

<b>MINUTES OF THE RULES CHANGE COMMITTEE</b> <b>134<sup>th</sup> REGULAR MEETING (No. 2017-12)</b>	
<b>Meeting Date &amp; Time:</b>	06 October 2017, 9:00 AM to 11:50 AM
<b>Meeting Venue:</b>	19/F Conference Room, Robinsons Equitable Tower, Ortigas Center, Pasig City
<b>Attendance List</b>	
<b>In-Attendance</b>	<b>Not In-Attendance</b>
<b>Rules Change Committee</b>	
<b>Principal Members:</b>	
Maila Lourdes G. de Castro, Chairperson – Independent	Theo Cruz Sunico – Generation (1590 EC)
Francisco Leodegario R. Castro, Jr. – Independent	Jose Ildebrando B. Ambrosio – Generation (Northwind)
Concepcion I. Tanglao – Independent	Juanito O. Tolentino, Jr. – Distribution (MECO)
Allan C. Nerves–Independent	Ludovico D. Lim – Distribution (ANTECO)
Abner B. Tolentino – Generation (PSALM)	
Ciprinilo C. Meneses – Distribution (MERALCO)	
Jose P. Santos –Distribution (INEC)	
Lorreto H. Rivera – Supply (TPEC)	
Ambrocio R. Rosales – System Operator (NGCP)	
Isidro E. Cacho – Market Operator (PEMC)	
<b>Alternate Members:</b>	
Aris V. Policarpio – Generation (Vivant)	
<b>Other attendees:</b>	
<b>PEMC – Legal</b>	
Caryl Miriam L. Mateo	
Sheryll M. Dy	
<b>PEMC – Corporate Planning and Communication</b>	
Jonathan B. Dela Vina	

**PEMC – Market Assessment Group (MAG)**

Carlito C. Claudio  
Elaine D. Gonzales  
Geraldine A. Rodriguez  
Divine Gayle C. Cruz  
Aldjon Kenneth M. Yap

**DOE Observers**

Ferdinand B. Binondo  
Ann Margaret Andres  
Ryan Jasper M. Villadiego

1 There being a quorum, Mr. Francisco Leodegario R. Castro, Jr. called the meeting to order at  
2 around 9:00 AM noting that Chairperson Maila G. de Castro was still not around. The RCC then  
3 reviewed the proposed agenda and agreed to adopt the same as presented.  
4

**5 1. Review of the Minutes of the Previous Meeting**  
6

7 Mr. Castro led the review of the minutes of the 133<sup>rd</sup> Meeting held on 14 September 2017.  
8 The Secretariat informed the RCC that inquiries, comments and revisions were received from  
9 Ms. Concepcion I. Tanglao on the said minutes and that said revisions have already been  
10 incorporated into the minutes. Clarifications on the minutes were thereafter made as follows:  
11

- 12 • On line 91 of the minutes where it was stated that the PEMC Transition Committee (PTC)  
13 currently performs the functions of the Board Review Committee (BRC) pending the  
14 constitution of a new BRC, the Secretariat clarified that it is not only the Officer-in-Charge  
15 of the PTC that reviews the proposals but the entire PTC as the PEM Board tasked that  
16 entire committee to review all proposals for PEM Board approval. Ms. Tanglao noted the  
17 explanation.  
18
- 19 • On the approval of the RCC for the re-submission of the proposed new Schedule of  
20 WESM Arbitration Fees and Costs to the PEM Board, noting the current procedures, Ms.  
21 Tanglao opined, that it may be more appropriate to have the same reviewed by the PTC  
22 prior to its submission to the PEM Board. The Secretariat informed the RCC that the same  
23 has been reviewed by the PTC, with the PTC posing no objection to the same but  
24 commenting on the manner of the presentation;  
25
- 26 • On line 255 of the minutes regarding the discussion on the proposed amendments to the  
27 WESM Rules and WESM Manuals regarding the Change in the Location of Metering



Points, Mr. Ambrocio R. Rosales commented that during the RCC meeting, he has already stated, upon confirmation with the representatives from the Metering Services Department of the National Grid Corporation of the Philippines (NGCP) during that same RCC meeting, that NGCP was not amenable to the presented proposal. In this regard, he requested that this statement already be included in the minutes of the meeting. Mr. Isidro E. Cacho, Jr., on the other hand, requested that the minutes also reflect that Mr. Jonathan B. Dela Vina stated that the proposal was discussed and agreed to by the parties concerned during the said meeting of PEMC with NGCP. Considering the concerns raised, the minutes now reads as follows:

*"On the proposed revised procedure for the provision of system data by the Network Service Provider to the Market Operator, Mr. Ambrocio Rosales inquired if the concerned National Grid Corporation of the Philippines (NGCP) representatives have been duly informed about the amendments. Mr. dela Vina confirmed that a meeting was held where the proposed amendments were discussed **and agreed** among the concerned NGCP representatives. **On the other hand, Mr. Rosales informed the RCC that according to the NGCP representatives, they are not amenable with the presented amendments.** Considering the significant changes in the procedures, Mr. Rosales requested for a day to reconfirm with the NGCP representatives if they were duly informed of the amendments."*

- On Annex A – *Proposed Amendments to the WESM Manual of Procedures for Changes to the WESM Rules Issue 2.0* of the minutes, the following items were discussed:
  - ✓ The manual still uses the term "PEM Board Committees" in order to be aligned with the terms used in the WESM Rules and the Guidelines Governing the Constitution of PEM Board Committees;
  - ✓ The provided timeline (90 working days) for the RCC to come up with a decision on a certain proposed amendment will be subject for discussion on the deliberation of the proposed amendments to the WESM Manual of Procedures for Changes to the WESM Rules Issue 2.0 considering that there are cases when simulation or further discussion are necessary, as required by the RCC in order to fully deliberate on the merits of a proposal. Atty. De Castro opined that in these cases, the reason for exceeding the preferred timeline may just be included in the committee resolution.
- On the Annex E – *Proposed Amendments to the WESM Rules for Clarification on Retail Market Integration* of the minutes, Ms. Tanglao suggested to already reflect the agreed upon revisions as proposed by the DOE with the other affected sections of the proposal. The Secretariat noted the suggestion.

There being no other concerns for discussion, the RCC approved the Minutes of the 133<sup>rd</sup> RCC Meeting, as revised.

## **2. Business Arising from Previous Meetings**

### **2.1. Proposed Amendments to the WESM Rules and WESM Manuals on (i) Metering Standards and Procedures, (ii) Market Network Model Development and Maintenance Criteria and Procedures, and (iii) Registration, Suspension and De-registration Criteria and Procedures related to the Change in the Location of Metering Points**

As a background, the Secretariat recalled that the RCC previously agreed to form an RCC Sub-committee to discuss the concerns that needed to be settled with the various sectors affected by the proposed amendments. The RCC Sub-committee composed of representatives from the Independent Sector, Generation Sector, Distribution Sector, Transmission Sector, Market Operator and the DOE, convened on 22 September 2017. The main objective of the meeting was discuss and agreed with the way forward on the proposal which basically intends to have the Market Trading Node (MTN), Metering Point (MP) and Connection Point (CP) co-located in order to do away with the calculation and application of Site-Specific Loss Adjustment (SSLA). Atty. De Castro inquired if a timeline has been set by the RCC Sub-committee. The Secretariat stated that only short-term and long-term solutions were provided but no timeline was given.

Mr. Dela Vina then presented to the RCC the summary of the revised proposed amendments to the WESM Rules and various WESM Manuals, which revisions were the result of the discussions made during the RCC Sub-committee meeting:





**CHANGES TO PROPOSED  
AMENDMENTS ON LOCATION  
OF METERING POINT**

**06 OCTOBER 2017**

92

**AFFECTED DOCUMENTS**

- WESM Rules
- WESM Manuals
  - Metering
  - Market Network Model
  - Registration



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## SUMMARY

### • Market Trading Nodes and Settlement Points

Participant	Function	Current		Original Proposal		Revised Proposal	
		Name	Location	Name	Location	Name	Location
Generator	Scheduling	Market Trading Node	RTU point	Scheduling Node	RTU point	Scheduling Point	RTU point
	Settlement			Settlement Node	Connection Point	Market Trading Node	Connection Point
Customer	Scheduling	Market Trading Node	RTU point	Scheduling Node	Connection Point*	Scheduling Point	Connection Point*
	Settlement			Settlement Node	Connection Point	Market Trading Node	Connection Point



\*If DU system is modelled, withdrawal point within the system

3

On the terminologies used in the proposal, Mr. Ciprinilo C. Meneses inquired about the difference of the terms "withdrawal point" from "connection point", since he explained that from a DU's point-of-view, these terms are the same. Mr. Dela Vina explained that "withdrawal point" refers to the point where the DU's customers withdraw power, while "connection point" refers to the point where the DU withdraws power from the power system. Mr. Abner B. Tolentino, on the other hand, inquired about the scheduling and settlement procedures when generators draw from and inject energy into the power system at the same time. Mr. Dela Vina explained that in anticipation of the 5-minute dispatch interval, the settlement will only be based on the metered quantity on a specific trading interval. This addresses the imbalances in the current set-up of the power system. He added that it will now be necessary to model station use in the new Market Management System (MMS). Mr. Cacho stated that a number of generators have already modelled their station use in the MMS. Atty. De Castro inquired if the concerns raised affect the proposal. Mr. Dela Vina answered that the effect will be more of an operational matter.

## SUMMARY

- Site-Specific Loss Adjustment (SSLA)
  - To be performed by the Market Operator (MO)
  - Included scenarios:
    - MTN before the metering point
    - MTN after the metering point

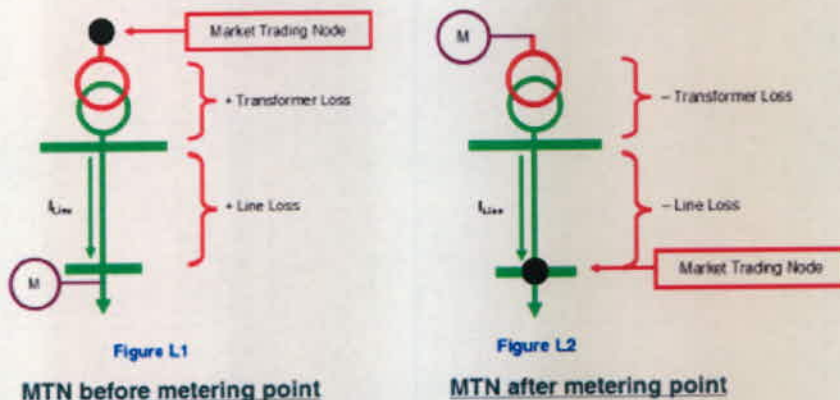


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## SUMMARY

- SSLA – Customer Scenarios



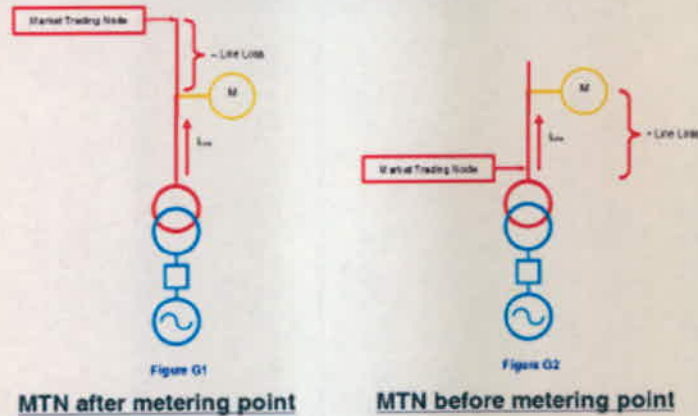
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## SUMMARY

### • SSLA – Generator Scenarios



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Mr. Dela Vina further explained the details of the revisions. The discussion went through as follows:

- The proposal to distinguish between the scheduling and settlement points and location in the system was retained. However, instead of introducing the new term *settlement node* to refer to the connection points from where the settlement of generators and customers will be derived as originally proposed, the current term *market trading node* (MTN) was simply retained. Further, the proposed term *scheduling node* was revised to *scheduling point* to refer to the location of the remote telemetering facility from where scheduling of generators would be based. The term was then reflected in the relevant clauses and provisions in the WESM Rules and Market Manuals, respectively.
- By distinguishing between the *scheduling point* (for scheduling) and the *market trading node* (for settlement) and their respective locations in the system, the proposal clarifies the appropriate site-specific loss adjustments (SSLA) to be calculated depending on the location of the MTN and the metering point, as illustrated in various scenarios:

#### *Customer Scenarios*

Case 1: MTN located before the metering point

Case 2: MTN located after the metering point



132 *Generator Scenarios*

133 Case 1: MTN located after the metering point

134 Case 2: MTN located before the metering point

135       ▪ For the calculation of SSLA, the proposal for the Metering Services Provider to  
136 perform said calculation was likewise withdrawn and the task was retained with the  
137 Market Operator.

138       ▪ Generators will be required to register each of their connection points to the Market  
139 Operator. Mr. Meneses inquired if the generators would have to register the  
140 connection points per generating unit. Mr. Cacho stated that the registration would  
141 have to depend on the Certificate of Compliance (COC) that the Energy Regulatory  
142 Commission (ERC) will issue the generators, as there are cases when COCs  
143 provide for aggregate or per unit registration. For generators, intending to provide  
144 reserve quantities in the WESM, Mr. Cacho stated that the registration must be on  
145 a per unit basis. Mr. Dela Vina also added that there are provisions in the  
146 registration manual which require a generating company to register its generating  
147 units. The registration of the respective connection points will be an additional  
148 requirement for the generating companies.

149       ▪ A generating facility that has individual remote telemetering units (RTU) will also  
150 be modelled individually as scheduling points even if they share a single metering  
151 facility. Atty. De Castro inquired about the prescribed timeline for the proposed  
152 modelling. Mr. Dela Vina explained that this is already implemented in the WESM.

153 On the proposed amendments to the WESM Metering Manual, Ms. Geraldine A.  
154 Rodriguez informed the RCC that the Secretariat will still check if the proposal has already  
155 been based on the latest version of the manual (RCC-approved) which already includes  
156 the amendments related to the Enhancements of WESM Design and Operations. The  
157 RCC noted the information and subsequently approved the endorsement of the proposed  
158 revisions to the WESM Rules and to the WESM Manuals on (i) Metering, (ii) Market  
159 Network Model and (iii) Registration to the PEM Board after having reviewed the same.

160 *Please find the attached Annex A – Revised Proposed Amendments to the WESM Rules and Market Manuals*  
161 *on Change of Location of Metering Point*

#### **Agreements/Action Plans**

The RCC approved the to the WESM Rules and WESM Manuals on (i) Metering Standards and Procedures, (ii) Market Network Model Development and Maintenance Criteria and Procedures, and (iii) Registration, Suspension and De-registration Criteria and Procedures related to the Change in the Location of Metering Points for endorsement to the PEM Board.

162 **2.2. Proposed Amendments to the WESM Rules, Retail Rules and Retail Manual on**  
163 **Metering Standards and Procedures for Clarifications on Retail Market Integration**

164 During the previous meeting, the RCC agreed to likewise subject the proposal regarding  
165 retail market integration for discussion of the RCC Sub-committee. However, Mr. Dela  
166 Vina informed that the subject proposal was not affected by the changes made to the  
167 proposal regarding location of metering points.

168 Noting the information, the RCC approved the Proposed Amendments to the WESM  
169 Rules, Retail Rules and Retail Manual on Metering Standards and Procedures for  
170 Clarifications on Retail Market Integration for endorsement to the PEM Board.

Agreements/Action Plans
The RCC approved the Proposed Amendments to the WESM Rules, Retail Rules and Retail Manual on Metering Standards and Procedures for Clarifications on Retail Market Integration for endorsement to the PEM Board.

171 **3. Other Matters**

172 **3.1. Proposed Amendments to: a) WESM Financial Penalty Manual; and b) WESM Rules**  
173 **and WESM Manuals regarding Market Surveillance, Enforcement and Compliance**

174 The RCC was informed that the Market Surveillance Committee (MSC) shall defer further  
175 consultations on the proposed WESM Penalty Manual in order to include the imposition  
176 of the automatic penalty scheme.

177 The Secretariat relayed that per the MSC, the draft WESM Manual on Market  
178 Surveillance and the proposed WESM Manual on Enforcement and Compliance, both  
179 currently being finalized for endorsement to the PEM Board, will need to be further revised  
180 considering the contemplated revisions to the proposed WESM Penalty Manual.

181 The RCC noted the updates on the subject proposals.



### 3.2. Updates on the RCC Work Plan

The RCC reviewed its 2017 Work Plan and provided updates on the same, as follows:

- On the pending proposal tagged to be submitted by the Retail Energy Supply Association (RESA) Ms. Lorreto H. Rivera informed the RCC that there are scheduled discussions to be conducted by RESA with the PEMC Transition Committee which may affect the timelines provided in the RCC Work Plan. In the meantime, the RCC agreed to retain the current provided timeline – currently set on the 4<sup>th</sup> quarter of 2017, while awaiting the results of the said discussion.
- The proposed amendments regarding SSLA supposed to be submitted by the sector representatives from the Distribution Utilities was withdrawn since the relevant issues will already be addressed by PEMC's proposal regarding the change in metering point location, which was already deliberated and approved by the RCC.

The Secretariat noted to request for updates from the respective proponents regarding the revised target period of submissions of their respective proposals.


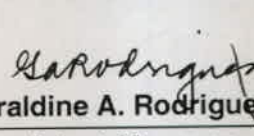
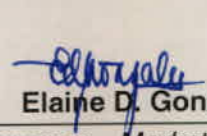
### 4. Next Meeting

The RCC agreed to hold subsequent meetings on the following schedules:


- November 10, 2017
- December 8, 2017
- January 12, 2018

### 5. Adjournment

There being no other matters for discussion, the meeting was adjourned at 11:10 AM.

Prepared By:	Reviewed By:	Noted By:
 <b>Aldjon Kenneth M. Yap</b> <b>Analyst – Market</b> <b>Governance Administration</b> <b>Unit</b>	 <b>Geraldine A. Rodriguez</b> <b>Assistant Manager –</b> <b>Market Governance</b> <b>Administration Unit</b>	 <b>Elaine D. Gonzales</b> <b>Manager – Market Data and</b> <b>Analysis Division</b>
<b>Market Assessment Group</b>	<b>Market Assessment Group</b>	<b>Market Assessment Group</b>

Approved by:  
RULES CHANGE COMMITTEE

  
**Maila Lourdes G. de Castro**  
Chairperson  
Independent

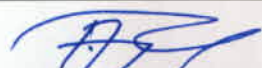
Members:


**Concepcion I. Tanglao**  
Independent

  
**Francisco L.R. Castro, Jr.**  
Independent

  
**Allan C. Nerves**  
Independent

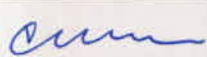
**Isidro E. Cacho, Jr.**  
Market Operator  
Philippine Electricity Market Corporation  
(PEMC)


  
**Ambrocio R. Rosales**  
Transmission Sector  
National Grid Corporation of the Philippines  
(NGCP)

  
**Abner B. Tolentino**  
Generation Sector  
Power Sector Assets and Liabilities Management  
Corporation (PSALM)

**Jose Ildebrando B. Ambrosio**  
Generator Sector  
NorthWind Power Development Corp.  
(NorthWind)

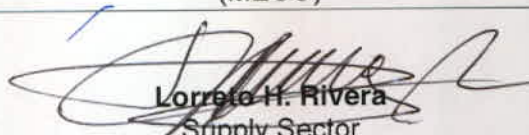
**Theo C. Sunico**  
Generation Sector  
(Vivant Corporation)

  
**Ciprinilo C. Meneses**  
Distribution Sector (PDU)  
Manila Electric Company  
(MERALCO)

  
**Jose P. Santos**  
Distribution Sector (EC)  
Ilocos Norte Electric Cooperative, Inc.  
(INEC)

**Juanito O. Tolentino, Jr.**  
Distribution Sector (PDU)  
Mactan Electric Company  
(MECO)

**Ludovico D. Lim**  
Distribution Sector (EC)  
Antique Electric Cooperative, Inc.  
(ANTECO)

  
**Lorrato H. Rivera**  
Supply Sector  
TeaM (Philippines) Energy Corporation  
(TPEC)



## Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

### WESM Rules

Title	Clause	Provision	Proposed Amendment	Rationale
Generation Company	<b>2.3.1.9</b> (new)	(blank)	A <i>Generation Company</i> shall register each of its <i>connection points</i> with the <i>Market Operator</i> .	The proposed change in the location of the metering point to the connection point of a trading participant would require the identification of connection points during registration.
Customer	<b>2.3.2.4</b> (new)	(blank)	A <i>Customer</i> shall register each of its <i>connection points</i> with the <i>Market Operator</i> . For <i>contestable customers</i> , there shall be one registration for each certificate of contestability from ERC.	The proposed change in the location of the metering point to the connection point of a trading participant would require the identification of connection points during registration.
Market Trading Nodes	3.2.2.1	A <i>market trading node</i> is a designated point in the <i>market network model</i> where <i>energy</i> is bought or sold based on the <i>dispatch</i> schedules and prices determined by the <i>Market Dispatch Optimization Model</i> .	A <i>market trading node</i> is a designated point in the <i>market network model</i> where <i>energy</i> is bought or sold based on the <del><i>dispatch</i> schedules</del> and prices determined by the <i>Market Dispatch Optimization Model</i> .	It is proposed that the settlement quantities and prices of trading participants be determined at their connection points. Since some cases require that a participant be scheduled in a different location (e.g., generator at its plant, modelled DU at withdrawal points within its system), the "market trading node" is proposed to refer to the connection point of the trading participant where it is also settled in the WESM.
Market Trading Nodes	3.2.2.2	Each <i>market trading node</i> defined under clause 3.2.2.1 shall: (a) Be assigned to a <i>Trading Participant</i> that intends to buy or sell <i>energy</i> and is capable of complying with the <i>dispatch</i> and <i>settlement</i> requirements in the WESM; (b) Be associated with a revenue <i>metering</i> and remote <i>telemetering</i> facilities capable of	Each <i>market trading node</i> defined under clause 3.2.2.1 shall: (a) Be assigned to a <i>Trading Participant</i> that intends to buy or sell <i>energy</i> and is capable of complying with the <del><i>dispatch</i></del> and <i>settlement</i> requirements in the WESM; (b) Be associated with a revenue <i>metering</i> and <del>remote telemetering</del> facilities capable of	It is proposed that the settlement quantities and prices of trading participants be determined at their connection points. Since some cases require that a participant be scheduled in a different location (e.g., generator at its plant, modelled DU at withdrawal points within its system), the "market trading node" is proposed to refer to the connection point of the trading participant where it is also settled in the WESM..

**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

Title	Clause	Provision	Proposed Amendment	Rationale
		measuring all relevant incoming and outgoing energy deliveries for the purpose of <i>dispatch</i> and <i>settlement</i> in the WESM; and (c) As much as possible, represent the <i>connection point</i> between the <i>Network Service Provider</i> and the <i>Trading Participant</i> .	measuring all relevant incoming and outgoing energy deliveries for the purpose of <i>dispatch</i> and <i>settlement</i> in the WESM; and (c) As much as possible, represent the <i>connection point</i> between the <i>Network Service Provider</i> and the <i>Trading Participant</i> .	
Market Trading Nodes	3.2.2.3	If the connection point of the <i>Trading Participant</i> could not be represented in the <i>market network model</i> or if a particular <i>market trading node</i> must be assigned to more than one <i>Trading Participant</i> because the conditions set in Clause 3.2.2.2 are not met, the affected <i>Trading Participants</i> , the <i>Metering Services Provider</i> and the <i>Network Service Provider</i> will mutually agree on adjustments that will be implemented by the <i>Market Operator</i> and the <i>System operator</i> .	<b><u>A <i>scheduling point</i> is a designated point in the market network model where <i>dispatch</i> schedules are determined by the Market Dispatch Optimization Model. The <i>scheduling point</i> of a generating unit shall be at the location of its remote telemetering facility. The <i>scheduling points</i> of a customer shall be at its <i>connection points</i>; however, if the system of a customer is included in the market network model, the <i>scheduling points</i> of the customer shall be at the withdrawal points within its system.</u></b> If the connection point of the <i>Trading Participant</i> could not be represented in the <i>market network model</i> or if a particular <i>market</i>	Some cases require that a participant be scheduled at a location other than its connection points (e.g., generator at its plant, modelled DU at withdrawal points within its system). These points are proposed to be referred to as "scheduling points". For a customer, its scheduling point and market trading node would both correspond to its connection point.



### Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

Title	Clause	Provision	Proposed Amendment	Rationale
			<del>trading node</del> must be assigned to more than one <del>Trading Participant</del> because the conditions set in Clause 3.2.2.2 are not met, the affected <del>Trading Participants</del> , the <del>Metering Services Provider</del> and the <del>Network Service Provider</del> will mutually agree on adjustments that will be implemented by the <del>Market Operator</del> and the <del>System operator</del> .	
Market Trading Nodes	3.2.2.5	The <i>Market Operator</i> shall maintain, publish, and continuously update a register of <i>market trading nodes</i> , defined in accordance with clause 3.2.2.1 so as to accurately reflect changes in the market network model and the <i>WESM member</i> responsible for each <i>market trading node</i> .	The <i>Market Operator</i> shall maintain, publish, and continuously update a register of <i>market trading nodes</i> <b>and <u>scheduling points</u></b> , defined in accordance with clause 3.2.2.1 <b>and clause 3.2.2.3</b> so as to accurately reflect changes in the market network model and the <i>WESM member</i> responsible for each <i>market trading node</i> <b>and <u>scheduling point</u></b> .	It is proposed that the list of scheduling points also be published for transparency.
Customer Pricing Zones	3.2.3.4	The <i>Market Operator</i> shall, in consultation with <i>WESM Participants</i> , continuously review the procedures for determining the <i>market network model</i> , <i>market trading nodes</i> , and <i>customer pricing zones</i> set out in this chapter 3 and, to the extent the <i>Market Operator</i> considers it to be	The <i>Market Operator</i> shall, in consultation with <i>WESM Participants</i> , continuously review the procedures for determining the <i>market network model</i> , <i>market trading nodes</i> , <b><u>scheduling points</u></b> , and <i>customer pricing zones</i> set out in this chapter 3 and, to the extent the <i>Market Operator</i> considers it to	It is proposed that scheduling points also be included in the review to ensure efficiency.

### Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

Title	Clause	Provision	Proposed Amendment	Rationale
		reasonably necessary to promote the <i>WESM</i> objectives, the <i>Market Operator</i> may recommend changes to these procedures in accordance with the rule change process set out in chapter 8.	be reasonably necessary to promote the <i>WESM</i> objectives, the <i>Market Operator</i> may recommend changes to these procedures in accordance with the rule change process set out in chapter 8.	
Load Forecasting	3.5.4	All <i>load forecasts</i> at each <i>Customer market trading node</i> in the <i>market network model</i> shall be specified in units of megawatt (MW) and will apply to the end of the relevant <i>dispatch interval</i> unless otherwise stated.	All <i>load forecasts</i> at each <i>Customer market trading scheduling point</i> in the <i>market network model</i> shall be specified in units of megawatt (MW) and will apply to the end of the relevant <i>dispatch interval</i> unless otherwise stated.	With the proposal, forecasts will be made on scheduling points.
Load Forecasting	3.5.4.1	XXX  If the <i>Customer</i> fails to submit a forecast of his load facilities in accordance with the timetable, the forecast prepared by the <i>Market Operator</i> at the <i>node</i> where the <i>Customer</i> is located shall be used.	XXX  If the <i>Customer</i> fails to submit a forecast of his load facilities in accordance with the timetable, the forecast prepared by the <i>Market Operator</i> at the <i>scheduling point</i> where the <i>Customer</i> is located shall be used.	With the proposal, forecasts will be made on scheduling points.
MARKET DISPATCH OPTIMIZATION MODEL – Model Definition	3.6.1.4(c)	Energy balance equations for each node in the market network model ensuring that the net load forecast for the end of the <i>dispatch interval</i> at each <i>market trading node</i> as determined by the <i>Market Operator</i> is met;	Energy balance equations for each node in the market network model ensuring that the net load forecast for the end of the <i>dispatch interval</i> at each <i>scheduling point</i> as determined by the <i>Market Operator</i> is met;	With the proposal, schedules will be determined at scheduling points instead of market trading nodes where settlement is performed.
MARKET PROJECTIONS – Published Information	3.7.5.1(a)	The assumed <i>net load forecast</i> at each <i>market network node</i> , plus	The assumed <i>net load forecast</i> at each <i>scheduling point</i> , plus	With the proposal, forecasts will be made on scheduling points.



### Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

Title	Clause	Provision	Proposed Amendment	Rationale
		required <i>reserves</i> for each <i>reserve region</i> ;	required <i>reserves</i> for each <i>reserve region</i> ;	
MARKET PROJECTIONS – Published Information	3.7.5.1(d)	Projected aggregate dispatch of <i>scheduled generating units, must dispatch generating units, priority dispatch generating units, non-scheduled generating units, and scheduled load at each market network node</i> ;	Projected aggregate dispatch of <i>scheduled generating units, must dispatch generating units, priority dispatch generating units, non-scheduled generating units, and scheduled load at each <b>scheduling point</b></i> ;	With the proposal, schedules will be determined at scheduling points instead of market trading nodes where settlement is performed.
SCHEDULING AND DISPATCH IMPLEMENTATION – Responsibilities of the Market Operator	3.8.1(b)	Prepare a forecast of the <i>unrestrained net load</i> expected at each <i>market trading node</i> for the end of that <i>dispatch interval</i> ;	Prepare a forecast of the <i>unrestrained net load</i> expected at each <i>market trading node <b>scheduling point</b></i> for the end of that <i>dispatch interval</i> ;	With the proposal, forecasts will be made on scheduling points.
Market Operator Advice on Nodal Loss of Load	3.9.2(b)	<i>dispatch optimization</i> performed under Clause 3.8, indicates that nodal loads are expected to be reduced by the presence of non-zero nodal <i>energy constraint violation variables</i> or <i>nodal energy dispatch prices</i> which are expected to be equal to, or exceed, <i>nodal value of lost load</i> at any Customer <i>market trading node</i> in the <i>market network model</i> , then the <i>Market Operator</i> shall immediately inform the <i>System Operator</i> of the presence of nodal loss of <i>load</i> .	<i>dispatch optimization</i> performed under Clause 3.8, indicates that nodal loads are expected to be reduced by the presence of non-zero nodal <i>energy constraint violation variables</i> or <i>nodal energy dispatch prices</i> which are expected to be equal to, or exceed, <b>the</b> <i>nodal value of lost load</i> at any Customer <b>scheduling point</b> in the <i>market network model</i> , then the <i>Market Operator</i> shall immediately inform the <i>System Operator</i> of the presence of nodal loss of <i>load</i> .	Since schedules are determined at the scheduling points, scheduled loss of load would also be reflected on those points.
Defining the Gross Energy Settlement	<b>3.13.6(e) (new)</b>	(blank)	<b>If a market trading node is associated with a single revenue meter and is shared by multiple</b>	It has been observed that there are some generating units that share a connection point. Since generating units are settled on a per-unit basis, this amendment

**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

<b>Title</b>	<b>Clause</b>	<b>Provision</b>	<b>Proposed Amendment</b>	<b>Rationale</b>
Quantity for Market Trading Nodes			<u>generating units, the gross energy settlement quantity for each generating unit at that market trading node shall be the net metered flow into the power system operated by the System operator through the associated meter of the market trading node pro-rated to each generating unit based on the measurements of the remote telemetering facility of each generating unit at the end of the dispatch interval. For purposes of settlement, each generating unit shall be considered to have individual market trading nodes at the shared market trading node.</u>	is proposed to provide basis in allocating metered quantities to the generating units sharing connection points.
Determining the Energy Trading Amount	3.13.7.1	For settlement purposes, the energy trading amount for each market trading node and settlement interval will be determined as the aggregate of the:  (a) Final nodal energy dispatch prices multiplied by the gross energy settlement quantity (in MWh); less  (b) Reference final nodal energy dispatch price multiplied by the	For settlement purposes, the energy trading amount for each <u>trading participant</u> and settlement interval will be determined as the aggregate <u>in all dispatch intervals within that settlement interval</u> of the:  (a) <u>Sum of the product of the final nodal energy dispatch prices multiplied by and the gross energy settlement quantity (in MWh) of all market trading nodes of the trading participant</u> , less	Clarify that quantities and prices that would be used for settlement are those that are determined at market trading nodes.



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Title	Clause	Provision	Proposed Amendment	Rationale
		corresponding <i>bilateral contract</i> quantity (in MWh) as determined under Clause 3.13.1.1 for that node in all <i>dispatch intervals</i> within that <i>settlement interval</i> .	(b) Reference final <i>nodal energy dispatch price</i> multiplied by the corresponding <i>bilateral contract</i> quantity (in MWh) as determined under Clause 3.13.1.1 for that node in all <i>dispatch intervals</i> within that <i>settlement interval</i> <b><u>of all bilateral contract declarations associated with the trading participant.</u></b>	
Settlement Amounts for Trading Participants	3.13.11.2(a)	the <i>energy trading amounts</i> for each <i>market trading node</i> for which that <i>Trading Participant</i> is responsible calculated in accordance with Clause 3.13.7 (which may be positive or negative for any <i>Trading Participant</i> ); plus	the <i>energy trading amounts</i> for each <i>market trading node</i> for which that <i>Trading Participant</i> is responsible calculated in accordance with Clause 3.13.7 (which may be positive or negative for any <i>Trading Participant</i> ); plus	Calculation of energy trading amounts in Clause 3.13.7 is already per Trading Participant and not per market trading node
Glossary	<b><u>Scheduling Point (new)</u></b>	(blank)	<b><u>A designated point in the market network model where dispatch schedules are determined by the Market Dispatch Optimization Model.</u></b>	Provide definition of new defined term

### Metering Manual

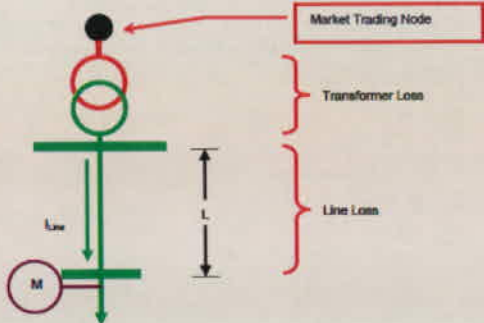
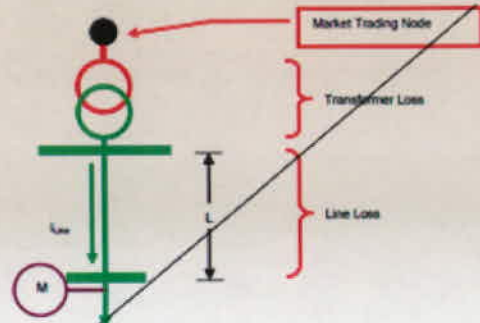
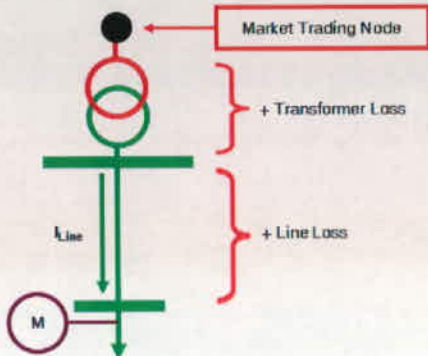
Title	Section	Provision	Proposed Amendment	Rationale
Site-Specific Loss	9.1	The <i>WESM Rules</i> states that the ideal location of the <i>metering point</i> should be at the <i>market trading node</i> (MTN). The	The <i>WESM Rules</i> states that the ideal location of the <i>metering point</i> should be at the <i>market trading node</i> (MTN). The	It is proposed that the MSPs be included in the coordination in determining SSLA.

**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

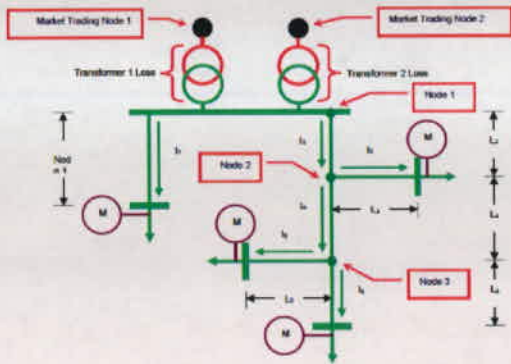
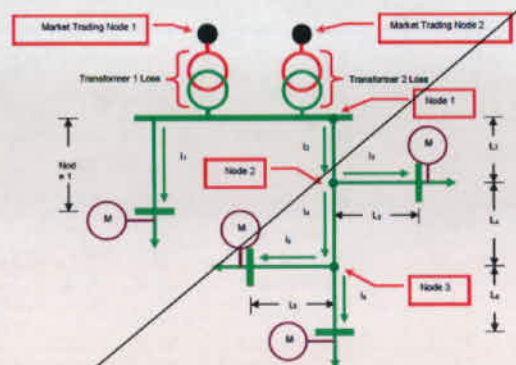
<b>Title</b>	<b>Section</b>	<b>Provision</b>	<b>Proposed Amendment</b>	<b>Rationale</b>
Adjustment – Introduction		<i>Trading Participant, the Network Service Provider, and the Market Operator, as mandated by the WESM Rules, shall use their best endeavor to adjust the meter registration to account for electrical losses when the metering point is not physically located at the MTN.</i>	<i>Trading Participant, the Network Service Provider, <b><u>the Metering Services Provider</u></b> and the Market Operator, as mandated by the WESM Rules, shall use their best endeavor to adjust the meter registration to account for electrical losses when the metering point is not physically located at the MTN.</i>	
Site-Specific Loss Adjustment – Roles and Responsibilities – Market Operator	9.7.4.1	The <i>Market Operator</i> shall reconcile the data submitted by the <i>Network Service Provider</i> and the <i>Trading Participant</i> . The reconciled data shall be agreed by the <i>Market Operator, Network Service Provider</i> and the <i>Trading Participants</i> . The <i>Market Operator</i> 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.	The <i>Market Operator</i> shall reconcile the data submitted by the <i>Network Service Provider, <b><u>the Metering Services Provider</u></b></i> , and the <i>Trading Participant</i> . The reconciled data shall be agreed by the <i>Market Operator, Network Service Provider</i> and the <i>Trading Participants</i> . The <i>Market Operator</i> 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.	It is proposed that the MSPs be included in the coordination in determining SSLA.
Site-Specific Loss Adjustment – Loss Calculation	9.8.1.1	Case 1: Single Market Trading Node: A metering point is connected to only one MTN. a. Case 1 – A: only one metering point is presently connected to the MTN (Figure 1)	Case 1: Single Market Trading Node: A metering point <b><u>is located after the market trading node (Figure 1)</u></b> connected to only one MTN.	The cases provided under this section consider adjustments up to the market trading nodes (currently location of RTUs). This results in cases when there are multiple metering points in one



Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

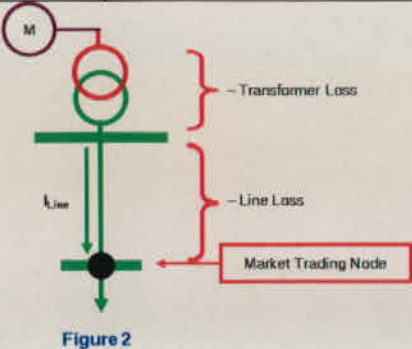
Title	Section	Provision	Proposed Amendment	Rationale
		 <p><b>Figure 1</b></p> <p>b. Case 2 – B: numerous metering points connected to, or are sharing the same MTN (figure 2)</p> <p><b>Figure 2</b></p>	<p>a. Case 1 – A: only one metering point is presently connected to the MTN (Figure 1)</p>  <p><b>Figure 1</b></p>  <p><b>Figure 1</b></p>	<p>market trading node. Since it is proposed that the market trading node should be at the connection point, there will only be one metering point per connection point; hence, the cases are reduced to: metering point is after the MTN and metering point is before the MTN. This provision discusses the 1<sup>st</sup> case for customers.</p>

### Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

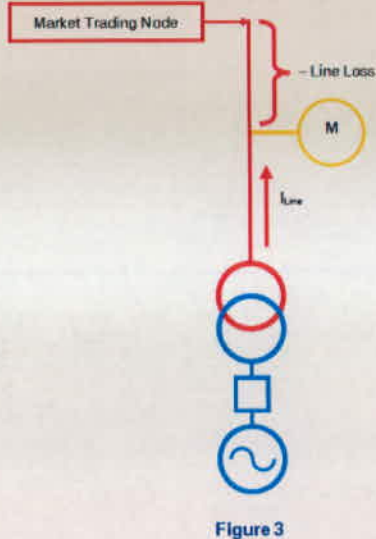
Title	Section	Provision	Proposed Amendment	Rationale
			<p>b. Case 2 – B: numerous metering points connected to, or are sharing the same MTN (figure 2)</p> <p>Figure 2</p>	
Site-Specific Loss Adjustment – Loss Calculation	9.8.1.2	<p>Case 2: Multiple Market Trading Nodes: A metering point is connected to two or more MTNs during normal condition (figure 3).</p>  <p>Figure 3</p>	<p>Case 2: <b>A metering point is located after the market trading node (Figure 2).</b> Multiple Market Trading Nodes: A metering point is connected to two or more MTNs during normal condition (figure 3).</p>  <p>Figure 3</p>	<p>The cases provided under this section consider adjustments up to the market trading nodes (currently location of RTUs). This results in cases when there are multiple metering points in one market trading node. Since it is proposed that the market trading node should be at the connection point, there will only be one metering point per connection point; hence, the cases are reduced to: metering point is after the MTN and metering point is before the MTN. This provision discusses the 2<sup>nd</sup> case for customers.</p>



**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

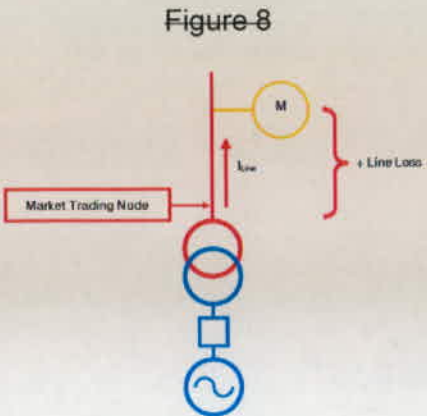
Title	Section	Provision	Proposed Amendment	Rationale
			 <p>Figure 2</p>	
Site-Specific Loss Adjustment – Loss Calculation	9.8.1.3 to 9.8.1.4	<p>9.8.1.3 Case 3: Alternate Market Trading Node: A metering point is connected to another MTN for alternate source of power during emergency condition or pre-arranged shutdown.</p> <p>XXX</p> <p>9.8.1.4 Case 4: Lagging MTN: A metering point is located before the MTN. The meter is installed at a voltage level higher or equal to the voltage level of the MTN (figure 6)</p> <p>XXX</p>	<p><del>9.8.1.3 Case 3: Alternate Market Trading Node: A metering point is connected to another MTN for alternate source of power during emergency condition or pre-arranged shutdown.</del></p> <p>XXX</p> <p><del>9.8.1.4 Case 4: Lagging MTN: A metering point is located before the MTN. The meter is installed at a voltage level higher or equal to the voltage level of the MTN (figure 6)</del></p> <p>XXX</p>	<p>The cases provided under this section consider adjustments up to the market trading nodes (currently location of RTUs). This results in cases when there are multiple metering points in one market trading node. Since it is proposed that the market trading node should be at the connection point, there will only be one metering point per connection point; hence, the cases are reduced to: metering point is after the MTN and metering point is before the MTN.</p>
Site-Specific Loss Adjustment –	9.8.2.1	Case 1: One Metering Point – One Market Trading Node: A metering point	Case 1: <b>A metering point is located after the market trading node (Figure 3)</b> One Metering Point – One Market	The cases provided under this section consider adjustments up to the market trading nodes

### Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

Title	Section	Provision	Proposed Amendment	Rationale
Loss Calculation		measures the dispatch of only one generating unit (figure 7).  Figure 7	Trading Node: A metering point measures the dispatch of only one generating unit (figure 7).  Figure 7 	(currently location of RTUs). This results in cases when there are multiple metering points in one market trading node. Since it is proposed that the market trading node should be at the connection point, there will only be one metering point per connection point; hence, the cases are reduced to: metering point is after the MTN and metering point is before the MTN. This provision discusses the 1 <sup>st</sup> case for generators.
Site-Specific Loss Adjustment – Loss Calculation	9.8.2.2	Case 2: One Metering Point – Multiple Market Trading Nodes: A metering point measures the aggregate dispatch of a group or block of generating units (figure 8).  Figure 8	Case 2: <b>A metering point is located after the market trading node (Figure 4).</b> One Metering Point – Multiple Market Trading Nodes: A metering point measures the aggregate dispatch of a group or block of generating units (figure 8).	The cases provided under this section consider adjustments up to the market trading nodes (currently location of RTUs). This results in cases when there are multiple metering points in one market trading node. Since it is



### Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

Title	Section	Provision	Proposed Amendment	Rationale
			<p>Figure 8</p>  <p>Figure 4</p>	<p>proposed that the market trading node should be at the connection point, there will only be one metering point per connection point; hence, the cases are reduced to: metering point is after the MTN and metering point is before the MTN. This provision discusses the 2<sup>nd</sup> case for generators</p>
Site-Specific Loss Adjustment – Loss Calculation	9.8.2.3	<p>9.8.2.3 Case 3: Multiple Metering Points – Multiple Market Trading Nodes: A group of metering points measures the aggregate dispatch of a group or block of generating units (Figure 9)</p> <p>Figure 9</p>	<p><del>9.8.2.3 Case 3: Multiple Metering Points – Multiple Market Trading Nodes: A group of metering points measures the aggregate dispatch of a group or block of generating units (Figure 9)</del></p> <p>Figure 9</p>	<p>The cases provided under this section consider adjustments up to the market trading nodes (currently location of RTUs). This results in cases when there are multiple metering points in one market trading node. Since it is proposed that the market trading node should be at the connection point, there will only be one metering point per connection point; hence, the cases are reduced to: metering point is after the MTN and metering point is before the MTN.</p>

**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

Title	Section	Provision	Proposed Amendment	Rationale
Site-Specific Loss Adjustment – Loss Calculation	9.8.3	<p>9.8.3 General Equations:</p> <p>The following are the equations to be used for calculating the SSLF:</p> $kW_{\text{Meter}} = \frac{(kW_{\text{hMeter-15min}} + kW_{\text{hMeter-30min}} + kW_{\text{hMeter-45min}} + kW_{\text{hMeter-00min}}) \div 1h}{1h}$ $kVar_{\text{Meter}} = \frac{(kVar_{\text{hMeter-15min}} + kVar_{\text{hMeter-30min}} + kVar_{\text{hMeter-45min}} + kVar_{\text{hMeter-00min}}) \div 1h}{1h}$ $I_{\text{Line}} = \frac{kW_{\text{Meter}} \div ((\sqrt{3}) * V * pf_{\text{Meter}})}{1h}$ $pf_{\text{Meter}} = \cos(\tan^{-1} \frac{kVar_{\text{Meter}}}{kW_{\text{Meter}}})$	<p>9.8.3 General Equations:</p> <p>The following are the equations to be used for calculating the SSLF:</p> $kW_{\text{Meter}} = \frac{(kW_{\text{hMeter-15min}} + kW_{\text{hMeter-30min}} + kW_{\text{hMeter-45min}} + kW_{\text{hMeter-00min}}) \div 1h}{1h}$ $kVar_{\text{Meter}} = \frac{(kVar_{\text{hMeter-15min}} + kVar_{\text{hMeter-30min}} + kVar_{\text{hMeter-45min}} + kVar_{\text{hMeter-00min}}) \div 1h}{1h}$ $I_{\text{Line}} = \frac{kW_{\text{Meter}} \div ((\sqrt{3}) * V * pf_{\text{Meter}})}{1h}$ $pf_{\text{Meter}} = \cos(\tan^{-1} \frac{kVar_{\text{Meter}}}{kW_{\text{Meter}}})$	The general equations are revised to reflect the equations used by the MSP in its current methodology.



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Title	Section	Provision	Proposed Amendment	Rationale
		$\text{Line}_{\text{kW-Loss}} = \frac{(I_{\text{Line}})^2 * R_{\text{Line}}}{1000}$	$\text{Line}_{\text{kW-Loss}} = \frac{(I_{\text{Line}})^2 * R_{\text{Line}}}{1000}$	
		$R_{\text{Line}} = r_a * L$	$R_{\text{Line}} = r_a * L$	
		$\text{Line}_{\text{kVar-Loss}} = \frac{(I_{\text{Line}})^2 * X_{\text{Line}}}{1000}$	$\text{Line}_{\text{kVar-Loss}} = \frac{(I_{\text{Line}})^2 * X_{\text{Line}}}{1000}$	
		$X_{\text{Line}} = X_l * L$	$X_{\text{Line}} = X_l * L$	
		$\text{Transformer}_{\text{Loss}} = \text{TCore}_{\text{Loss}} + \text{TCopper}_{\text{Loss}}$	$\text{Transformer}_{\text{kW-Loss}} = \frac{\text{kW}_{\text{meter}} * \% \text{Transformer}_{\text{Loss}}}{\text{TCore}_{\text{Loss}} + \text{TCopper}_{\text{Loss}}}$	
		$\text{TCore}_{\text{Loss}} = \text{constant loss from the open-circuit test}$	$\text{TCore}_{\text{Loss}} = \text{constant loss from the open-circuit test}$	
		$\text{TCopper}_{\text{Loss}} = \text{full-load copper loss from the short-circuit test or } P_{\text{Short-Circuit}}$	$\text{TCopper}_{\text{Loss}} = \text{full-load copper loss from the short-circuit test or } P_{\text{Short-Circuit}}$	
		$\text{Core}_{\text{Loss-Meter}} = \frac{\text{TCore}_{\text{Loss}} * \text{kW}_{\text{M1}}}{\sum \text{kW}_{\text{Meters}}}$ (Formula to be used if all meters register consumption, core loss being shared by all meters)	$\text{Core}_{\text{Loss-Meter}} = \frac{\text{TCore}_{\text{Loss}} * \text{kW}_{\text{M1}}}{\sum \text{kW}_{\text{Meters}}}$ (Formula to be used if all meters	

**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

Title	Section	Provision	Proposed Amendment	Rationale
		<p>proportional to its consumption)</p> $\text{Core}_{\text{Loss-Meter}} = \text{TCore}_{\text{Loss}} * \text{kW}_{\text{M1}} * \text{HLS}_{\text{M1}}$ <p>(Formula to be used if one or more or all of the meter/s register/s zero, core loss being shared according to the historical load factor of each metering point)</p> $\text{Copper}_{\text{Loss-Meter}} = ((\text{kW}_{\text{Meter}} \div \text{pf}_{\text{Meter}}) \div \text{T}_{\text{kVA-Rating}})^2 * \text{P}_{\text{Short-Circuit}}$ $\text{Total}_{\text{kW-Loss}} = \text{Line}_{\text{kW-Loss}} + \text{Core}_{\text{Loss-Meter}} + \text{Copper}_{\text{Loss-Meter}}$ $\text{SSLF} = 1 + (\text{Total}_{\text{kW-Loss}} \div \text{kW}_{\text{Meter}})$ $\text{Adjusted}_{\text{kW}} = \text{SSLF} * \text{kW}_{\text{Meter}}$ $= \text{Total}_{\text{kW-Loss}} + \text{kW}_{\text{Meter}}$	<p>register consumption, core loss being shared by all meters proportional to its consumption)</p> <del> <math display="block">\text{Core}_{\text{Loss-Meter}} = \text{TCore}_{\text{Loss}} * \text{kW}_{\text{M1}} * \text{HLS}_{\text{M1}}</math> <p>(Formula to be used if one or more or all of the meter/s register/s zero, core loss being shared according to the historical load factor of each metering point)</p> </del> $\text{Copper}_{\text{Loss-Meter}} = ((\text{kW}_{\text{Meter}} \div \text{pf}_{\text{Meter}}) \div \text{T}_{\text{kVA-Rating}})^2 * \text{P}_{\text{Short-Circuit}}$ $\text{Total}_{\text{kW-Loss}} = \text{Line}_{\text{kW-Loss}} + \text{Transformer}_{\text{kW-Loss}} + \text{Core}_{\text{Loss-Meter}} + \text{Copper}_{\text{Loss-Meter}}$	



**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

Title	Section	Provision	Proposed Amendment	Rationale
		<p>Where:</p> <p><math>kWh_{\text{Meter-XXMin},i}</math> : 15-minute active energy meter registration</p> <p><math>kVarh_{\text{Meter-XXMin},i}</math> : 15-minute reactive energy meter registration</p> <p><math>kW_{\text{Meter}}</math> : active power derived from the meter registration</p> <p><math>I_{\text{Line}}</math> : current (Ampere) along the line</p> <p><math>V</math> : voltage (kV) level of the line</p> <p><math>pf_{\text{Meter}}</math> : power factor from the derived active and reactive power</p> <p><math>kVar_{\text{Meter}}</math> : reactive power derived from the meter registration</p>	<p><math>SSLF = 1 + (Total_{kW-Loss} \div kW_{\text{Meter}})</math></p> <p><math>Adjusted_{kW} = SSLF * kW_{\text{Meter}}</math>  <math>= Total_{kW-Loss} + kW_{\text{Meter}}</math></p> <p><math>Adjusted_{kWh} = Adjusted_{kW} * t</math></p> <p>Where:</p> <p><del><math>kWh_{\text{Meter},i}</math> : dispatch interval active energy meter registration</del></p> <p><del><math>kVarh_{\text{Meter},i}</math> : dispatch interval reactive energy meter registration</del></p> <p><math>kW_{\text{Meter}}</math> : active power derived from the meter registration</p> <p><math>I_{\text{Line}}</math> : current (Ampere) along the line</p> <p><del><math>V</math> : voltage (kV) level of the line</del></p>	

### Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

Title	Section	Provision	Proposed Amendment	Rationale
		Line <sub>kW-Loss</sub> : the active loss (kW) along the line	<del>pf<sub>Meter</sub> : power factor from the derived active and reactive power</del>	
		Line <sub>kVar-Loss</sub> : the reactive loss (kVar) along the line	<del>kVar<sub>Meter</sub> : reactive power derived from the meter registration</del>	
		R <sub>Line</sub> : total resistance (ohm) of the line	Line <sub>kW-Loss</sub> : the active loss (kW) along the line	
		X <sub>Line</sub> : total inductive reactance (ohm) of the line	Line <sub>kVar-Loss</sub> : the reactive loss (kVar) along the line	
		r <sub>a</sub> : resistance per unit length (ohm/km) of the line	R <sub>Line</sub> : total resistance (ohm) of the line	
		X <sub>l</sub> : total inductive reactance per unit length (ohm/km) of the line	X <sub>Line</sub> : total inductive reactance (ohm) of the line	
		L : total line length (km)	r <sub>a</sub> : resistance per unit length (ohm/km) of the line	
			X <sub>l</sub> : total inductive reactance per unit	



**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

Title	Section	Provision	Proposed Amendment	Rationale
		Transformer <sub>Loss</sub> : total loss (kW) in the transformer	length (ohm/km) of the line	
		TCore <sub>Loss</sub> : constant loss (kW) from the open-circuit test	L : total line length (km)	
		TCopper <sub>Loss</sub> : full-load copper loss (kW) from the short-circuit test	Transformer <sub>kW-Loss</sub> : total loss (kW) in the transformer	
		P <sub>Short-Circuit</sub> : same meaning as the TCopper <sub>Loss</sub>	<del>TCore<sub>Loss</sub> : constant loss (kW) from the open-circuit test</del>	
		Core <sub>Loss-Meter</sub> : meter's equivalent share (kW) of the TCore <sub>Loss</sub>	<del>TCopper<sub>Loss</sub> : full-load copper loss (kW) from the short-circuit test</del>	
		Copper <sub>Loss-Meter</sub> : meter's equivalent share (kW) of the TCopper <sub>Loss</sub>	<del>P<sub>Short-Circuit</sub> : same meaning as the TCopper<sub>Loss</sub></del>	
		$\Sigma kW_{Meters}$ : summation of active power derived from the meter readings of all metering points	<del>Core<sub>Loss-Meter</sub> : meter's equivalent share (kW) of the TCore<sub>Loss</sub></del>	
			<del>Copper<sub>Loss-Meter</sub> : meter's equivalent share (kW) of the TCopper<sub>Loss</sub></del>	

**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

Title	Section	Provision	Proposed Amendment	Rationale
		<p>under the same transformer</p> <p>HLS : Historical Load Share; the fraction or ratio of a <i>metering point's</i> total <i>energy</i>, against the total <i>energy</i> of all <i>metering points</i> under the same transformer. The HLS for the current billing month shall be based on the energy of the last twelve (12) billing months.</p> <p>M<sub>1</sub> : pertains to the first <i>meter</i>, and so on</p> <p>T<sub>kVA-Rating</sub> : transformer rating (kVA)</p>	<p><del><math>\sum kW_{Meters}</math> : summation of active power derived from the meter readings of all metering points under the same transformer</del></p> <p><del>HLS : Historical Load Share; the fraction or ratio of a metering point's total energy, against the total energy of all metering points under the same transformer. The HLS for the current billing month shall be based on the energy of the last twelve (12) billing months.</del></p>	



**Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point**

Title	Section	Provision	Proposed Amendment	Rationale
		<p>Total<sub>kW-Loss</sub> : total active loss (kW) for a metering point</p> <p>Adjusted<sub>kW</sub> : adjusted (kW) active power</p> <p>SSLF : Site – Specific Loss Factor</p>	<p><del>M<sub>1</sub></del> : <del>pertains to the first meter, and so on</del></p> <p><del>T<sub>kVA-Rating</sub></del> : <del>transformer rating (kVA)</del></p> <p>Total<sub>kW-Loss</sub> : total active loss (kW) for a metering point</p> <p>Adjusted<sub>kW</sub> : adjusted (kW) active power</p> <p>SSLF : Site – Specific Loss Factor</p>	
SITE – SPECIFIC LOSS ADJUSTMENT	Appendix	SITE – SPECIFIC LOSS ADJUSTMENT XXX	(Refer to the attached document for the proposed revised Appendix)	The cases provided under this section consider adjustments up to the market trading nodes (currently location of RTUs). This results in cases when there are multiple metering points in one market trading node. Since it is proposed that the market trading node should be at the connection point, there will only be one metering point per connection point; hence, the cases are reduced to: metering point is after

### Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

Title	Section	Provision	Proposed Amendment	Rationale
				the MTN and metering point is before the MTN.

#### Registration Manual

Title	Section	Provision	Proposed Amendment	Rationale
Generation Company	<b><u>2.5.1.1(c)</u></b> (new)	(blank)	<b><u>A Generation Company shall register each of its connection points with the Market Operator.</u></b>	Reflect proposed new WESM Rules Clause 2.3.1.9. The proposed change in the location of the metering point to the connection point of a trading participant would require the identification of connection points during registration.
Customers	<b><u>2.5.1.2(c)</u></b> (new)	(blank)	<b><u>A Customer shall register each of its connection points with the Market Operator. For contestable customers, there shall be one registration for each certificate of contestability from ERC.</u></b>	Reflect proposed new WESM Rules Clause 2.3.2.4. The proposed change in the location of the metering point to the connection point of a trading participant would require the identification of connection points during registration.



## Revised Proposed Amendments to the WESM Rules and Market Manuals on Change of Location of Metering Point

### Market Network Model Manual

Title	Section	Provision	Proposed Amendment	Rationale
Market Trading Nodes	4.4.1	These are <i>nodes</i> in the load flow model designated as the reckoning <i>node</i> for Trading Participant bids or offers and corresponding settlement of <i>energy</i> and reserves. MTN shall be modeled as the trading point of a Generator or a Load where the appropriate real-time monitoring facility can be associated. Where the MTN and the metering point are of different location, site-specific loss adjustment (SSLA) provided in the WESM Metering <i>Market Manual</i> shall apply. Further details on MTN can be observed in Section 6 of this <i>Market Manual</i> .	These are <i>nodes</i> in the load flow model designated as the reckoning <i>node</i> for <del>Trading Participant bids or offers and corresponding settlement of <i>energy</i> and reserves</del> <b>of Trading Participants</b> . MTN shall be modeled as the trading point of a Generator or a Load <u>corresponding to its connection point</u> where the appropriate real-time monitoring facility can be associated. Where the MTN and the metering point are of different location, site-specific loss adjustment (SSLA) provided in the WESM Metering <i>Market Manual</i> shall apply. Further details on MTN can be observed in Section 6 of this <i>Market Manual</i> .	This reflects the proposed re-definition of market trading nodes to refer to connection points where trading participants are settled in the WESM.
MNM COMPONENTS AND MODELING	<b>4.4.9</b> (new)	(blank)	<b>4.4.9 Scheduling Points</b>  <u>These are <i>nodes</i> in the load flow model designated as the reckoning <i>node</i> for Trading Participant bids or offers. Scheduling points shall be modeled as the point of a Generator where the appropriate real-time monitoring facility can be associated. The</u>	Reflect proposed WESM Rules Clause 3.2.2.3. Some cases require that a participant be scheduled at a location other than its connection points (e.g., generator at its plant, modelled DU at withdrawal points within its system). These points are proposed to be referred to as



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Title	Section	Provision	Proposed Amendment	Rationale
			<u>scheduling points of a customer shall be at its connection points; however, if the system of a customer is included in the market network model, the scheduling points of the customer shall be at the withdrawal points within its system.</u>	"scheduling points". For a customer, its scheduling point and market trading node would both correspond to its connection point
Classification of Market Trading Nodes	6.3.2	There may be conditions wherein a <i>Trading Participant</i> has a generating facility whose remote telemetering facility is situated in a location where both its injection and withdrawal of power are monitored. In such cases, that <i>Trading Participant</i> shall have a generator and customer MTN registered in the WESM to dynamically reflect its injection and withdrawal, respectively. These cases are applicable for the following conditions  XXX	There may be conditions wherein a <i>Trading Participant</i> has a generating facility whose remote telemetering facility is situated in a location where both its injection and withdrawal of power are monitored. In such cases, that <i>Trading Participant</i> shall have a generator and customer <u>scheduling point</u> MTN registered in the WESM to dynamically reflect its injection and withdrawal, respectively. These cases are applicable for the following conditions  XXX	Since the provision refers to the location of the remote telemetering facility of a generator, the node referred to in the provision is the scheduling point.
Criteria for the Definition of MTN	6.4.1	MTN shall be defined for each <i>node</i> in the MNM that lies at the boundary between a network operated by the <i>System Operator</i> and any apparatus, network or equipment used to generate, convey or control the conveyance of <i>energy</i> and operated by a person other than the <i>System Operator</i> .	<b>Subject to Section 6.4.2 and Section 6.4.8, MTN and <u>scheduling points</u></b> shall be defined for each <i>node</i> in the MNM that lies at the boundary between a network operated by the <i>System Operator</i> and any apparatus, network or equipment used to generate, convey or control the	The proposed change clarifies that both the MTN and settlement points will be defined at the connection point of trading participants except for generating facilities who have individual scheduling nodes and DUs that are modelled in the MNM.



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Title	Section	Provision	Proposed Amendment	Rationale
			conveyance of <i>energy</i> and operated by a person other than the <i>System Operator</i> .	
Criteria for the Definition of MTN	6.4.2	MTN shall also be defined for each <i>node</i> in the MNM that lies at the boundary between a network operated by the <i>Network Service Provider</i> that is included in the MNM, and any apparatus, network or equipment used to generate, convey or control the conveyance of <i>energy</i> and operated by a person other than the <i>System Operator</i> .	<b><u>Scheduling points</u></b> MTN shall also be defined for each <i>node</i> in the MNM that lies at the boundary between a network operated by the <i>Network Service Provider</i> that is included in the MNM, and any apparatus, network or equipment used to generate, convey or control the conveyance of <i>energy</i> and operated by a person other than the <i>Network Service Provider</i> .	Nodes within sub-transmission or distribution systems that are modelled due to their material impact on schedules and prices shall be modelled as scheduling points only. Settlement points of the owner of the sub-transmission or distribution system will still be at its connection points to the transmission system.
Criteria for the Definition of MTN	6.4.4	MTN shall be defined in a manner that calculation of relevant power flows and locational marginal prices shall not result to cross-subsidization of the <i>Trading Participant</i> .	MTN <b>and scheduling points</b> shall be defined in a manner that calculation of relevant power flows and locational marginal prices shall not result to cross-subsidization of the <i>Trading Participant</i> .	Include scheduling points in ensuring no cross-subsidization occurs.
Criteria for the Definition of MTN	6.4.5	If the interface of the network operated by the <i>System Operator</i> and the apparatus, network or equipment operated by the <i>Trading Participant</i> lies at the end of a radial transmission line or power transformer serving solely the <i>Trading Participant</i> , the MTN shall be defined at the take-off point of the radial transmission line or the power transformer from the main power network. Locational marginal prices shall be calculated at the MTN and dispatch of	<b><u>(Deleted) If the interface of the network operated by the System Operator and the apparatus, network or equipment operated by the Trading Participant lies at the end of a radial transmission line or power transformer serving solely the Trading Participant, the MTN shall be defined at the take-off point of the radial transmission line or the power transformer from the main power network. Locational marginal prices shall be calculated at the MTN</u></b>	The provision is no longer applicable since market trading nodes will be placed at the connection points of trading participants.



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Title	Section	Provision	Proposed Amendment	Rationale
		<i>energy</i> supplied or withdrawn by the Trading Participant shall be adjusted to account for the <i>energy</i> losses along the radial transmission line or power transformer. These <i>energy</i> losses shall be for the account of the <i>Trading Participant</i> .	<del>and dispatch of energy supplied or withdrawn by the Trading Participant shall be adjusted to account for the energy losses along the radial transmission line or power transformer. These energy losses shall be for the account of the Trading Participant.</del>	
Criteria for the Definition of MTN	6.4.6	If the <i>Trading Participant</i> interconnects to two or more transmission <i>nodes</i> , the MTN for that <i>Trading Participant</i> shall be the high voltage side of its step-up transformer.	<del>(Deleted) If the Trading Participant interconnects to two or more transmission nodes, the MTN for that Trading Participant shall be the high voltage side of its step-up transformer</del>	The provision is no longer applicable since MTNs will be located at the connection points.
Criteria for the Definition of MTN	6.4.7	If the <i>Trading Participant</i> is a dispatchable generator connected to a distribution system (embedded facility), then its MTN shall be assigned to the nearest <i>node</i> represented in the MNM. Adjustments to the real-time monitoring of the Customer MTN shall be made accordingly to reflect the total power consumed by that Customer MTN accounting for the power generated by the dispatchable generator situated downstream.	If the <i>Trading Participant</i> is a dispatchable generator connected to a distribution system (embedded facility), then its MTN and <b><i>scheduling point</i></b> shall be assigned to the nearest <b><i>scheduling point</i></b> represented in the MNM. Adjustments to the real-time monitoring of the Customer <b><i>scheduling point</i></b> MTN shall be made accordingly to reflect the total power consumed by that Customer <b><i>scheduling point</i></b> MTN accounting for the power generated by the dispatchable generator situated downstream.	Since the actual connection point of an embedded generator is not at the transmission system, both its MTN and scheduling point will be translated to the nearest scheduling point.
Criteria for the Definition of MTN	6.4.8 (new)	(blank)	<b><u>A generating facility shall be modelled as a <i>scheduling point</i>.</u></b>	This is to specify that generating facilities that have individual RTUs will also be modelled individually



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<b>Title</b>	<b>Section</b>	<b>Provision</b>	<b>Proposed Amendment</b>	<b>Rationale</b>
				as scheduling points even if they share a single metering facility.