Philippine Electricity Market Corporation
9/F Robinsons Equitable Tower, ADB Avenue,
Ortigas Center, Pasig City Philippines 1600
Tel: (632) 631-8734 Fax: (632) 636-0602
www.wesm.ph

MARKET OPERATOR PERFORMANCE STANDARDS (MOPS)

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Document Approval

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1.0	0.0	PEMC Corporate Planning & Communications Department	March 2011	Original Document
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Related and Reference Document/s

Document ID	Document Title
	WESM Rules (As Amended, March 2010)
WESM-DP-006	WESM Manual – Dispatch Protocol (Issue 6.0)
WESM-LFM-000	WESM Manual – Load Forecasting Methodology (Issue 0.0, Revision 0.1)
WESM-PEN_MRR-001	WESM Manual – Criteria and Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-Run (Issue 1.0, October 2010)
WESM-BS-001	WESM Manual – Billing and Settlement (Issue 1.0, Revision 0.0)
WESM-MSDM-MM-006	WESM Manual – Metering Standards and Procedures (Issue 6.0)
WESM-APDM-003	WESM Manual – Administered Price Determination Methodology (Issue 3.0)
WESM-CVC-002	WESM Manual – Constraint Violation Coefficients (Issue 2.0)

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1. INTRODUCTION

1.1. The *WESM Rules*, which establishes the basic rules, requirements and procedures that govern the operation of the Philippine electricity market, requires that the Philippine Electricity Market Board (the "***PEM Board***") must develop performance standards which monitors and provides an indication of the *Market Operator*'s performance with respect to its responsibilities under the *EPIRA* (the "***Act***"), its *IRR*, the *WESM Rules,* the *Philippine Grid Code,* and all other applicable laws, rules and regulations, and with regard to the achievement of objectives of the *Act* and the *WESM* (*WESM Rules* 1.3.2.3, DOE Circular No. DC 2010-03-0004). The *WESM Rules* also requires that the *PEM Board* publish a Market Operator Performance Report and that the Market Operator's performance standards be reviewed and approved by the DOE as stipulated under the same clause.

1.2. In order to comply with the said provisions of the *WESM Rules* and provide an official documentation on the performance standards pursuant to the *WESM Rules*, this document was developed to outline the performance measures that may serve as monitoring guide in assessing whether the Philippine Electricity Market Corporation (the "**PEMC**"), as the current *Market Operator* of the *WESM*, is performing its functions according to the *WESM Rules*. It includes the descriptions and targets that have been established in line with the core functions of the *Market Operator*.

2. PURPOSE

2.1. This document aims to institutionalize the development, application, monitoring and reporting of the *Market Operator* performance standards and to describe the targets and criteria pertaining to the identified performance categories.

2.2. To comply with the provision of the WESM Rules on the establishment of the Market Operator's Performance Standards

2.3. The *Market Operator* performance standards shall form part of the "Corporate Performance Measures" of PEMC.

2.4. To develop performance metrics which shall serve as monitoring guide by the PEM Board (for governance), DOE (for policy making) and ERC (for regulatory) in the assessment of the Market Operator's performance.

2.5. The *Market Operator* performance standards shall also serve as guide for PEMC to be able to identify the areas in relation to its services to stakeholders that need improvements or enhancements.

3. SCOPE OF APPLICATION

These performance standards shall apply to the Market Operator of the WESM.

4. DEFINITIONS

All italicized terms in this document will have the same meaning as defined in the *WESM Rules*, unless the context provides otherwise.

5. REFERENCES

This document should be read together with the –

5.1. WESM Rules (As amended, March 2010)
5.2. WESM Manual – Dispatch Protocol (Issue 6.0)
5.3. WESM Manual – Load Forecasting Methodology (Issue 0.0, Revision 0.1)
5.4. WESM Manual – Criteria and Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-Run (Issue 1.0, October 2010)
5.5. WESM Manual – Billing and Settlement (Issue 1.0, Revision 0.0)
5.6. WESM Manual – Metering Standards and Procedures (Issue 6.0)
5.7. WESM Manual – Administered Price Determination Methodology (Issue 3.0)
5.8. WESM Manual – Constraint Violation Coefficients (Issue 2.0)
5.9. WESM Manual – Methodology for Determining Pricing Errors and Price Substitution Due to Congestion for Energy Transactions in the WESM (Issue 3.0)

6. RESPONSIBILITIES

6.1. The PEMC departments involved in the functions that are linked to each performance category shall ensure that performance targets are met, if not exceeded, and shall ensure that performance standards are monitored and reported accordingly.

6.2. For monitoring purposes, the following *PEMC* departments/personnel are identified as being involved in the functions linked to each respective performance category:

6.2.1. IT Systems – Information Systems and Technology Department (the "**ISTD"**)

6.2.2. Market Reports and Data Publication – Corporate Planning and Communications Department (the "**CPCD**"), the Trading Operations Department (the "**TOD**") and the ISTD.

6.2.3. Forecast Accuracy – TOD

6.2.4. Dispatch Scheduling and Pricing
- Workflow process monitoring – ISTD and TOD
- Market Intervention Attributable to MO – ISTD and TOD
- Pricing Errors and Market Re-runs – TOD

6.2.5. Billings, Settlements and Accounts Management – Corporate Services Department (the "**CSD**")

6.2.6. Registration and Customer Relations – CPCD, *WESM* Compliance Officer for *Market Operator (MO)*

6.2.7. Other *PEMC* departments may also be identified in the future as being involved in one or more of the functions under the MO performance categories.

6.3. The Market Assessment Group (the "**MAG**") of PEMC "monitors and assesses the performance of the Philippine Wholesale Electricity Spot Market (WESM) and the activities of WESM participants, Market Operator and System Operator with the end view of ensuring the effective functioning and overall efficiency of the WESM". In addition, MAG has no involvement in the market operation duties of PEMC and is functioning independently from the operational activities of the company in relation to WESM. As such, MAG shall be responsible in

monitoring and evaluating whether the performance targets as set forth in this document are met.

7. DEVELOPING THE MO PERFORMANCE STANDARDS

7.1. In developing the performance standards for the *Market Operator*, the performance standards should be aligned with the core tasks and responsibilities of the *Market Operator*.

7.2. Clause 1.3.1.1 of the *WESM Rules* states that the *Market Operator* shall have the following functions and responsibilities:

7.2.1. Clause 1.3.1.1 (a) Administer the operation of the *WESM* in accordance with the *WESM Rules*;

7.2.2. Clause 1.3.1.1 (b) Allocate resources to enable it to operate and administer the *WESM* on a non-profit basis;

7.2.3. Clause 1.3.1.1 (c) Determine the *dispatch schedule* of all facilities in accordance with the *WESM Rules*. Such schedule shall be submitted to the *System Operator*;

7.2.4. Clause 1.3.1.1 (d) Monitor daily trading activities in the market;

7.2.5. Clause 1.3.1.1 (e) Oversee transaction billing and settlement procedures; and

7.2.6. Clause 1.3.1.1 (f) Maintain and *publish* a register of all *WESM Participants* and update and *publish* the register whenever a person or entity becomes or ceases to be a *WESM Participant*.

7.3. Clause 3.8.1 of the WESM Rules also provides that prior to commencement of each trading interval, the Market Operator shall:

7.3.1. Clause 3.8.1 (a) Determine, or estimate, the status of all *generation facility* for that *trading interval*;

7.3.2. Clause 3.8.1 (b) Prepare a *forecast* if the *unrestrained* net load expected at each *market trading node* for the end of that *trading interval*;

7.3.3. Clause 3.8.1 (c) Adjust that *unrestrained* net load forecast to account for load shedding, if required, in accordance with clause 3.9.5;

7.3.4. Clause 3.8.1 (d) Determine the most appropriate *network* configuration and state to be assumed for the end of that *trading interval*;

7.3.5. Clause 3.8.1 (e) Use the *market dispatch optimization model* to determine the *target loading level* in *MW* for each *scheduled generating unit* or *scheduled load* and for each *reserve facility* for the end of that *trading interval* using the latest data from the *System Operator* and *Trading Participants*; and

7.3.6. Clause 3.8.1 (f) Submit to the System Operator the *dispatch schedule* containing the *target loading levels* to be achieved at the end of that *trading interval*, determined in accordance with clause 3.8.1 (e).

7.4. As such, the MO performance standards are categorized as described in the following section. The "Measures" assigned to each performance category are the parameters for which each performance category will be evaluated, while the "Criteria" shall be the specific metric/s corresponding to each measure.

7.5. Accordingly, the MO performance categories, measures and criteria include the following:

7.5.1. **IT Systems**

a. **Market Management System** – The Market Management System (the "**MMS**") is the main system used in the WESM operations. The MMS has various IS/IT market systems components that facilitate the communication of the market systems, gathering of market process/workflow input, processing and publication of market outputs, and emergency system disaster recovery operations. The MMS category shall be measured in terms of the "Availability" of the system which pertains to the 24 x 7 functioning of the MMS components. MMS availability will be determined based on the number of hours that the MMS is either on-line (operating) or off-line (downtime). "Average" availability for the year shall be calculated to evaluate the MMS.

b. **WESM Website** – The WESM website or the market information website referred to in the WESM Rules, is part of the PEMC corporate system and serves as the venue for disclosure of data and information relevant to the governance and operations of the WESM. The WESM website category shall be measured also in terms of the facility's "Availability" which pertains to the website operating and downtime hours.

7.5.2. **Market Reports and Data Publication** – The operations of the WESM entails various market information such as market results (bids/offers, prices, schedules, etc.), reports and registry lists. This performance category shall cover market information required to be published in the WESM website / market information website by the *WESM Rules*. However, some *WESM Rules* provisions may not yet be applicable by virtue of the non-application of the rules provision in the commercial operation of the market, and may be excluded in the assessment of this category. This performance category may also include provisions in the WESM Manuals and the regulatory directives pertaining to the publication of the market information. Provisions or directives that are already covered in some other provisions of the WESM Rules or already covered in other performance categories are likewise excluded in the assessment of this category. This category shall be measured in two-fold: "Availability" and "Timeliness". The availability pertains to the number of published reports and data and shall be evaluated based on "average" against the total number of required publications. Meanwhile, the timeliness refers to the publication of required market information in the WESM website according to schedule. A list of the market information required to be published is presented in Annex D.

7.5.3. **Forecast Accuracy**

a. ***RTD* Forecast** – This refers to the real-time (the "***RTD***") forecasts used in the determination of ex-ante schedules and prices. The *RTD* forecast shall be measured based on the "Accuracy" of the forecasts against the actual demand for each trading interval. Assessment of forecast accuracy excludes forecast errors due to non-compliance of Kalayaan Pump Storage plant to its pump schedule, line trippings that caused dropping of load equivalent to ≥1% of the total demand as evidenced by NGCP-SO advisories, Manual Load Dropping or MLD, market intervention, and RTU errors load data on system snapshots equivalent to ≥1% of the total

demand and on the event of generator tripping or unplanned outages affecting the total demand in the 39th, 44th, 49th minutes of the affected interval and the event of occurrences of missing/non-updating snapshots during the last 15 minutes of the interval. As for the industry standard measure, the real-time forecasts are generally evaluated based on the Mean Absolute Percentage Error (the "**MAPE**")[1]. The MAPE provides an indication of the difference of the actual demand from the forecasted demand. The *RTD* forecast accuracy shall also be evaluated based on the Forecast Accuracy Rate (the "**FAR**") which reflects the number of intervals wherein the forecast is within the MAPE tolerance level.

b. ***DAP* Forecast** – This refers to the day-ahead projection (the "***DAP***") forecasts consisting of day-ahead schedules and prices. The *DAP* forecast shall also be measured in terms of the "Accuracy" of the forecasts for the same scope. Similarly, the *DAP* forecast accuracy shall be evaluated based on the MAPE

7.5.4. **Dispatch Scheduling and Pricing** – This category covers the activities in relation to market scheduling and pricing, including the different real-time workflows (real-time ex-ante (*RTD*) and real-time ex-post (the "***RTX***")), issuance of pricing errors and conduct of market re-runs, and the occurrence of market intervention that may be attributed to MO.

a. ***RTD* Workflow** – The *RTD* workflow shall be measured in terms of "Successful run", to be evaluated based on the number of RTD market runs[2] with available schedules, completed within the timetable.

b. ***RTX* Workflow** – The *RTX* workflow shall be measured in terms of "Successful run", to be evaluated based on the number of RTX market runs[3] with available schedules.

c. **Pricing Errors and Market Re-runs** – This category shall be measured in terms of the "Timeliness" in the completion of the validation of intervals that have been tagged with pricing errors and the timely completion of market re-runs prior the final settlement run. For more information on the pricing errors and market re-runs, refer to the "Pricing Error Issuance and Market Re-run Procedure".

~~d.~~ **Market Intervention Attributable to MO** – This refers to the Market Intervention that may have been caused by MO, such as intervention due to software error. This category shall be measured in terms of "Duration/Frequency", based on the number of trading intervals with the occurrence of such market intervention.

7.5.5. **Billings, Settlements and Accounts Management** – This performance category covers the financial aspect of the WESM operations such as the metering trouble reports, calculation of market transactions, settlement statements, actual monetary transactions and *margin call*. Measures for this performance category include "Timeliness", "Frequency" and "Accuracy" in those various financial aspects.

For the WESM operator, in order to consider impacts to market participants of the financial aspects of WESM operations, the following items are included under the billings, settlements and accounts management performance category:

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[1] MAPE – Mean Absolute Percentage Error takes into account the accuracy of forecast against actual demand for a given period of time.

[2] RTD workflow process is run for each trading interval; hence this process' "successful run" may be evaluated by the number of trading intervals or the number of market runs with resulting schedules, completed within the timetable.

[3] RTX workflow process is run for each trading interval; hence this process' "successful run" may be evaluated by the number of trading intervals or the number of market runs with resulting schedules.

a. **Preliminary and Final Settlement Statements** – Given the possible financial impact of the issuance of settlement statements, it is imperative that the preliminary and final settlement statements are issued within the timeline set forth in the *WESM Settlement timetable*.

b. **Preliminary and Final Settlement Calculations** – The final trading amounts payable by or to a *trading participant* shall be calculated on the final settlement run, incorporating corrections to the preliminary trading amounts. Some market participants, however, use the preliminary settlement results in their billings to their customers. The Preliminary and Final Settlement Calculations shall be measured in terms of "accuracy" of the calculations. Accuracy rating of the preliminary settlement will be based on the difference in trading amounts between the preliminary and final settlement statements of the affected participants. The same methodology applies to final settlement except that the difference in trading amount is calculated from the last adjustment and the original final settlement calculations. The adjustments include internal factors or errors that may have been caused by PEMC. In connection to the accuracy rating, the final settlements shall also be measured in terms of the "frequency" of adjustments in the final settlement calculation, excluding adjustments *claims for additional compensation for Administered Prices and Must Run Units* of relevant trading participants. Internal settlement errors by PEMC detected within the organization shall be corrected within one (1) month after issuance of the original final settlement statements.

c. **Meter Data Error Detection** – The Meter Service Provider (MSP) is responsible for the collection and validation of meter data. This performance category will be measured in terms of the ability of PEMC to detect meter data errors through the issuance of Meter Trouble Reports.

d. **Monetary Transactions** – All monetary transactions must be remitted to *WESM members* in accordance to the *WESM Settlement* timetable.

e. **Margin Call** – A *margin call* must be issued based on the *WESM Settlement* timetable. As per *WESM Rules*, the MO has to make a regular review of each *WESM member's trading limit* and a daily monitoring of the MO's actual exposure to each *WESM Member* in respect of previous billing period. If the MO calculates that its actual exposure to any *WESM member* exceeds the *WESM member's trading limit,* then the MO must make a *margin call* by issuing a notice to the relevant WESM *member*.

7.5.6. **Registration and Customer Relations** – This performance category pertains to tasks associated with the market participant registration, trainings and helpdesk support. Measures for this would be the timeliness of facilitating the registration process, timeliness in completing trading participant trainings, trading participant feedback on the trainings, timeliness in escalating and closing queries and/or data requests received thru e-mail communications and accuracy of data or information provided by *PEMC*.

a. **Registration** – WESM members are required to be registered with the MO. The registration shall be measured in terms of "timeliness" in completing the process within the allotted timeline. Processing Timeline per *WESM Registration* timetable is fifteen (15) business days from receipt of complete application requirements and/or additional information or fees.

b. **Participant Training** – The participant training shall be measured in two-fold: "timeliness" in completing all participant trainings according to schedule, and "feedback" on training evaluation.

c. **Participant Queries and Data Requests** – Participant queries and data requests received via e-mail shall be measured in terms of "timeliness" in closing the queries and data requests within the allotted timeline. Below is the table summarizing the response time of the different types of inquiries:

Table 7.5.6c

	INQUIRY	RESPONSE TIME[4]
A.	DATA REQUESTS	
A.1	Historical data	Within three (3) business days
A.2	Recent data (covering the last 1 to 2 months of WESM operation	Within five (5) business days
A.3	Others; not commonly requested	Within five (5) business days
B.	PARTICIPANT QUERIES	
B.1	Queries on Basic WESM concepts	Within one (1) business day
B.2	Queries on Registration	Within one (1) business day
B.3	Analysis or validation of market results and simulations	Within five (5) business days
B.4	Other Participant Queries – require referral by Participant Support staff to relevant PEMC departments/units	Within five (5) business days

Annex E of this document presents the various queries and data requests with corresponding response time.

d. **Participant/Customer Complaints**[5] – Participant or customer complaints shall also be monitored and assessed for "timeliness" in the resolution of valid incidents/issues complained that were prescribed in a given period of time. Provided below is the summary for the type of complaints and corresponding resolution time.

Table 7.5.6d

Type of Complaint	Resolution Time	Exclusions
Post Factum Complaint	**Within five (5) Working Days** to acknowledge and provide an explanation of the complained incident/issue	• Complaints related to the following: ❖ Market system overhaul ❖ Policy/ Regulations • Complaints which were not resolved to the participant's satisfaction and which escalate into disputes • Complaints pertaining to
Complaint for Resolution	**Within five (5) Working Days** to acknowledge and resolve the complained incident/issue, and notify	

[4] For requested data with corresponding fees, checking of timeliness shall be upon payment of fees.
[5] Customer refers to WESM Members (Trading participants which may be Generation companies or customer/load, Network Service Provider, Metering Services Provider or, the System Operator), the DOE and the ERC

	the participant upon resolution	incidents occurring during periods of announced interruptions/difficulties (via Helpdesk advisory)

7.6. In compliance to WESM Rules Clauses 3.6.1.2 and 10.4.10.4, the MDOM performance standards that will be used to evaluate the reliability and processing time of the MDOM, will be composed of the following: MMS Availability, RTD and RTX Successful Runs, and Market Intervention attributable to MO.

7.7. In determining the performance targets for the different MO performance categories and measures, the standard performance measures of other electricity markets were reviewed to ensure that the *Market Operator* performance measures are determined according to standards that are set within the same levels as with the best practices in other electricity markets. Annex A presents the performance measures of other electricity markets.

7.8. The operational performance of MO from 2006 to 2010 was also reviewed based on internal performance monitoring data. Given the lack of historical information on performance standards based on actual *WESM* Commercial Operation, *PEMC* has initially set performance targets when the market went live in June 2006. The interim internal performance targets were re-assessed and adjusted accordingly. Annex B presents the summary of actual performance of MO from September 26, 2006 to September 25, 2010.

7.9. Based on this benchmarking approach, the performance targets for measuring the performance of the Market Operator as summarized in Section 8 of this document are proposed to be initially adopted.

7.10. The MO performance targets for a particular performance period shall be approved by the PEM Board prior the start of the covered period, i.e., performance targets for the following period shall be presented for approval by the PEM Board during the third quarter of the current year.

8. SUMMARY OF MO PERFORMANCE CATEGORIES, MEASURES, CRITERIA, TARGETS, WEIGHTS[6] AND RATING SYSTEMS

Table 8

MO Performance Category		Measure	Criteria	Target	Weight (%)	Rating System (RS) Reference
1. IT Systems (20%)	Market Management System (MMS)	Availability	% Availability	99.80%	15	RS 2a
	WESM Website	Availability	% Availability	99.50%	5	RS 2a
2. Market Reports and Data Publication (15%)		Availability	Average	95%	5	RS 3
		Timeliness	Publication of required market reports and data in the WESM website as per schedule	95%	10	RS 3
3. Forecast Accuracy[7] (20%)	RTD Forecast	Accuracy	MAPE	≤ 0.95%	7.5	RS 4
		Accuracy	FAR	97.2%	7.5	RS2
	DAP Forecast	Accuracy	MAPE	≤ 2.2%	5	RS4

[6] The weights assigned in the MO performance categories are based on the impact of each item to the market participants and to the market as a whole.

[7] Assessment of forecast accuracy (which shall be implemented for Luzon WESM initially, while Visayas WESM shall still be monitored internally within PEMC to establish appropriate targets) excludes forecast errors due to non-compliance of Kalayaan Pump Storage plant to its pump schedule, line trippings that caused dropping of load equivalent to ≥1% of the total demand as evidenced by NGCP-SO advisories, Manual Load Dropping or MLD, sudden change in weather condition (from sunny to sudden heavy downpour for at least 5 minutes or very cloudy weather to a sunny weather, in which only the first hour affected shall be excluded), market intervention, and RTU errors which refer to absence of snapshot or bad data on system snapshots equivalent to ≥1% of the total demand.

MO Performance Category		Measure	Criteria	Target	Weight (%)	Rating System (RS) Reference
4. Dispatch Scheduling and Pricing (20%)	RTD workflow	Successful Run	RTD market runs with available schedules, completed within the timetable	99.75%	2.5	RS 2a
	RTX Workflow	Successful Run	RTX market runs with available schedules	99.75%	2.5	RS 2a
	Pricing Errors and Market Re-runs	Timeliness	Completion of validation of intervals with pricing errors and performance of market re-runs prior to final settlement run	99.5%	5	RS 2a
	Market Intervention Attributable to MO	Duration	Number of trading intervals with market interventions attributable to MO	≤ 19	10	RS 4a
5. Billings, Settlements and Accounts Management (15%)	Preliminary and Final Settlement Statements	Timeliness	Issuance of Preliminary and Final Settlement statements as per WESM settlement timetable	98%	2	RS 2a
	Preliminary Settlement Calculations	Accuracy	Average	95%	2	RS 2a
	Final Settlement Calculations	Accuracy	Average	99%	3	RS 2a
		Frequency	Number of adjustments in the final settlement calculations	≤ 6	2	RS 4a
	Meter Data Error Detection	Timeliness	Issuance of Meter Trouble Reports within four (4) calendar days after receipt of meter data from MSP	98%	2	RS 2a

MO Performance Category		Measure	Criteria	Target	Weight (%)	Rating System (RS) Reference
	Monetary Transactions	Remittance Efficiency	Total amount of remittance to participants as per scheduled	100%	1	RS 1
		Timeliness	No. of days delayed in remittance	0	1	RS 1a
	Margin Call	Timeliness	Issuance of Margin Call	95%	2	RS 2a
6. Registration and Customer Relations (10%)	Registration	Timeliness	Processing of participant registrations within the allotted timeline	95%	2	RS 3
	Participant training	Timeliness	Completion of all participant trainings as scheduled	95%	2	RS 3
		Feedback	Average training evaluation rating	≥ 90%	2	RS 2a
	Participant Queries and Data requests	Timeliness	Participant queries and data requests closed within the allotted timeline	95%	2	RS 2a
	Participant/Customer[8] Complaints	Timeliness	Resolution of valid complaints	95%	2	RS 3

[8] Customer refers to WESM Members (Trading participants which may be Generation companies or customer/load, Network Service Provider, Metering Services Provider or, the System Operator), the DOE and the ERC

9. MO PERFORMANCE STANDARDS SCORING SYSTEM

9.1. To aid in the monitoring of the MO performance, a scoring system shall be employed, based on the rating system as follows:

Table 9.1 – Over-all Rating System

Score Number	Score Description
5	Excellent
4	Very Satisfactory
3	Satisfactory
2	Needs Improvement
1	Poor

9.1.1. **For targets equal to 100%** - For all categories/measures with 100% targets, Score Description in the table 9.1 above and the corresponding Score Numbers from 1 (Poor) to 5 (Excellent) shall apply. Determination of the equivalent score number shall be based on actual performance using the following Score Guide:

Table 9.1.1a – Rating System (RS) 1

% Range	Score Number	Score Description
x = 100%	5	Excellent
-	4	Very Satisfactory
-	3	Satisfactory
-	2	Needs Improvement
x < 100%	1	Poor

The Score Guide above shall apply to the Remittance Efficiency category – measure pair which has a target equal to100%.

Table 9.1.1b – Rating System (RS) 1a

No. Days Delayed	Score Number	Score Description
x = 0	5	Excellent
-	4	Very Satisfactory
-	3	Satisfactory
-	2	Needs Improvement
x > 0	1	Poor

The Score Guide at Table 9.1.1b shall apply to the Monetary Remittance timeliness category – measure pair which has a target equal to zero (0) days delayed of remittance.

9.1.2. **For targets below 100%** - For categories/measures with targets less than 100%, Score Description in Table 9.1 above and the corresponding Score Numbers from 1 (Poor) to 5 (Excellent) shall apply. Two rating systems shall be applied to categories/measures with targets less than 100%.

a. Rating System 2 and 2a - For performance that met targets, score number will be 3 (Satisfactory) while for performance that exceeded

or resulted to less than targets, determination of the equivalent score number shall be different for various measures and shall be based on the corresponding target and the resulting score increment (s) using the following formulae:

Table 9.1.2a – Rating System (RS) 2

% Range	Score Number	Score Description
target + s < % ≤ target + 2s	5	Excellent
Target ≤ % < target + s	4	Very Satisfactory
= target	3	Satisfactory
target > % ≥ target – s	2	Needs Improvement
target – s > %	1	Poor

s = (100% - target)/2

The formulae above shall apply to the following category/measure/target pairs:

- RTD FAR target ≥ 97.2%

Table 9.1.2b – Rating System (RS) 2a

% Range	Score Number	Score Description
target + 2s ≤ % ≤ target + 3s	5	Excellent
target + s ≤ % < target + 2s	4	Very Satisfactory
target ≤ % < target + s	3	Satisfactory
target > % ≥ target – s	2	Needs Improvement
target – s > %	1	Poor

s = (100% - target) / 3

The formulae above shall apply to the following category/measure/target pairs:

- MMS availability target = 99.8%
- WESM Website availability target = 99.5%
- RTD successful run target = 99.75%
- RTX successful run target = 99.75%
- Pricing Errors and Market Re-run timeliness = 99.5%
- Preliminary Settlement accuracy target = 95%
- Final Settlement accuracy target = 99%
- Settlement Statements timeliness = 98%
- Meter Data Error Detection timeliness = 98%
- Participant Training feedback target ≥90%
- Participant Queries & Data Requests timeliness target = 95%
- Margin Call timeliness = 95%

b. Rating System 3 - Determination of the equivalent score number shall be different for various measures and shall be based on the corresponding target and the resulting score increment (s) using the following formulae:

Table 9.1.2b – Rating System (RS) 3

% Range	Score Number	Score Description
= target + s	5	Excellent
target ≤ % ≤ target + s	4	Very Satisfactory
target – s ≤ % < target	3	Satisfactory
target – 2s ≤ % ≤ target – s	2	Needs Improvement
% < target – 2s	1	Poor

s = 100% - target

The formulae above shall apply to the following category/measure/target pairs:

- Market Reports and Data Publication availability = 95%
- Market Reports and Data Publication timeliness = 95%
- Registration timeliness = 95%
- Participant Training timeliness = 95%
- Participant/ Customer Complaint timeliness = 95%

9.1.3. **For other targets** – For the rest of the category/measure/target pairs (except Participant Queries and Data Request Accuracy), Score Description in the rating system table found in Section 9.1 above and the corresponding Score Numbers from 1 (Poor) to 5 (Excellent) shall apply. For performance that met the maximum allowed targets, score number will be 3 (Satisfactory) while for performance that exceeded or resulted to less than the maximum allowed targets, determination of the equivalent score number shall be different for various measures and shall be based on the corresponding target and the resulting score increment and indices using the following formulae:

Table 9.1.3a – Rating System (RS) 4

Actual Performance Range	Score Number	Score Description
target – s > Actual Performance ≥ target – 2s	5	Excellent
Target > Actual Performance ≥ target – s	4	Very Satisfactory
= target	3	Satisfactory
target < Actual Performance ≤ target + s	2	Needs Improvement
target + s < Actual Performance	1	Poor

s = target/2

The formulae above shall apply to the following category/measure/target pairs:

a. RTD MAPE target ≤ 0.95%
b. DAP MAPE target ≤ 2.20%

Table 9.1.3b – Rating System (RS) 4a

Actual Performance Range	Score Number	Score Description
target –2s ≥ Actual Performance ≥ target – 3s	5	Excellent
Target - s ≥ Actual Performance > Target- 2s	4	Very Satisfactory
Target ≥ Actual Performance > Target- s	3	Satisfactory
target < Actual Performance ≤ target + s	2	Needs Improvement
target + s < Actual Performance	1	Poor

s = target / 3

The formulae above shall apply to the following category/measure/target pairs:

a. Market Intervention duration target ≤ 19 trading intervals
b. Final Settlement adjustment frequency target ≤ 6 adjustments

9.2. The Scoring System for MO Performance Standards shall be as follows:

9.2.1. Quantitative – the corresponding scores and weights for all performance categories are determined, as shown in Section 8.
9.2.2. Qualitative – for targets not met or tasks not accomplished, the reason/s for the non-achievement or non-accomplishment must be indicated. The acceptability of the reason/s must be evaluated by the PEM Board Compensation Committee.
9.2.3. Exclusion in the Scoring Calculation – should it be decided that the non-achievement of a particular target is reasonable, the specific item relevant to that target shall be taken out of the scoring calculation.
9.2.4. Calculating the Ratings – the ratings of the MO performance shall be weighted averages computed from the equivalent score (as presented in Section 9.1 above) corresponding to its actual performance multiplied by the assigned weights of the performance categories. The over-all rating shall be the summation of all the weighted averages.

10. MO PERFORMANCE MONITORING & REPORTING

10.1. Monitoring Timeline

For purposes of aligning the measurement timetable, each performance category shall be measured in accordance with the Billing and Settlement timeline which begins every 26th day of each month and ends on the 25th day of the following month or calendar month as may be required. For the annual monitoring, timeline shall begin on the 26th day of September of each year and shall end on the 25th day of September of the following year.

10.2. Monitoring Responsibilities

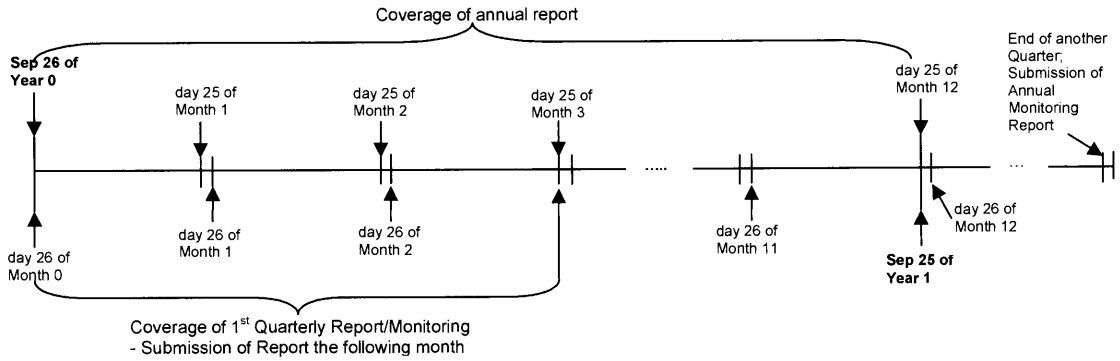
The Market Assessment Group (the "**MAG**") of *PEMC* shall handle the internal monitoring and assessment of whether the MO performance targets are achieved. All *PEMC* departments/personnel that are identified in Section 6.2 of this document as being involved in the functions linked to each respective performance category shall provide any additional information in the monitoring of MO performance, as may be

required by MAG. Suggested monitoring templates are included in this document in Annex C. MAG may modify the templates as appropriate.

10.3. MO Performance Monitoring Reports

The MAG shall submit corresponding quarterly and annual reports on the status of MO performance in reference to the published MO Performance Standards. The Quarterly MO Performance Monitoring Report shall be submitted to the *PEMC* management, *PEM Board* and the *DOE* within the month following the covered period. The Annual MO Performance Monitoring Report shall be submitted to the *PEMC* management, *PEM Board* and the *DOE* within the last quarter of the current year. All MO Performance Monitoring Reports shall be published at the market information website.

The MO Performance Monitoring Reports shall be evaluated and validated by the PEMC Audit Committee and/or its external auditor.



11. UPDATING & PUBLICATION OF MO PERFORMANCE STANDARDS

11.1. The MO Performance Standards may be updated annually to reflect changes, if any, in the operational activities of the *Market Operator*, as well as to incorporate applicable amendments to the prevailing rules and manuals that govern the *WESM* operations. New regulatory directives issued to the *Market Operator* shall also be considered in order to identify applicable changes in relation to the MO Performance Standards. Updating of the MO Performance Standards shall be done by the Corporate Planning and Communications Department of *PEMC*. Updates on the MO Performance Standards shall be reviewed and approved by the *PEM Board* for final approval of the *DOE*.

11.2. If an independent entity becomes the *Market Operator*, as stipulated in the *WESM Rules*, this document shall be revised and such revision shall also be published at the market information website.

12. Interpretation

In the event of any conflict or inconsistency between this document and the WESM Rules or other relevant manuals, the subject clause in the WESM Rules or other relevant manuals will prevail.

13. SUMMARY OF CALCULATION FORMULA FOR THE MO PERFORMANCE MEASURES

Table 12

MO PERFORMANCE CATEGORY	MEASURE	FORMULA	LEGEND	REMARKS
1. IT Systems Availability				
Market Management System	**Availability**	**% System Availability** = ((o – d) / o) x 100%	o = total operating hours d = downtime	▪ *System Availability* = the probability that the system is operating properly when it is requested for use. ▪ *Total Operating Hours* = the total number of hours that the system is expected to be in operation. In the case of MO, this is equal to 24 hours per day or 8,760 hours per year (8,784 hours for a leap year). ▪ *Downtime* = unplanned outages (in hours) due to internal problems and excludes third party downtimes since these are beyond the control of the MO. ▪ *Third party* = pertains to third party service providers to MO which include electricity supply and communication link providers. Annual % System Availability should be at least 99.8%
WESM Website	**Availability**	**% WESM Website Availability** = ((o – d) / o) x 100%	Same as above	Same as above, but pertaining to website operating hours and website downtime. Annual % Website Availability should be at least 99.5%
2. Market Reports and Data Publication				
	Availability	**% Publication Availability =** (r / m) x 100%	r = no. of reports and data publications m = total no. of required market publications	% Publication Availability should be at 95% for the year

MO PERFORMANCE CATEGORY	MEASURE	FORMULA	LEGEND	REMARKS
	Timeliness	**%Publication timeliness =** (RP/ TP) x 100%	RP = no. of publications published as per schedule TP = total no. of required publications	All required publications must be published as per schedule. Publication timeliness should be 95%
3. Forecast Accuracy				
RTD Forecast	**Accuracy**	**RTD MAPE =** Σabs [(RTD_i- ACT_i)/ ACT_i] / n	MAPE = Mean Absolute Percentage Error RTDi = hourly load processed by the MMS based on the forecast inputs ACTi = actual hourly load based on snapshot data of all generators at the 59th minute[9] before the target hour i = trading interval, 1 to n, where n is the number of trading hours for a given period	Mean Absolute Percentage Error (MAPE) measures how far is the forecasted demand compared to the actual demand. Standard for RTD MAPE is $\leq$ 0.95%.
		RTD FAR = 100% - [(FEI/8760) x 100%]	FAR = forecast accuracy rate FEI = trading intervals when forecast exceeds ±% of MAPE Tolerance level	Standard for RTD FAR is ≥97.2%
DAP Forecast	**Accuracy**	**DAP MAPE =**	MAPE = Mean Absolute	Mean Absolute Percentage Error (MAPE)

[9] In the absence of the 59th minute snapshot data, the Operations Senior Specialist-on-duty may have the discretion to use either the 54th minute snapshot data before the target hour or the 4th minute snapshot data of the target trading interval.

MO PERFORMANCE CATEGORY	MEASURE	FORMULA	LEGEND	REMARKS
		Σabs [(SLDF$_i$-ACT$_i$)/ACT$_i$] / n	Percentage Error SDLFi = similar day load forecast (hourly resolution) ACTi = actual hourly load based on snapshot data of all generators at the 59th minute[10] before the target hour i = trading interval, 1 to n, where n is the number of trading hours for a given period	measures how far is the forecasted demand compared to the actual demand. Standard for DAP MAPE is $\leq$ 2.2%.
4. Dispatch Scheduling and Pricing				
RTD Workflow	**Successful Run**[11]	**RTD Success Rate =** (rs / ri) x100%	rs = no. of RTD market runs[12] with available schedules, completed within the timetable ri = total no. of RTD market runs	*total no. of RTD market runs* = 24 hours per day or 8,760 hours per year (8,784 hours for a leap year) RTD Success Rate should be 99.75%
RTX Workflow	**Successful Run**[13]	**RTX Success Rate =** (xs / xi	xs = no. of RTX market runs[14] with available	*total no. of RTX market runs* = 24 hours per day or 8,760 hours per year (8,784 hours for a leap

[10] In the absence of the 59th minute snapshot data, the Operations Senior Specialist-on-duty may have the discretion to use either the 54th minute snapshot data before the target hour or the 4th minute snapshot data of the target trading interval.
[11] RTD workflow process is run for each trading interval, hence this process' "successful run" may be evaluated by the number of trading intervals or the number of market runs with resulting schedules, completed within the timetable.
[12] Calculation of successful runs for the RTD workflow shall filter out only the market runs with no available schedules due to MO-attributable factors; market runs with no available schedules due to other factors (attributable to SO, etc.) shall be excluded in the calculations. RTD market runs with "Market Intervention attributable to MO" shall likewise be excluded in the RTD success rate calculations.
[13] RTX workflow process is run for each trading interval, hence this process' "successful run" may be evaluated by the number of trading intervals or the number of market runs with resulting schedules.

MO PERFORMANCE CATEGORY	MEASURE	FORMULA	LEGEND	REMARKS
		) x100%	schedules xi = total no. of RTX market runs	year) RTX success rate should be 99.75%
Pricing Errors and Market Re-runs	**Timeliness**	**% Pricing Error Processing =** (RTDPENfinal + RTXPENfinal) / (RTDPEN + RTXMRR) x 100%	RTDPENfinal = total no. of RTD PEN issued to BSMD prior to final settlement RTXPENfinal = total no. of RTX PEN issued to BSMD prior to final settlement RTDPEN = total number of PEN issued in the RTD RTXMRR = total number of market re-runs	Pricing Error validation and market re-runs should be 99.5% processed prior to final settlement run.
Market Intervention Attributable to MO	**Duration**			The number of trading intervals with market interventions attributable to MO must not exceed 19 trading intervals in a year Performance evaluation under this category shall be implemented for Luzon WESM initially, while Visayas WESM shall still be monitored internally within PEMC to establish appropriate targets.
5. Billings, Settlements and Accounts Management				
Preliminary and Final	**Timeliness**	**% Yearly**	ps = no. of days late of	*Every one (1) day late on the issuance of either*

[14] Calculation of successful runs for the RTX workflow shall filter out only the market runs with no available schedules due to MO-attributable factors; market runs with no available schedules due to other factors (attributable to SO, etc.) shall be excluded in the RTX success rate calculations.

MO PERFORMANCE CATEGORY	MEASURE	FORMULA	LEGEND	REMARKS
Settlement statements		**Statement Timeliness** = Average of 12 Monthly Statement Timeliness % **% Monthly Statement Timeliness** = {[(1 – 0.05ps)+(1 – 0.05fs)]/2} x 100% Or, (1 – 0.025ps – 0.025fs) x 100%	preliminary statement issuance as per timetable fs = no. of days late of final statement issuance as per timetable	*the preliminary and final statements shall be applied with a 5% penalty (out of 100%)* *preliminary statements timeline* = within seven (7) business days after the end of each billing period *final statements timeline* = not later than eighteen (18) business days after the end of each billing period *WESM business days include weekdays, weekends, and holidays. If the 7th or 18th day falls on a weekend/holiday, the deadline will automatically move to the next weekday. Billing Statement Timeliness should be 98%.
Preliminary and Final Settlement Calculations	**Accuracy**	**% Settlement Accuracy**[15] = 100% x ($\sum AV_j$) / n	AV_j = Accuracy Value per participant n = no. of affected participant invoices	The preliminary and final settlement and the last adjustment for a relevant final settlement calculation shall be considered in the assessment of accuracy. Only adjustments due to errors caused by PEMC are considered valid and adjustments claims for additional compensation for Administered Prices and Must Run Units are excluded. *Accuracy Value* = 1 – ABS(∑difference in TTA / ∑original TTA)

[15] Accuracy rating of the final settlement calculations will be based on adjustments in trading amounts and the number of trading participants affected by those adjustments. The adjustments due to external factors such as BCQ re-declarations, metering data adjustments, among others, are excluded in the calculations.

MO PERFORMANCE CATEGORY	MEASURE	FORMULA	LEGEND	REMARKS
				• *TTA = total trading amount* • *Difference in TTA = the difference between preliminary and the first final settlement calculations(for preliminary settlement) or the difference between the original and last adjusted total trading amounts (for final settlement)* Annual preliminary and final settlement accuracy rating should have an average rating of 95% and 99%, respectively.
	Frequency			Adjustments in final settlement calculations must not exceed six (6) in a year. Assessment shall exclude adjustments claims for additional compensation for Administered Prices and Must Run Units. The adjustments due to external factors such as metering data adjustments from MSP, adjustments in pricing and scheduling among others, shall also be excluded in the calculations
Meter Data Error Detection	**Timeliness**	**%MTR timeliness =** (IM/ TM) x 100%	MTR = Meter Trouble Report IM = no. of issued MTR as per schedule TM = total no. of MTR	All Meter Trouble Reports must be issued within four (4) calendar days after receipt of meter data from MSP. MTR issuance timeliness should be 98%
Monetary Transactions (MT)	**Timeliness**			All Monetary Transactions must be remitted as per schedule. MT timeliness should be zero (0) days delayed
	Efficiency	**Remittance Efficiency =** 100% –	ALR = amount of late remittance to Market Participants for the month	Monetary Transaction must be remitted the next banking day after the receipt of payment from the Market Participants.

MO PERFORMANCE CATEGORY	MEASURE	FORMULA	LEGEND	REMARKS
		(ALR/TAC)	TAC = total amount of actual collection from the Market Participants for the month	It shall exclude non-banking days, Bank Errors, unidentified collection and deferred payments (Less than PhP1,000.00) Remittance Efficiency should be 100%
Margin Call (MC)	**Timeliness**	**%MC timeliness =** (RC/ TC MTR) x 100%	RC = no. of issued Margin Call as per schedule TC = total no. of required Margin Calls to be issued	All Margin Calls must be issued as per schedule. MC timeliness should be 95%
6. Registration and Customer Relations				
Registration	**Timeliness**	**% Registration Processing =** (PA / TA) x 100%	PA = no. of applications processed within timeline TA = total no. of applications received over a period of time	*Processing Timeline* = 15 business days from receipt of complete application requirements and/or additional information or fees. Participant Registration should be 95% processed.
Participant Training	**Timeliness**	**% Training Timeliness =** ((CT – RT) / (NT)) x 100%	CT = no. of trainings completed RT = no. of trainings re-scheduled by PEMC NT = total no. of trainings completed	Total no. of trainings completed (NT) = all scheduled trainings excluding those trainings that were postponed/cancelled due to uncontrollable events such as Force Majeure or absences of the trainees. Training Timeliness should be 95%.
	Feedback			Training feedback should be ≥ 90%. The ratings are gathered by *PEMC*'s Training Section using the training feedback forms accomplished by the training participants.
Participant Queries and Data Requests	**Timeliness (in closing the query/request)**	**% Closing Timeliness =** (CQ/RQ) x 100%	CQ = no. of queries and data requests received and processed by Participant Support staff	Queries and data requests must be closed within 3 business days from receipt. Queries and data requests requiring in-depth analysis or simulations must be closed within 5 business

MO PERFORMANCE CATEGORY	MEASURE	FORMULA	LEGEND	REMARKS
			which are closed within allotted timeline RQ = total no. of queries and data requests received and processed by Participant Support staff	days from receipt. Refer to Annex E for list of queries/data and corresponding response time. For requested data with corresponding fees, checking of timeliness shall be upon payment of fees. Closing Timeliness should be 95%
Participant/Customer[16] Complaints	**Timeliness in resolving valid complaints**	**% Resolution Timeliness =** 100 – [($RVC_{on\text{-}time}$ +$PFVC_{on\text{-}time}$) / (RVC +PFVC)]	$RVC_{on\text{-}time}$ = number of valid complaints resolved on-time, $PFVC_{on\text{-}time}$ = number of post factum valid complaints acknowledged on-time	Post Factum Complaints should be acknowledged and provided with an explanation of the complained incident/issue within 5 working days. Complaint for resolution should be acknowledged, resolved and notified upon resolution within 5 working days. This shall exclude the complaints related to market overhauls, Policy/ regulations, complaints which were not resolved to participant's satisfaction and which escalate into disputes and complaints pertaining to incidents occurring during periods of announced interruptions/difficulties (via Helpdesk advisory). Resolution Timeliness = 95%

[16] Customer refers to WESM Members (Trading participants which may be Generation companies or customer/load, Network Service Provider, Metering Services Provider or, the System Operator), the DOE and the ERC

ANNEX A – PERFORMANCE MEASURES OF OTHER JURISDICTIONS

Matrix of Generalized Performance Measures of Other Electricity Markets[17]

Electricity Market	Pricing Accuracy	Settlement Accuracy	IT System Availability
AEMO		99.5%	2 minutes/week
EMC	99.70%	99.90%	99.90%
IMO	more cost reflective	<3% per annum	99.5%
KPX	100%	99.73%	100%
NZX	100%	100%	99.72%
OMEL	100%	100%	100%
XM			99.8%-99.9%

AEMO – Australian Energy Market Operator (Australian National Electricity Market)
EMC – Energy Market Company (National Electricity Market of Singapore)
IMO – Independent Market Operator (Western Australian Wholesale Electricity Market)
KPX – Korea Power Exchange
NZX – New Zealand Exchange (New Zealand Electricity Market)
OMEL – Operador del Mercado Ibérico de Energía (Spain)
XM – Colombian Wholesale Electricity Market

AEMO

Service Performance Metric	Measurement Method	Target Performance
Pricing Accuracy	No Target	
Settlement Accuracy	Aggregated of all dollar differences between settlement and revision after 20 weeks, expressed as a 12 month rolling percentage and subtracted from 100%	99.5%
IT System Availability	Market Minutes Lost (MML)	2 minutes/week

EMC

Service Performance Metric	Measurement Method	Target Performance
Pricing Accuracy	Percentage of trading days without input data errors, price revisions without errors	99.70%
Settlement Accuracy	Percentage of trading days without	99.90%

[17] Source: 2009 EMC Electricity Market Operation Benchmarking Survey

Service Performance Metric	Measurement Method	Target Performance
	errors in settlement calculation	
IT System Availability	Percentage of trading periods in which the market clearing system, settlement system and trading website are available	99.90%
Customer Responsiveness	Survey of industry stakeholders	85.00%
Market Assessment Satisfaction	Survey of Market Surveillance and Compliance Panel and Dispute Resolution Panel	85.00%
Rule Change Satisfaction	Survey of industry stakeholders and Rule Change Panel	85.00%

IMO

Service Performance Metric	Measurement Method	Target Performance
Pricing Accuracy	Cost reflective prices	More cost reflective
Settlement Accuracy	Late settlement statements	<3% per annum
IT System Availability	This KPI acknowledges the non-24/7 operational nature of this market. It is measured between 7am – 5pm each day.	99.5%
Security and Reliability	No. of emergency operating states	Nil
Prompt Release of Market Incident Reports	To improve the transparency of market outcomes the IMO has undertaken to produce Market Incident Reports following significant market events	<20 business days
Reserve Capacity Target	Procure sufficient Reserve Capacity to meet the Reserve Capacity Target for the 2011/12 Capacity Year	Reserve Capacity >= Target

KPX

Service Performance Metric	Measurement Method	Target Performance
Pricing Accuracy		100%
Settlement Accuracy		99.73%
IT System Availability		100%

NZX

Service Performance Metric	Measurement Method	Target Performance
Pricing Accuracy	No processing errors	100%
Settlement Accuracy	No processing errors	100%
IT System Availability	Availability percentage	99.72%

OMEL

Service Performance Metric	Measurement Method	Target Performance
Pricing Accuracy	Price change	100%
Settlement Accuracy	Claims received and accepted	100%
IT System Availability		100%

XM

Service Performance Metric	Measurement Method	Target Performance
Pricing Accuracy		
Settlement Accuracy		
IT System Availability	Average availability for critical	99.8%-99.9%

Independent Electricity System Operator (IESO)
2009 Electricity Market Operational Metrics[18]

Category/Name*	Measure	Criteria	Performance Target
Market Operation			
Transmission Rights Auction Processing	Timeliness	Processed as per schedule	0 failures
Continuous Operation of the Market	Frequency of Market Suspension	Number of market suspensions per year caused by the IESO	0
Administrative Pricing (AP)	Frequency	Number of occurrences of AP per year	≤75
	Duration	Number of intervals AP applied per year	≤350
Metering, Settlement and Market Support Services			
Preliminary and Final Settlement Statements	Timeliness	Issued as per schedule	≥ 99.3%
	Accuracy	No IESO errors	≥95.5%
Issue and Financially Settle Invoices	Timeliness	As required per *IESO Settlement Statement Payments Calendar*	≥99.0%
	Accuracy	Average for the year	
Resolve Compliance Issues	Timeliness	Informal cases closed within	≥70.0%

[18] Source: http://www.ieso.ca/imoweb/corp/opm2009-1.asp

Category/Name*	Measure	Criteria	Performance Target
		37 days	
	Timeliness	Formal cases closed within 182 days	≥70.0%
Proponents Achieve Intended Market Role	Timeliness	Market roles achieved on or before agreed to target date (excludes delays beyond IESO control)	≥85.0%
IT Systems Availability			
Outbound Market Reports Publication	Availability	Average for the year as per respective schedule	≥99.5%
Market Participant Interface	Availability	Average for the year	≥99.5%
Dispatch & Scheduling Instructions	Availability	Average for the year	≥99.5%
Corporate Web Site	Availability	Average for the year	≥99.5%

New York Independent System Operator (NYISO)
Performance Metrics for 2010[19]

Performance Metric	Measures
1. Reliability	
1.1. National or Regional Reliability Standards Compliance	References to which ERO and RRO standards are applicable to each ISO/RTO
	Number of violations self-reported
	Number of violations identified as RRO or ERO audit findings
	Total number of violations
	Severity level of each violation
1.2. Dispatch Reliability	Balance Authority Ace Limit (BAAL) or CPS1 and CPS2
	Number of TLRs or USFs (as applicable) per a defined time period
1.3. Operational Planning – Load Forecast Accuracy	Actual load as a percentage variance from forecasted load (separate metrics for peak and valley metric)
1.4. Long-Term Reliability Planning – Transmission	Number of facilities approved to be constructed for reliability purposes
	Percentage of approved construction on schedule and completed
	Performance of Order 890 planning process related to: • Completion of reliability studies • Completion of economic studies
1.5. Long-Term	Processing time for generation interconnection requests

[19] Source: http://www.nyiso.com/public/markets_operations/committees/index.jsp

Performance Metric		Measures
	Reliability Planning – Generation	Actual reserve margins compared with planned reserve margins
1.6.	Transmission Outage Coordination	Percentage of > 200kV planned outages of 5 days or more that are submitted to ISO/RTO at least 1 month prior to the outage commencement date
		Percentage of planned outages studied in the respective ISO/RTO Tariff/Manual established timeframes
		Percentage of > 200 kV outages cancelled by ISO/RTO after having been previously approved
		Percentage of > 200kV outages (both planned and unplanned) with less than 2 days notice
2. Markets		
2.1.	Market Pricing	Load-Weighted Locational Marginal Prices
		Components of Total Power Costs based on Load-Weighted Locational Marginal Prices (e.g. fuel costs, transmission charges, RTO costs, etc.)
		Load-Weighted, Fuel-Adjusted Locational Marginal Prices
2.2.	Generator Availability	RTO eFORd
2.3.	Congestion Management	Congestion charges per megawatt hour of load served
		Percentage of congestion dollars hedged through RTO-administered congestion management markets
2.4.	Demand Response	Demand response MWs as a percentage of total capacity
		Demand response MWs as a percentage of total ancillary services
2.5.	Renewables	Renewable MWs as a percentage of total energy
3. Organizational Effectiveness		
3.1.	Administrative Costs	Annual actual ISO/RTO administrative charges to members compared with budgeted administrative charges
		Annual actual ISO/RTO administrative charges to members as cents per MWhr of load served
3.2.	Customer Satisfaction / Value	Percentage of satisfied members
3.3.	Billing Controls	SAS 70 audit scope (e.g. Type 1 or Type 2 audit) and results

ANNEX B – ACTUAL PERFORMANCE OF MO FROM SEPTEMBER 26, 2006 TO SEPTEMBER 25, 2010

Performance Category & Measures	Actual Performance				Ave (%)
	9/26/2006 to 9/25/2007 (%)	9/26/2007 to 9/25/2008 (%)	9/26/2008 to 9/25/2009 (%)	9/26/2009 to 9/25/2010 (%)	
MMS Availability	99.79	99.93	99.97	99.83	99.88
WESM Website Availability	-		99.97	99.94	99.96
Market Reports and Data Publication	Not yet monitored for MO performance				-
RTD MAPE[20]	1.07	0.88	0.99	0.85	0.95
RTD FAR[21]	95.64	98.31	96.85	98.09	97.2
DAP MAPE	-		2.25	2.05	2.2
RTD workflow success rate	99.46	99.82	99.90	99.82	99.75
RTX workflow success rate	99.51	99.87	99.95	99.85	99.80
Pricing error validation and market re-run Timeliness	100	100	100	100	100
Duration of Market Intervention Attributable to MO[22]	17 trading intervals	18 trading intervals	20 trading intervals	20 trading intervals	19
Timeliness in Settlement Statement Issuances	-		96.67[23]	100	98.33
Accuracy in Preliminary Settlement Calculations	Not yet monitored for MO performance				-
Accuracy in Final Settlement Calculations	99.5	99.2	99.9	99.9	99.6
Frequency of Adjustments in Final Settlement Adjustments	Not yet monitored for MO performance				-
Timeliness in Meter Data Error Detection	Not yet monitored for MO performance				-
Timeliness in Remittance of Monetary Transactions	Not yet monitored for MO performance				-
Timeliness in Issuance of Margin Call	Not yet monitored for MO performance				-

[20] MAPE – Mean Absolute Percentage Error
[21] FAR – Forecast Accuracy Rate
[22] Statistics based on MO-initiated Market Intervention, excluding IT related errors
[23] December 26, 2008 to September 25, 2009 average

Performance Category & Measures	Actual Performance				
	9/26/2006 to 9/25/2007 (%)	9/26/2007 to 9/25/2008 (%)	9/26/2008 to 9/25/2009 (%)	9/26/2009 to 9/25/2010 (%)	Ave (%)
Timeliness in Registration Processing	100	100	100	100	100
Timeliness in Completion of Scheduled Participant Trainings[24]	100	100	100	100	100
Participant Training Feedback Rating[25]	94.33	94.55	95.02	94.72	94.66
Timeliness in Closing Participant Queries and Data Requests	99.3	99.5	98.3	99.8	99.2
Efficiency in Participant/Customer Service Provided	Not yet monitored for MO performance				-

[24] Historical data based on calendar years 2007 to 2010
[25] Historical data based on calendar years 2007 to 2010

ANNEX C – TEMPLATES FOR MONITORING THE MO PERFORMANCE STANDARDS

A. Market Management System & WESM Website Availability and Workflow Success Rates

Date Range (Billing Period)	Market Workflow	Workflow Runs					MMS Availability (%)	WESM Website Availability (%)
		Total Intervals	Successful Intervals	%	Unsuccessful Intervals	%		
mm/26/yy (start) - mm/25/yy (end)	RTD							
	RTX							
...	RTD							
	RTX							

B. Market Reports and Data Publication

Required Market Reports / Data Publication	Stipulated in (WESM Rules/Manuals/Regulatory Directives)	Schedule of Publication	Date of Publication

C. Forecast Accuracy – MAPE and FAR (may be applied to both RTD and DAP)

Date Range (Billing Period)	Occurrence > 3%	% Occurrence (FER)	Minimum Error	MAPE	Maximum Error	FAR
mm/26/yy (start) - mm/25/yy (end)						
mm/26/yy (start) - mm/25/yy (end)						
mm/26/yy (start) - mm/25/yy (end)						
...						

D. Pricing Error Processing

From	To	Total Number of intervals	Total Number of PEN Issued (RTD)	Total No. of Re-runs (RTX)	Final Settlement Date	Total no. of RTD PEN Issued BSMD Prior to Final Settlement	Total no. of RTX PEN Issued to BSMD Prior to Final Settlement	Total no. of RTD PEN Issued BSMD After Final Settlement	Total no. of RTX PEN Issued to BSMD after to Final Settlement	%
26-Dec-08	25-Jan-09				dd-mm-yy					
26-Jan-09	25-Feb-09				dd-mm-yy					
...	...									
...	...									

E. Settlement Statement Issuance Timeliness (may also be applied to MTR, Monetary Transactions and Margin Call)

Billing Month	Start date	End date	Schedule of Prelim Statement Issuance	Date of Prelim Statement Issuance	Schedule of Final Statement Issuance	Date of Final Statement Issuance	% Statement Timeliness
Jan 2009	12/26/2008	1/25/2009	2/3/2009		2/18/2009		100%
Feb 2009	1/26/2009	2/25/2009	3/6/2009		3/23/2009		100%
...	...	...					100%
Dec 2009							100%
						ANNUAL RATING:	100%

F. Final Settlement Accuracy

	[redacted]		[redacted]								
Date Range (Billing Period)	TTA Gen	TTA Load	TTA Gen	TTA Load	Diff in Gen TTA	Diff in Load TTA	Gen Accuracy Value	Load Accuracy Value	Gen Weight Factor	Load Weight Factor	% Accuracy

G. Registration

Date Range (Billing Period)	Total no. of Applications Received	No. of Applications Processed within Timeline	% Registration Processing

DETAILS

Name of Applicant	Category	Date Application is Received by Helpdesk	Date Complete Application forms and requirements are submitted to Helpdesk	Date Application Processing is Completed	Application Processing within timeline?

H. Customer relations – Training

Date Range (Billing Period)	Total no. of Trainings Scheduled	No. of Trainings Completed as Scheduled	% Training Completion	Average Feedback Rating
...				

DETAILS

Company	Training Course	Schedule/s of Training	Start Date of Actual Training	End Date of Actual Training	Training Completed as Scheduled?

I. Customer relations – Participant Queries and Data Requests

Date Received	Queries/Data Requests Received	Date Escalated	Date Closed
...			

ANNEX D – LIST OF MARKET INFORMATION FOR PUBLICATION

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
1	WESM Rules 1.3.1.4 & Manual - Guidelines on Significant Variations In and Between Trading Intervals Clause 7.2	If the Market Operator identifies any significant variations, the Market Operator shall, prepare and publish a report explaining the identified significant variations within ten business days from the cognizance thereof. 7.2 The MO shall publish a report on any identified significant variation within ten (10) business days from cognizance of the event.	Significant Variations Report	✓	✓	Within ten business days (ref: WESM Rules and corresponding manual on Significant Variations) from the cognizance of any significant variation
2	WESM Rules 2.9.2 & 2.5.1	Publish registration fees.	Registration Fees	✓		
3	WESM Rules 3.15.7.1 a to 3.15.7.1 b & Manual – Billing and Settlement Section 5.1	As soon as practicable after a suspension notice is issued by the *Market Operator, Publish* the *suspension notice and* Place a notice in a newspaper of general circulation that the *WESM Member* has been suspended. 5.1 The Market participant maybe suspended…..;publish suspension notice in the WESM website	Suspension Notice	✓		
4	WESM Rules 4.7.5	If the Market Operator deregisters a Metering Services Provider in	Details of Deregistration of	✓	✓	Publication should be not

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
		accordance with clause 2.6.2 and subject to clause 2.7, the Market Operator shall: (a) Notify the ERC and the WESM Participants of this action and basis for decision; and (b) Publish details of the deregistration	Deregistered MSP			later than one (1) business day from issuance of notice (ref: internal timetable)
5	WESM Rules 3.6.1.2 & WESM Rules 10.4.10.4	Maintain and publish the formulation of the market dispatch optimization model, and the performance standards, in accordance with the WESM objectives. The Market Operator shall publish details of the market dispatch optimization model once approved by the PEM Board under clause 10.4.10.4.	Formulation Of The Market Dispatch Optimization Model (MDOM) (contained in the PDM Manual)/ MDOM Performance Standards	✓	✓	Once approved by the PEM Board (ref: WESM Rules)
6	WESM Rules 3.13.16.3 b	Within one year from spot market commencement date, and every year thereafter, publish a review of the underlying factors giving rise to any net settlement surplus, and attempt to identify any binding constraints which may have caused or contributed to such net settlement surplus.	Review of the Underlying Factors Giving Rise to any Net Settlement Surplus	✓	✓	Within one year from spot market commencement date, and every year thereafter / within the following year (ref: WESM

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
						Rules/ERC directive)
7	WESM Rules 10.4.10.2 & WESM Rules 5.2.3 (c)	(f) Maintain and publish a register of all WESM Participants and update and publish the register whenever a person or entity becomes or ceases to be a WESM Participant. The Market Operator shall maintain, ... and publish: (c) A list of all former WESM Members and the time that each ceased to be WESM Members	Register of all WESM Participants with a List of former WESM Members and the time that each ceased to be WESM Members	✓	✓	Whenever a person or entity becomes or ceases to be a WESM Participant (ref: WESM Rules) Publication should be not later than one (1) business day from issuance of notice (ref: internal timetable)
8	WESM Rules 2.5.7 & WESM Rules 5.2.3 (a) and (b)	Publish and keep current a list of registered WESM Members, the categories in which they are registered and details of the current status of applications to become a WESM Member. The Market Operator shall maintain, ... and publish: (a) A list of all WESM Members identifying those	List of registered WESM Members, the categories in which they are registered and details of the current status of applications to become a WESM Member	✓		

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
		of them that are Trading Participants; (b) A list of all membership applicants to the WESM and identifying those applying to become a Trading Participant				
9	WESM Rules 2.10.5	Publish the structure and level of market fees and the methods used in determining the structure prior to commencement of the spot market, upon approval of ERC.	Structure and level of market fees and the methods used in determining the structure	✓	✓	Upon approval of the Structure and Level of Market Fees by the ERC (ref: WESM-IDC-002) Within fifteen (15) days upon receipt of ERC Order (ref: internal timetable)
10	WESM Rules 3.2.1 &	Maintain and publish a market network model, which will be used for the purpose of central scheduling and dispatch, pricing and settlement.	Market Network Model (contained in the MNM Manual)	✓	✓	Within one (1) week after the conduct of live consistency testing in the MMS

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
	WESM Rules 10.4.4.1 (c) & Manual – Market Network Model	Prior to the spot market commencement date, the Market Operator, in consultation with WESM Participants and the System Operator shall: ... (c) Publish details of the market network model, once approved. 3.1 The MO shall be responsible for the development, validation, maintenance, publication and revision of this document in consultation with Trading Participants and the SO.				production system (ref: internal timetable) Note: Consistency testing is done after uploading of the updated market network model in the MMS production system
11	WESM Rules 3.2.2.4 & WESM Rules 10.4.5.2	Maintain, publish, and continuously update a register of market trading nodes. Prior to the spot market commencement date, the Market Operator shall publish a register of market trading nodes and of the Trading Participant responsible for each.	Market Trading Nodes (contained in the MNM Manual)	✓	✓	Within one (1) week after the conduct of live consistency testing in the MMS production system (ref: internal timetable)
12	WESM Rules 3.4.2.2 (a) &	Determining and publishing week ahead projections including precise specification of the market horizon to be used for such projections;	Week Ahead Projections	✓	✓	Daily at 1700H (ref: Dispatch Protocol)

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
	WESM Rules 3.7.1.1 & Dispatch Protocol	Week ahead projections shall be prepared by the Market Operator and published daily. 1700H Publish WAP Results to Web				
13	WESM Rules 3.4.2.2 (b) & WESM Rules 3.7.2.1 & Dispatch Protocol	Determining and publishing day ahead projections including precise specification of the market horizon to be used for such projections; Day ahead projections shall be prepared using the market dispatch optimization model by the Market Operator and published regularly through the day Publish DAP Results to Web	Day Ahead Projections	✓	✓	Every four (4) hours from 0500H of the current day to 0100H of the following day / Within the next hour after each DAP run (ref: Dispatch Protocol)
14	WESM Rules 3.4.2.3	Maintain, publish and continuously update the timetable.	Spot Market Operation Timetable (contained in the Dispatch Protocol Manual)	✓		

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
15	WESM Rules 3.5.4.1	Determine and publish the forecast tolerance range prior to the commencement of the spot market. The forecast tolerance range may be varied from time to time.	Forecast Tolerance Range (contained in the Load Forecasting Manual)	✓		
16	WESM Rules 3.5.11.5	Determine and publish criteria to determine the meaning of "reasonable estimate" of above items (in reference to Clause 3.5.11.4), in consultation with the System Operator and WESM Members, and with the approval of the PEM Board.	Meaning Of "Reasonable Estimate" (contained in the Dispatch Protocol Manual)	✓		
17	WESM Rules 3.8.7	Maintain and publish dispatch tolerances standards developed by the System Operator for each type of plant, and location, in accordance with the Grid Code and Distribution Code.	Dispatch Tolerances Standards (contained in the Dispatch Protocol Manual)	✓		
18	WESM Rules 3.10.5	The Market Operator shall develop and publish the procedures for the determination of the market re-run prices. Such procedures ... for implementation.	Procedures for determination of market re-run prices (contained in the Criteria and Guidelines for the Issuance of Pricing Error Notices and	✓		

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
			Conduct of Market Re-Run)			
19	WESM Rules 3.10.7	In consultation with *WESM participants*, and subject to approval by the *PEM Board*, develop and publish the procedures in establishing the network configuration and other constraints to be assumed for the determination of *ex-post nodal energy prices* for circumstances in which power system conditions materially change during the *trading interval.*	Procedures In Establishing the Network Configuration and Other Constraints for the determination of *ex-post nodal energy prices* for circumstances in which power system conditions materially change during the *trading interval* (contained in the Dispatch Protocol Manual and Determination of Ex-post Nodal Prices Manual)	✓		
20	WESM Rules 3.11.1.3	Each trading day, in accordance with the timetable, publish: a. The scheduled generation or scheduled load and scheduled reserves for each scheduled generating unit and scheduled	Scheduled Generation Or Scheduled Load	✓	✓	Daily, after expiration of confidentiality; confidentiality expires after each trading

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
		load, respectively, in each trading interval for the previous trading day; ...				day (ref: WESM-IDC-002)
21	WESM Rules 3.13.16.3 a & Manual - Management of The Net Settlement Surplus Clause 10.1 & ERC/DOE Directive	Publish regular summary reports on the amount of any net settlement surplus being generated. 10.1. Regular summary reports on the amount of any net settlement surplus being generated. This report will be made available to all Market Participants and will be published in the market information website. Monthly report on levels of NSS and NSS allocations	Levels of NSS / NSS Allocations	✓	✓	Monthly (ref: DOE/ERC directive) Not later than the 30th or 31st day of the following calendar month (ref: internal timetable)
22	WESM Rules 5.2.2.5 (a) to 5.2.2.5 (c)	Maintain and publish electronic communication procedures under which: Information shall be provided by WESM Members to the Market Operator, Information shall be provided by the Market Operator to WESM Members; and Information published on the market information website may be accessed by Trading	Electronic Communication Procedures (contained in the MO Information Disclosure and Confidentiality Manual)	✓		

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
		Participants.				
23	WESM Rules 5.2.3 d	The Market Operator shall maintain, periodically update as it considers reasonably necessary from time to time and publish: (d) A list of all suspended Trading Participants and the time at which each was suspended.	List of All Suspended Trading Participants	✓		
24	WESM Rules 6.2.3	Prior to the spot market commencement date, develop and publish the methodology for determining the administered price to be used during market suspension or intervention of the spot market, to be endorsed by the PEM Board for ERC approval.	Methodology For Determining the Administered Price (contained in the Administered Price Determination Methodology Manual)	✓		
25	WESM Rules 10.4.11.1 & WESM Rules 3.6.2.4 (DOE Circular No. DC 2010-03-0004	Prior to the spot market commencement date, the Market Operator shall develop and publish constraint violation coefficients or procedures for calculating constraint violation coefficients for each constraint detailed in clause 3.6.1.4, to be used in the market dispatch optimization model. The Market Operator, in coordination with the System	Constraint Violation Coefficients or Procedures for Calculating Constraint Violation Coefficients for Each Constraint Revisions in the	✓		

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
	& Manual – Constraint Violation Coefficients (CVC) Sections 3.1, 10.1 and 10.3	Operator, and … constraint violation coefficient levels … to ensure that it reflects the actual conditions of the network. Such revisions shall be published in accordance with the timetable. 3.1 The MO will be responsible for the development, validation, maintenance, publication and revision of this document in coordination with Trading Participants and the System Operator. 10.1 During the Market Trials and Prior to the start of the commercial operation of the WESM, the MO will notify all participants of the CVCs used in the MDOM and publish the CVCs in the WESM website. 10.3 Should the PEM Board approve any changes in the CVCs, the MO will publish the approval and resolution of the PEM Board in the WESM website.	Constraint Violation Coefficient levels (contained in the Constraint Violation Coefficients (CVC) Manual)			
26	Manual - Metering Standards and Procedures	5.5 Procedural Steps for Registration of Metering Installations – MO to issue a certificate of compliance to the	New Metering Installation of the MSP	✓	✓	All new and de-energized metering points should

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
		new Metering Installation upon payment of registration fee and Update its registry and publish the new Metering Installation of the MSP at MO's Web site				be published every 12th of the month.
27	Manual - Administered Price Determination Methodology	4.3. Publication and Effectivity of Administered Prices The Market Operator will publish the administered prices covering all days and trading intervals for one billing period. These will be posted in the Market Information website during the period of their effectivity.	Administered Prices for one billing period	✓	✓	Within three (3) business days from the issuance of the final settlement statement (ref: internal timetable)
28	Dispatch Protocol (DP) - Bids and Offers	The Market Operator shall publish to the participants the hourly total registered Pmin of all scheduled generating units based on the Day-Ahead Market Projections not later than 1800H of each trading day.	Hourly Total Registered Pmin of All Scheduled Generating Units (MMS-MPI)	✓	✓	Not later than 1800H of each trading day
29	DP - Demand Forecasting	The Market Operator shall be responsible in the calculation and publication of Hourly nodal demand forecasts which are used in the calculation of Pre-Dispatch Market Projections and Real Time Dispatch Schedules in accordance with the WESM Timetable.	Hourly Nodal Demand Forecasts (MMS-MPI)	✓	✓	Hourly
30	DP -Post Dispatch	3.1 Market Operator	Post Dispatch	✓	✓	Daily, after

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
	Report	The Market Operator shall be responsible in the preparation and publication of the Post Dispatch Reports.	Reports (Daily Operating Report)			each trading day
31	Manual – Criteria for Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-run in WESM Clause 9.4	Within two (2) business days after the trading day when the pricing error occurs, the Market Operator shall publish in the market information website a summary of the pricing error notices issued for that trading day pursuant to this Manual.	Summary of PEN Issuance	✓	✓	Daily (within 2 business days after the trading day)
32	Manual - Methodology for Determining Pricing Errors and Price Substitution Due to Congestion for Energy Transactions in the WESM Clause 9.3	Within two (2) business days after the trading day when the pricing error occurs, the Market Operator shall publish in the market information website a summary of the pricing error notices issued for that trading day pursuant to this Manual, as well as the corresponding substitute prices. The publication of all relevant information will be in accordance with the relevant provisions of the WESM Rules and relevant market manuals. (As approved by PEM Board Resolution No. 2010-73 dated 27 October 2010)	Summary of PSM Issuance	✓	✓	Daily (within 2 business days after the trading day)

No.	WESM Rules or WESM Manual Clause / Regulatory Directive	PROVISION / TASK	DELIVERABLE/S	TO BE MONITORED FOR AVAILABILITY?	TO BE MONITORED FOR TIMELINESS?	TIMETABLE
33	Manual – Criteria for Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-run in WESM Clause 9.5	After each billing period and upon completion of all market re-runs, the following information shall be published by the Market Operator shall in the market information website and disseminated to all Trading Participants – 9.5.1. Complete list of the pricing errors that occurred during the billing month, indicating clearly the affected market run and trading interval, including those instances where no pricing error was issued within the timetable; and 9.5.2. Results of the market re-run, including the resulting market prices	Market Re-Run (MRR) Results Publication and Complete List of Pricing errors that occurred during the billing month	✓	✓	Prior the issuance of Final Settlement Statements
				✓	✓	Prior the issuance of Final Settlement Statements
34	Manual - Metering Standards and Procedures in WESM Clause 10.7.1	After every billing period, the Philippine Electricity Market Corporation shall issue or release to the trading participant/s and meter service provider/s the actual generated performance rating of the MSP measured under Section 10.4.1 – Service Delivery. xxx The generated performance rating of the MSP shall be published in the website.	Monthly Performance Rating of the MSP	✓	✓	On the issuance of Final Settlement Statements

ANNEX E – LIST OF QUERIES AND DATA REQUESTS AND RESPONSE TIME

INQUIRY / RESPONSE TIME	DATA / QUERY
A.1 **Data Requests – historical data** / Within three (3) business days A.2 **Data Requests - recent data** (covering the last 1 to 2 months of WESM operation) / Within five (5) business days	- Market Prices (with fees) - Nodal Prices (with fees) - Market Schedules (with fees) - Generator Offers (with fees) - Aggregated Offers (with fees) - System Demand (with fees) - Market Re-run (with fees) - Marginal Plants (with fees) - Clearing Prices (with fees) - Administered Prices (with fees) - Price Substitution data (with fees) - Effective Settlement Prices - Metered Quantity, Bilateral Quantity, Spot Quantity - Summary of PEN, MRR, AP and PSM - Generation Mix percentage - Other historical market information
A.3 **Data Requests – Others**; Not commonly requested / Within five (5) business days	- Capacity on outage - Max/Min LWAP - Weather data (rainfall, temperature) - Max/Min demand - Outage Schedule - Security limits - HVDC Schedule - MPI System Messages - Other not commonly requested information
B.1 **Queries on Basic WESM concepts** / Within one (1) business day	
B.2 **Queries on Registration** / Within one (1) business day	
B.3 **Analysis or validation of market results and simulations** / Within five (5) business days	
B.4 **Other Participant Queries** (require referral by Participant Support staff to relevant PEMC departments/units) / Within five (5) business days	- Request for meetings - Media inquiries - Training (scheduling, fees) - Digital certificates - Website and MPI concerns - Billing, Settlement and Metering concerns - Market assessment - DOE/ERC policies and/or issuances - SO-related inquiries - Operational Issues - Other queries