer Resistance (R_e)
- f. Equivalent Transformer Reactance (X_e)
- g. Equivalent Transformer Impedance (Z_e)
- h. Transformer's Full-Load Output Active Power (kW)
- i. Transformer's Efficiency (%) at Full-Load Output Active Power
- j. Transformer's Maximum Efficiency (%)
- k. Transformer's Output Active Power (kW) at Maximum Efficiency

9.7.1.2 In coordination with the Metering Services Provider, grid single-line diagrams that show the significant changes in the actual physical configuration of the conductor and power transformer shall also be submitted by the Network Service Provider to the Market Operator.

9.7.2 Metering Services Provider:

9.7.2.1 The Metering Services Provider shall collect and deliver to the Market Operator the meter data containing the daily energy consumption or delivery of all Trading Participants.

9.7.3 Trading Participant:

- 9.7.3.1 The Trading Participant shall submit to the Market Operator all significant conductor and power transformer data between its metering point and the market trading node upon its registration in the WESM, and as often as it notices significant changes in the actual physical configuration of the conductor and power transformer between its metering point and the market trading node. The Trading Participant shall submit the same type of data stated in Sub-sections 9.7.1.1.1 and 9.7.1.1.2.

9.7.4 Market Operator:

- 9.7.4.1 The Market Operator shall reconcile the data submitted by the Network Service Provider and the Trading Participant. The reconciled data shall be agreed by the Market Operator, Network Service Provider and the Trading Participants. The Market Operator shall use the reconciled data starting on the current billing month only, then progressively for the succeeding billing months until a new conductor and power transformer data is submitted.
- 9.7.4.2 Calculate the loss adjustment in accordance with this procedure.
- 9.7.4.3 Develop in consultation with the WESM Participants, a standard table of reference, containing data for power transformers and conductors.

IV. BACKGROUND AND DESCRIPTION OF THE PROPONENT

Ms. Melinda L. Ocampo is the current President of PEMC. The PEMC is a non-stock non-profit organization established in 2003 thru the EPIRA to operate the Philippine WESM. PEMC has been commercially operating the WESM since June 26, 2006.

V. CONCLUSIONS AND RECOMMENDATIONS

It is only proper that updated conductor and power transformer data, timely, complete and accurate, be submitted to the Market Operator to arrive at the best computed amount of losses between the metering point and the MTN. Grid single-line diagrams shall also be submitted by the Network Service Provider because it enables the Market Operator to see the significant changes in the grid.

It is strongly recommended that the updated data would be used by the Market operator starting only on the current billing month on which the data is submitted, then progressively on the succeeding months, until new update is submitted. It is **not** recommended that retro-active computation of losses be performed by the Market Operator on the previous billing months where the changes on the actual

physical configuration have been implemented but without timely updated data submitted to the Market Operator. The retro-active computation will only adversely affect the settlement results such as:

- A. Settlements Quantities and Prices
- B. Generation Mix Ratio (GMR) / Value Added Tax (VAT)
- C. Net Settlement Surplus (NSS).

VI. REFERENCES

- A. Wholesale Electricity Spot Market Rules (as Amended by DOE DC No. 2006-05-0006 dated 5 May 2006)
- B. Philippine Grid Code (Amendment No. 1 April 2, 2007)

9.7 ROLES AND RESPONSIBILITIES

Responsibility for carrying out site-specific loss adjustments is shared among:

9.7.1 Network Service Provider:

9.7.1.1 The Network Service Provider shall submit to the Market Operator every six months all significant conductor and power transformer data between the metering point and the market trading node, or as often as it implements significant changes in the actual physical configuration of the conductor and power transformer between the metering point and the market trading node.

9.7.1.1.1 Conductor Data:

- a. Conductor size
- b. Number of conductors per circuit
- c. Line Length (km)
- d. Line Voltage

9.7.1.1.2 Power Transformer Data:

- a. Rated kVA
- b. Core Loss (Open Circuit Test result)
- c. Full-load Copper Loss (Short-Circuit Test result)
- d. Percent Impedance (% Z)
- e. Equivalent Transformer Resistance (R_e)
- f. Equivalent Transformer Reactance (X_e)
- g. Equivalent Transformer Impedance (Z_e)
- h. Transformer's Full-Load Output Active Power (kW)
- i. Transformer's Efficiency (%) at Full-Load Output Active Power
- j. Transformer's Maximum Efficiency (%)
- k. Transformer's Output Active Power (kW) at Maximum Efficiency

9.7.1.2 In coordination with the Metering Services Provider, grid single-line diagrams that show the significant changes in the actual physical configuration of the conductor and power transformer shall also be submitted by the Network Service Provider to the Market Operator.

9.7.2 Metering Services Provider:

9.7.2.1 The Metering Services Provider shall collect and deliver to the Market Operator the meter data containing the daily energy consumption or delivery of all Trading Participants.

9.7.3 Trading Participant:

- 9.7.3.1 The Trading Participant shall submit to the Market Operator all significant conductor and power transformer data between its metering point and the market trading node upon its registration in the WESM, and as often as it notices significant changes in the actual physical configuration of the conductor and power transformer between its metering point and the market trading node. The Trading Participant shall submit the same type of data stated in Sub-sections 9.7.1.1.1 and 9.7.1.1.2.

9.7.4 Market Operator:

- 9.7.4.1 The Market Operator shall reconcile the data submitted by the Network Service Provider and the Trading Participant. The reconciled data shall be agreed by the Market Operator, Network Service Provider and the Trading Participants. The Market Operator shall use the reconciled data starting on the current billing month only, then progressively for the succeeding billing months until a new conductor and power transformer data is submitted.
- 9.7.4.2 Calculate the loss adjustment in accordance with this procedure.
- 9.7.4.3 Develop in consultation with the WESM Participants, a standard table of reference, containing data for power transformers and conductors.

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