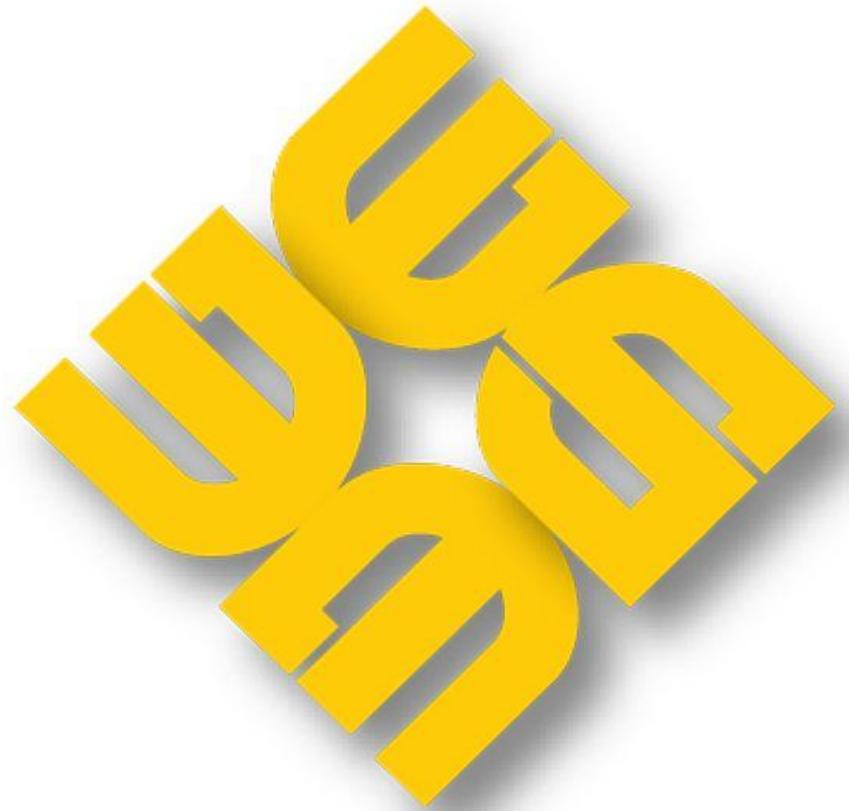


PUBLIC

# Market Operator Performance

Annual Report for the Period  
26 September 2018 to 25 September 2019  
**MOPS-2019-AR.1**



**PHILIPPINE ELECTRICITY MARKET  
CORPORATION  
MARKET ASSESSMENT GROUP  
(MAG)**

## Executive Summary

The monitoring of the Market Operator performance is in accordance with Clause 1.3.2.3 of the WESM Rules and Clause 1.4.2 of the Retail Rules and the Market Operator Performance Standards (MOPS) that was approved by the DOE on 06 October 2015.

The Independent Market Operator of the Philippines (IEMOP) assumed the market operations functions of the WESM on 26 September 2018 pursuant to the Operating Agreement entered into between the Philippine Electricity Market Corporation (PEMC) and IEMOP on 19 September 2019.

Further, the IEMOP was designated as the Central Registration Body (CRB) for the implementation of the Retail Competition and Open Access (RCOA) pursuant to Department Circular No. 2019-07-0011 issued by the Department of Energy (DOE) dated 29 July 2019. This Circular amended the provisions of Department Circular No. 2012-02-0002, which designated PEMC as the CRB.

This annual report provides the results of the monitoring and assessment of the performance of IEMOP, hereinafter alternatively referred to as the Market Operator (MO), for the period 26 September 2018 to 25 September 2019 (4Q 2018 - 3Q 2019).

The MO excelled in 21 measures with equivalent weight of 58% and was rated Very Satisfactory in 6 measures with a total weight of 35%. However, the MO was rated Poor in three (3) measures on accuracy of settlement calculations (at 7% weight), which were affected by the error in the computation of the NSS allocation. Over-all, the performance of the MO for 2019 is Very Satisfactory. Provided in the table below are performance ratings for the individual measures.

Category	Measure	Weight (%)	Satisfactory Range	Actual	Score	
<b>A. IT Systems</b>						
Market Management Systems	Availability	15	99.80%≤x<99.87%	100%	5	Excellent
WESM Website	Availability	5	99.50%≤x<99.67	99.96%	5	Excellent
<b>B. Market Reports and Data Publication</b>	Availability	5	90% ≤ x < 95%	99.975%	4	Very Satisfactory
	Timeliness	10	90% ≤ x < 95%	98.07%	4	Very Satisfactory
<b>C. Forecast Accuracy</b>						
RTD Forecast - MAPE	Accuracy (L)	3.75	0.92%≤x ≤0.98%	0.69%	4	Very Satisfactory
	Accuracy (V)	3.75	1.17%≤x ≤1.23%	0.89%	4	Very Satisfactory
RTD Forecast - FAR	Accuracy (L)	3.75	97.65%≥x ≥96.75%	99.26%	5	Excellent
	Accuracy (V)	3.75	94.33%≥x ≥91.67%	97.49%	5	Excellent
DAP Forecast - MAPE	Accuracy (L)	2.5	1.45%< x <2.32%	1.14%	4	Very Satisfactory
	Accuracy (V)	2.5	2.41%< x <3.08%	1.53%	5	Excellent

Category	Measure	Weight (%)	Satisfactory Range	Actual	Score	Score
<b>D. Dispatch Scheduling and Pricing</b>						
RTD Workflow	Successful Run	2.5	$99.75\% \leq x < 99.83\%$	100%	5	Excellent
RTX Workflow	Successful Run	2.5	$99.75\% \leq x < 99.83\%$	100%	5	Excellent
Pricing Errors and Market Re-runs	Timeliness (Prelim)	2	$98.50\% < x < 99.00\%$	99.63%	5	Excellent
	Timeliness (Final)	3	$99.50\% \leq x < 99.67\%$	100%	5	Excellent
Market Intervention Attributable to MO	Duration	10	$14 > = x > 9$	6	4	Very Satisfactory
<b>E. Billing, Settlements and Accounts Management</b>						
Preliminary and Final Settlement Statements	Timeliness	2	$98\% \leq x < 98.67\%$	99.79%	5	Excellent
Preliminary Settlement Calculations	Accuracy	2	$95\% \leq x < 96.67\%$	71.30%	1	Poor
Final Settlement Calculations	Accuracy	3	$99\% \leq x < 99.33\%$	38.46%	1	Poor
	Frequency	2	$6 \geq x > 4$	9	1	Poor
Meter Data Error Detection	Timeliness	2	$98\% \leq x < 98.67\%$	100%	5	Excellent
Monetary Transactions	Efficiency	1	0 amount late	0 late	5	Excellent
	Timeliness	1	0 days late	0 late	5	Excellent
Margin Call	Timeliness	1	$95\% \leq x < 96.67\%$	100%	5	Excellent
Default Notice	Timeliness	1	0 days late	0 late	5	Excellent
<b>F. Registration and Customer Relations</b>						
Registration	Timeliness	2	$90\% \leq x < 95\%$	100%	5	Excellent
Customer Switching	Timeliness	1	$90\% \leq x < 95\%$	100%	5	Excellent
Participant Training	Timeliness	2	$90\% \leq x < 95\%$	100%	5	Excellent
	Feedback	1	$90\% \leq x < 93.33\%$	98.09%	5	Excellent
Participant Queries and Data Requests	Timeliness	2	$95\% \leq x < 96.67\%$	100%	5	Excellent
Participant/ Customer Complaints	Timeliness	2	$90\% \leq x < 95\%$	100%	5	Excellent
<b>2019 Over-all Rating</b>					<b>4</b>	<b>Very Satisfactory</b>

## Table of Contents

Executive Summary .....	ii
Table of Contents.....	iv
List of Tables .....	v
List of Figures .....	v
1. Introduction.....	1
2. Monitoring and Reporting.....	2
2.1. Development of the MO Performance Standards.....	2
2.2. MO Performance Standards .....	2
2.3. Monitoring Timeline.....	2
2.4. Data Collection and Validation .....	2
2.5. Evaluation and Reporting.....	3
3. Categories and Ratings.....	4
3.1. IT Systems.....	4
3.1.1. Market Management Systems Availability.....	4
3.1.2. Public IEMOP Website Availability .....	5
3.2. Market Reports and Data Publication.....	6
3.2.1. Availability of Market Reports and Data .....	7
3.2.2. Timeliness of Market Reports and Data Publication.....	8
3.3. Forecast Accuracy .....	9
3.3.1. RTD Forecast .....	10
3.3.2. DAP Forecast .....	12
3.4. Dispatch Scheduling and Pricing.....	13
3.4.1. RTD Workflow.....	14
3.4.2. RTX Workflow.....	14
3.4.3. Pricing Errors and Market Re-runs.....	14
3.4.4. Market Intervention Attributable to MO.....	15
3.5. Billings, Settlements and Accounts Management.....	16
3.5.1. Timeliness of Preliminary and Final Settlement Statements.....	17
3.5.2. Accuracy of Preliminary and Final Settlement Calculations.....	18
3.5.3. Meter Data Error Detection .....	19
3.5.4. Monetary Transactions and Remittance Efficiency.....	20
3.5.5. Timeliness of Margin Calls and Default Notices .....	20
3.6. Registration and Customer Relations.....	21
3.6.1. Timeliness of Processing Registration Applications .....	21
3.6.2. Timeliness of Processing Customer Switching Applications.....	22
3.6.3. Participant's Feedback and Timeliness of the Conduct of Participant Trainings	22
3.6.4. Timeliness in Addressing Participant Queries and Data Requests .....	23
3.6.5. Timeliness in Addressing Participant/Customer Complaints.....	23
4. Over-all MO Performance .....	25
Appendix A. Rating System References .....	26
Appendix B. Observations on Publication of Market Reports and Data .....	28

## List of Tables

Table 1. Score Guide .....	3
Table 2. IT Systems Performance Ratings .....	4
Table 3. Market Reports and Data Publication Performance Ratings .....	7
Table 4. List of Market Information Excluded in the Rating .....	7
Table 5. Forecast Accuracy Performance Ratings .....	9
Table 6. Trading Intervals Considered and Excluded for RTD Forecast Accuracy in 2019 ..	10
Table 7. Trading Intervals Considered and Excluded for DAP Forecast Accuracy in 2019 ..	12
Table 8. Dispatch Scheduling and Pricing Performance Ratings .....	14
Table 9. Market Intervention Attributable to MO in 2019 .....	16
Table 10. Billings, Settlement and Accounts Management Performance Ratings .....	16
Table 11. WESM Billing Periods .....	17
Table 12. Number of Monthly and Daily MTR per Market, 2019 .....	20
Table 13. Registration and Customer Relations Performance Ratings .....	21
Table 14. Over-all MO Performance, 2019 .....	25

## List of Figures

Figure 1. MMS Availability Rating, 2019 .....	5
Figure 2. Public IEMOP Website Availability Rating, 2019 .....	6
Figure 3. Availability of Market Reports and Data Rating, 2019 .....	8
Figure 4. Timeliness of Market Reports and Data Publication Rating, 2019 .....	9
Figure 5. Luzon RTD-MAPE Rating, 2019 .....	11
Figure 6. Visayas RTD-MAPE Rating, 2019 .....	11
Figure 7. Luzon RTD-FAR Rating, 2019 .....	11
Figure 8. Visayas RTD-FAR Rating, 2019 .....	12
Figure 9. Luzon DAP-MAPE Rating, 2019 .....	13
Figure 10. Visayas DAP-MAPE Rating, 2019 .....	13
Figure 11. Issuance of Pricing Errors and Conduct of Market Re-runs for Preliminary Settlements Timeliness Rating, 2019 .....	15
Figure 12. Issuance of Pricing Errors and Conduct of Market Re-runs for Final Settlements Timeliness Rating, 2019 .....	15
Figure 13. Market Intervention Attributable to MO Rating, 2019 .....	16
Figure 14. Issuance of Preliminary and Final Settlement Statements Timeliness Rating, 2019 .....	17
Figure 15. Accuracy of Preliminary Settlement Calculations Rating, 2019 .....	18
Figure 16. Accuracy of Final Settlement Calculations Rating, 2019 .....	19
Figure 17. Frequency of Final Settlement Adjustments Rating, 2019 .....	19
Figure 18. Timeliness of Processing Registration Applications Rating, 2019 .....	22
Figure 19. Participants' Feedback on Trainings Conducted Rating, 2019 .....	22
Figure 20. Timeliness in Processing Participant Queries and Data Requests Rating, 2019	23
Figure 21. Timeliness in Addressing Participant/Customer Complaints Rating, 2019 .....	24

## 1. Introduction

On 18 January 2018, DOE issued the Department Circular No. 2018-01-0002 which endorses and sets out the guidelines on the transition to an independent market operator. PEMC thereafter entered into an Operating Agreement with the Independent Market Operator of the Philippines (IEMOP) on 19 September 2019 which details the transfer of the market operator functions. IEMOP assumed the market operations functions of the WESM on 26 September 2018, while PEMC retains its role as the WESM governing entity.

PEMC was designated as the Central Registration Body (CRB) for the Retail Competition and Open Access (RCOA) implementation by virtue of DOE Department Circular No. 2012-02-0002. Thereafter, DOE issued its Department Circular No. 2019-07-0011 dated 29 July 2019 which designated the independent market operator as the CRB, thus amending provisions of Department Circular No. 2012-02-0002.

This annual report provides the results of the monitoring and assessment of the performance of IEMOP, hereinafter alternatively referred to as the Market Operator (MO), for the period 26 September 2018 to 25 September 2019 (4Q 2018 - 3Q 2019).

The performance evaluation is made based on the Market Operator Performance Standards (MOPS), which was developed in accordance with WESM Rules Clause 1.3.2.3 to provide indication on the performance of the MO with respect to its responsibilities under applicable laws, rules and regulations.

The MOPS also provides empirical evidence of the MO's commitment in providing quality services and information to electricity market participants, governance bodies and interested parties.

This report is organized as follows:

- Section 2 - provides an overview of the MOPS and describes the methodology in the monitoring of the MO's performance, and reporting of findings.
- Section 3 - provides the detailed scores for each category and sub-categories, along with the discussion of findings.
- Section 4 - provides the overall MO performance for the year.

## 2. Monitoring and Reporting

### 2.1. Development of the MO Performance Standards

The MOPS was initially approved by the PEM Board<sup>1</sup> on 25 May 2011, which was the basis for the internal monitoring of MO performance starting on 26 September 2011.

The MOPS, as revised, was approved by the PEM Board on 21 March 2013 and by the Department of Energy (DOE)<sup>2</sup> on 12 November 2013. This DOE-approved MOPS provided the basis for the evaluation of the MO's performance in 2014.

The MOPS, as further revised, was approved by the PEM Board on 22 January 2015<sup>3</sup> and the DOE<sup>4</sup> on 06 October 2015. This current version of the MOPS provided the basis for evaluation of the MO's performance since 2015.

### 2.2. MO Performance Standards

The MO performance standards are classified into six (6) categories with corresponding weights, as follows:

- |    |   |   |     |
|----|---|---|-----|
| 1. | Information Technology (IT) Systems           | - | 20% |
| 2. | Market Reports and Data Publication           | - | 15% |
| 3. | Forecast Accuracy                             | - | 20% |
| 4. | Dispatch Scheduling and Pricing               | - | 20% |
| 5. | Billings, Settlements and Accounts Management | - | 15% |
| 6. | Registration and Customer Relations           | - | 10% |

### 2.3. Monitoring Timeline

The monitoring timeline is concurrent with the monthly WESM billing and settlement timetable, i.e. beginning every 26<sup>th</sup> day of each month and ending on the 25<sup>th</sup> day of the next month, and begins every 26<sup>th</sup> of September of the previous year to the 25<sup>th</sup> of September of the current year.

### 2.4. Data Collection and Validation

Data and supporting information were collected from the MO. Validations were conducted by cross-checking other data sources and verification of supporting documents, logs and publications, as possible.

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<sup>1</sup> PEMC-MOPS-001, 2011, approved by the PEM Board in its Resolution No. 2011-39

<sup>2</sup> DOE Letter dated 12 November 2013 (DOE-JLP-13006301) received by PEMC on 27 November 2013

<sup>3</sup> PEM Board Resolution No. 2015-03

<sup>4</sup> DOE Letter dated 06 October 2015 (DOE-ZYM-15000176) received by PEMC on 27 October 2015

## 2.5. Evaluation and Reporting

The scoring system under the MOPS provides the specific range of raw scores per category and the basis for the quantitative evaluation of the MO's performance (see Appendix A). Provided below is the score guide for each level of performance from highest to lowest:

Table 1. Score Guide

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

The MO performance monitoring report shall be submitted to the PEM Audit Committee (PAC) and PEM Board for approval. After approval by the PEM Board, the report shall be submitted to the Department of Energy (DOE).

### 3. Categories and Ratings

#### 3.1. IT Systems

The IT systems cover the availability to market participants of the Market Management System' (MMS) Market Participant Interface (MPI) and the public WESM website, which is referred to as the market information website under the WESM Rules. Table 22 provides the summary of how the MO fared under the measures in this category.

Table 2. IT Systems Performance Ratings

Section	Sub-Category	Satisfactory Target		Actual		Score
3.1.1	Market Management Systems Availability	99.80%	8,742.48 hrs out of 8,760 hrs	100%	8,760 hrs; no downtime	5
3.1.2	Public IEMOP Website Availability	99.50%	8,716.20 hrs out of 8,760 hrs	99.96%	8,756.22 hrs; 3.78 hrs downtime	5

The MMS and public WESM website are being administered, maintained and monitored 24/7 to ensure that the market results are available and published on time. Participants' complaints or concerns regarding these systems are reported to the MO through phone calls or emails. In addition, any system malfunction or errors detected internally are likewise immediately reported and addressed. Further, PEMC uses a third-party monitoring software, Nagios<sup>5</sup>, to monitor the availability of the MMS-MPI and Public IEMOP Website.

Unavailability of the MMS that was caused by third party service providers, such as electricity supply and communication link providers of MO, are excluded from the MOPS.

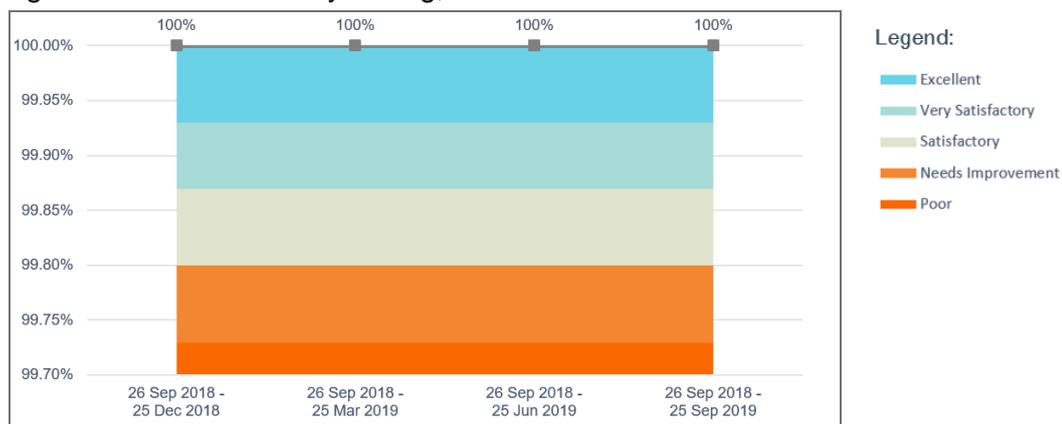
##### 3.1.1. Market Management Systems Availability

The various IT components of the MMS is essential in the continuous and efficient communication of the market systems, gathering of market workflow inputs, dispatch scheduling, processing and publication of market outputs and emergency systems.

A total of 25.1 hours of downtime were recorded by Nagios in 2019. However, as explained and justified by IEMOP-IT, downtimes were due to scheduled system maintenance, and third-party service provider. Excluding these hours, no downtime in the MMS-MPI was recorded in 2019. Figure 1 shows the consistent availability of the MMS-MPI at 100%.

<sup>5</sup> Nagios is known for being the best server /network monitoring software in the market. PEMC used Nagios in monitoring servers and application systems of IEMOP.

Figure 1. MMS Availability Rating, 2019



### 3.1.2. Public IEMOP Website Availability

The public IEMOP website, or the Market Information Website, is the facility and electronic communication system wherein the MO publishes information that may be accessed by WESM Members, interested parties and the general public. It provides extensive information about the MO, WESM and Retail Competition and Open Access (RCOA), market operations and governance. It also makes available market data and operational reports, registration and training information, and various documents, including the relevant laws, issuances, rules, and manuals.

It may be noted that with the creation of IEMOP, a new public website was made which is the IEMOP Public Website and can be found at [www.iemop.ph](http://www.iemop.ph). However, most of the MO data are still in the WESM Website, which is used and managed by the PEMC. The said data will be migrated to the new website of IEMOP.

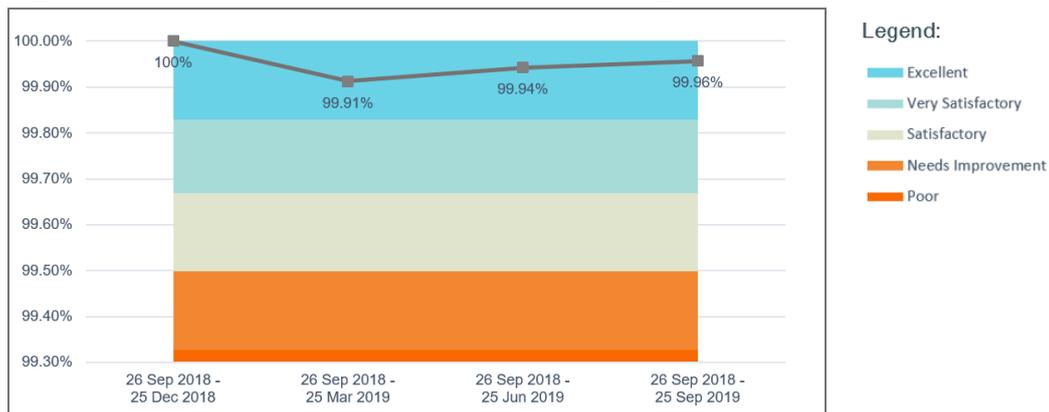
The public IEMOP website also contains relevant publication such as news, notices, announcements, and information on events. It also has a platform, i.e. Ticketing System, wherein inquiries, concerns, and even complaints can be made electronically by any interested party.

In measuring its availability, downtimes refer to incidents when the public WESM website is not accessible due to errors caused by the MO's internal system and processes. Those attributed or caused by third parties are excluded since these are beyond the MO's control.

A total of 16.36 hours (981 minutes) out of the 20.14 hours (1,208 minutes) of downtime recorded in Nagios was justified and excluded. No justification was presented to PEMC for the remaining 3.78 hours (227 minutes), thus, was reported downtime in the public website.

The availability rating of the public WESM website for each quarter are provided in Figure 2. The bulk of the abovementioned downtime in the public website was recorded in January 2019, causing the decline in the figure in the second quarterly monitoring period. The annual rating for the IEMOP public website ended at 99.96%, Excellent.

Figure 2. Public IEMOP Website Availability Rating, 2019



### 3.2. Market Reports and Data Publication

Market participants rely on market information for them to make informed business decisions, whether it be on electricity trading or making long term electricity industry investments. Readily available information are also helpful to the DOE and Energy Regulatory Commission (ERC) in their policy and regulatory decisions, respectively. Thus, making market information available through timely publication is essential in maintaining the transparency in the operations of the WESM.

The MO is required to publish various market information, in accordance with the WESM Rules, market manuals and policy/regulatory directives. The list of market information for publication is provided in Annex D of the MOPS document.

"Publication" as defined in the WESM Rules is "to make available information". While there are other means to make available information<sup>6</sup>, for the purposes of this MOPS monitoring, publication of market reports and data is interpreted to being made through the public WESM website, MPI, email, and newspaper of general circulation, as applicable. Note that publications through file transfer protocol (FTP) are monitored internally.

The requirement to publish market information, in market reports format or in data format, is measured under the MOPS based on availability and timeliness. Published market reports and data that were considered in the latter are those with a prescribed timeline for

<sup>6</sup> Publication is also done via data sharing or file transfer facility to market participants who have availed of this paid service. Data sharing or file transfers of MMS-generated and other market data and/or reports are provided to the monitoring systems of the DOE and ERC.

publication in corresponding enabling rules/guidelines. On the other hand, reports or data are considered available once published, including those that have remained unchanged since its first publication (such as WESM Manuals, e.g. procedures regarding constraint violation coefficients).

As mentioned in the previous section, most of the market reports and data are still published in the WESM website ([www.wesm.ph](http://www.wesm.ph)).

The summary on how the MO fared in this category is provided in Table 3. Publications excluded from the monitoring for availability and timeliness are shown in Table 4.

Table 3. Market Reports and Data Publication Performance Ratings

Section	Sub-Category	Details	Satisfactory Target	Actual	Score
3.2.1	Availability	45 publications (41 rated, 4 excluded)	95%	99.975%	4
3.2.1	Timeliness	33 publications (27 rated; 6 excluded)	95%	98.067%	4

Table 4. List of Market Information Excluded in the Rating

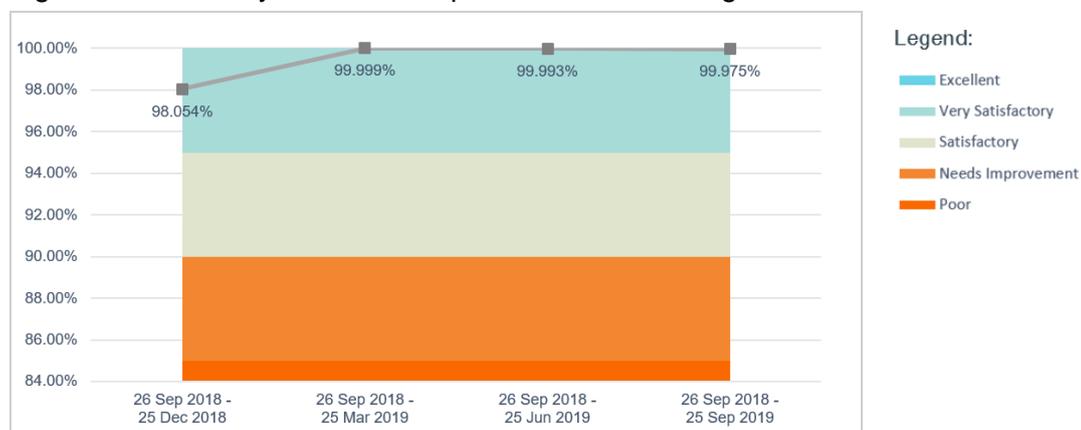
Required Publication (Reference Rules/Manuals)	Reason for Exclusion (in Measure)
1. Formulation of the Market Dispatch Optimization Model (MDOM)	Price Determination Methodology (PDM) published since 2Q 2012, particularly when the new public WESM website was launched. (Timeliness)
2. Real-Time System Condition or SO Advisory	Automated publication of data as soon as received from the SO. (Availability and Timeliness)
3. SO Advisory (Updated Daily or upon availability of verified/ complete information)	
4. Substitute prices for congestion-related pricing errors in the WESM website daily	Already covered in other publications. (Availability and Timeliness)
5. Other system data: Total energy dispatched, Total dispatchable load, Total reserve required per time point (for each class and area), Total system losses, Reserve requirements, Locational marginal prices	
6. Initial Loss Percentage	Documentation on initial loss percentage published since June 2015 (Timeliness)

### 3.2.1. Availability of Market Reports and Data

Availability pertains to the actual number of publications against the total number of required publications for each of the 41 publications monitored. The average of the availability ratings for the 41 publications provides the basis for rating this measure, such that regardless of the volume of the published market information, all 41 publications have equal weights.

In 2019, the availability rating was at 99.975% as presented in Figure 3. It should be noted that the MO will only be rated Excellent for this measure at a score of 100%. All 41 publications<sup>7</sup> were rated above 90%, the satisfactory target for this measure.

Figure 3. Availability of Market Reports and Data Rating, 2019



### 3.2.2. Timeliness of Market Reports and Data Publication

Timeliness of market information publication refers to the MO's compliance to the required timing of publication of market information in accordance to the schedules under the WESM Rules, Manuals, internal procedures or the MOPS document. Similar to the calculation of availability in Section 3.2.1, timeliness pertains to the actual number of timely publications against the total number of required publications for each of the 27 publications monitored. The average of the timeliness ratings for the 27 publications provides the basis for rating for this measure, such that regardless of the volume of the published information, all 27 publications have equal weights.<sup>8</sup>

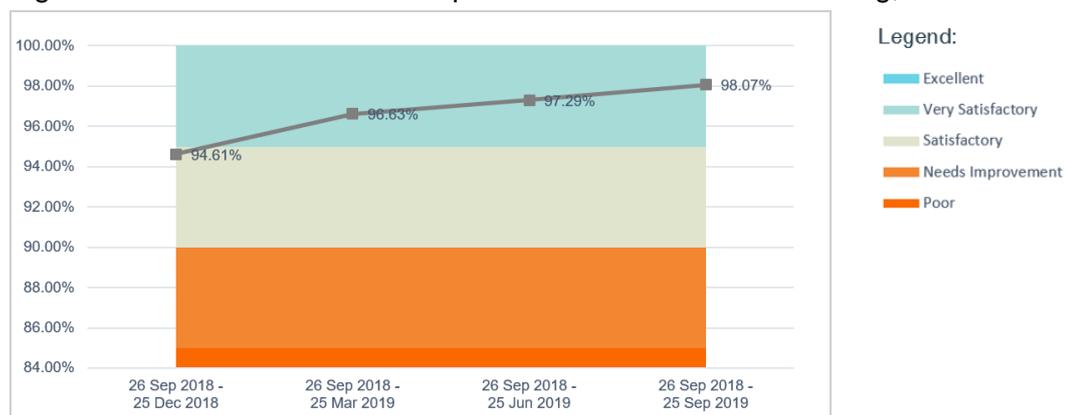
The publication on New Metering Installation of the MSP had rating below the satisfactory target (90%), resulting from the late publication of 10 out of 24 metering masterfiles. The timeline for this publication is every 12<sup>th</sup> of the month. Rating is 58.33%.

The over-all timeliness rating of market reports and data in 2019 is 98.07%, as shown in Figure 4. Note that the MO will only be rated Excellent for this measure at a score of 100%.

<sup>7</sup> Details of publications are provided in Appendix B

<sup>8</sup> Details of publications are provided in Appendix B

Figure 4. Timeliness of Market Reports and Data Publication Rating, 2019



### 3.3. Forecast Accuracy

Load forecasting is a key determinant of market prices and schedules, and therefore must be as accurate as is reasonably possible. Any difference between the forecast load and the actual load represents an economic cost to the market in that either too much or too little generation is scheduled.

The MO currently prepares and publishes week ahead (WAP), day ahead (DAP) and hour ahead (RTD) market projections to forecast load scenarios considering various factors (e.g. network service provider data, reserve requirements, generation offer, among others).

As provided in the MOPS, however, only the DAP and RTD projections shall be measured as to their accuracy. The RTD accuracy is measured in terms of Mean Absolute Percentage Error (MAPE) and Forecast Accuracy Rate (FAR) while the DAP accuracy is measured with the MAPE only. Both RTD and DAP are measured per region, i.e. Luzon and Visayas. The ratings for these sub-categories are provided in Table 5.

Table 5. Forecast Accuracy Performance Ratings

Section	Sub-Category	Satisfactory Target	Region	Actual	Score
3.3.1	RTD Forecast - MAPE	0.95%	Luzon	0.69%	4
		1.20%	Visayas	0.89%	4
	RTD Forecast - FAR	97.20%	Luzon	99.26%	5
		93.00%	Visayas	97.49%	5
3.3.2	DAP Forecast - MAPE	1.60%	Luzon	1.14%	4
		2.20%	Visayas	1.53%	5

### 3.3.1. RTD Forecast

The hour ahead forecast or the RTD forecast is one (1) of the variables that are used to determine the ex-ante schedules and prices for the target trading interval. For clarity, it is noted that the data used in the computation of RTD forecast accuracy is the MMS generated forecast for Luzon and Visayas.<sup>9</sup> The accuracy is measured on a regional basis. The accuracy is measured against the actual demand based on snapshot data of all generators at minute 59,<sup>10</sup> as follows:

- MAPE - reflects the average of the absolute percent difference between the actual and forecasted demand across all intervals
- FAR - reflects the number of intervals in percent wherein the forecast is within the MAPE tolerance level, which is set at  $\pm 3\%$ .

The assessment of the forecast accuracy in this report considered exclusions that were provided in the MOPS. Out of the 8,760 total trading intervals, 8,591 and 8,577 trading intervals were considered in Luzon and Visayas, respectively. Table 6 provides the number of trading intervals considered and excluded in the monitoring of the RTD forecast accuracy.

Table 6. Trading Intervals Considered and Excluded for RTD Forecast Accuracy in 2019

Category		Luzon	Visayas
Considered Trading Intervals		8,591	8,577
Excluded Trading Intervals	Generator Tripping	11	14
	Line Tripping	10	86
	Load Dropping	4	32
	Market Intervention	52	4
	Sudden rain	38	16
	Snapshot-related	20	31
Non-compliance of Kalayaan Pump Storage to its Pump Schedule		34	

As shown in Figures 5 and 6, the RTD-MAPE for Luzon and Visayas were rated Very Satisfactory at 0.69% and 0.89%, respectively.

<sup>9</sup> Previously, hourly load forecasts that are inputs to the MMS (LDF or LDP) were used, in accordance with the MOPS, Issue 1.0.

<sup>10</sup> In the absence of 59<sup>th</sup> minute snapshot data, the 54<sup>th</sup> minute snapshot data before the target hour or the 4<sup>th</sup> minute snapshot data of the target trading interval could be used. As an example, the 1559H or 1554H or 1604H snapshot data shall be used as actual demand for the 1600H interval.

Figure 5. Luzon RTD-MAPE Rating, 2019

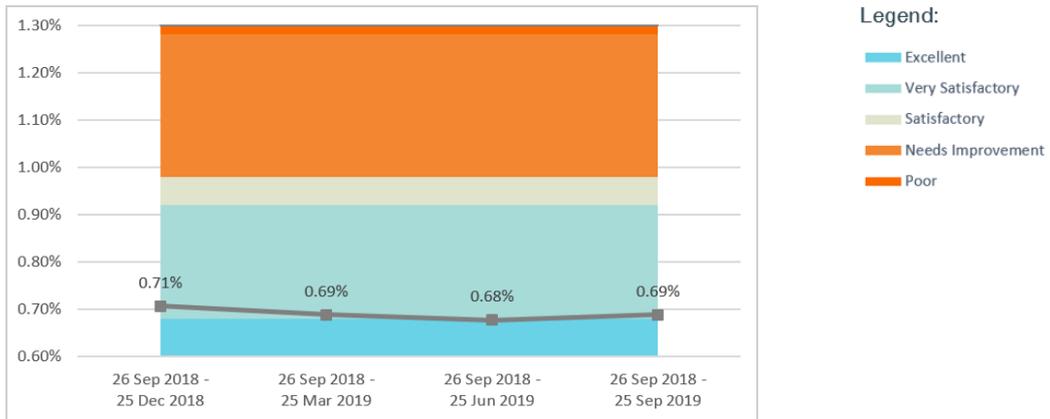
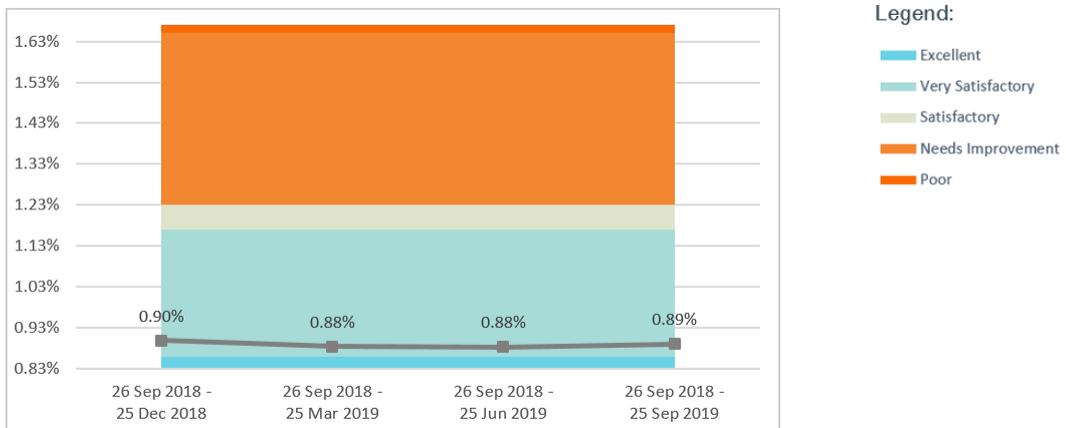


Figure 6. Visayas RTD-MAPE Rating, 2019



Of the intervals considered (8,591 in Luzon and 8,577 in Visayas), there were 64 and 215 intervals in Luzon and Visayas, respectively, with RTD forecast error beyond +/- 3%.

As provided in Figures 7 and 8, these resulted to RTD-FARs of 99.26% and 97.49% in Luzon and Visayas, respectively.

Figure 7. Luzon RTD-FAR Rating, 2019

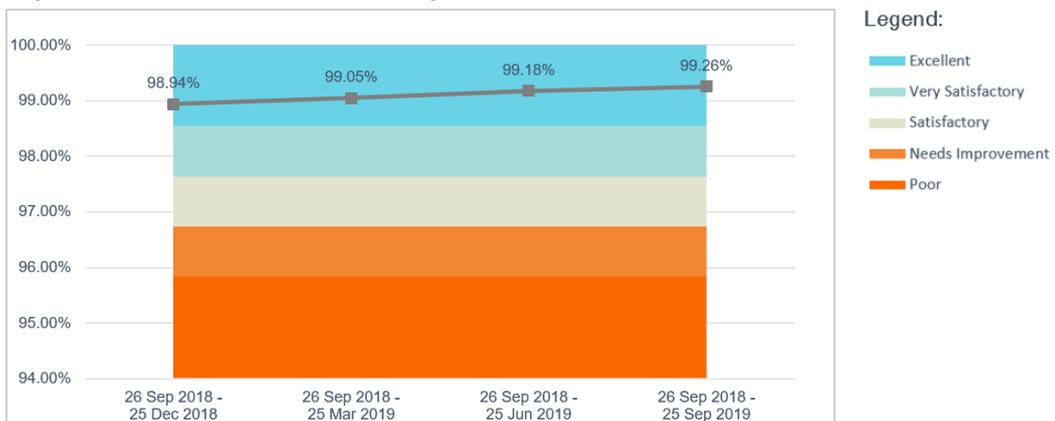
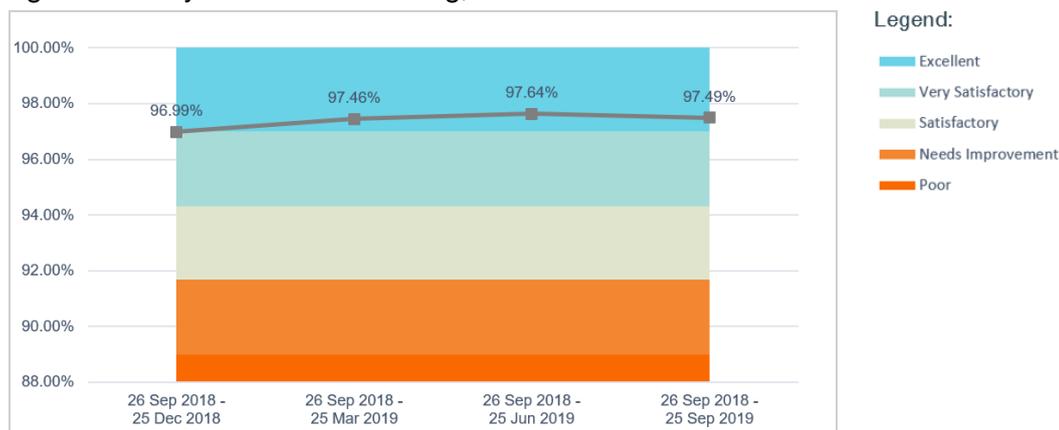


Figure 8. Visayas RTD-FAR Rating, 2019



### 3.3.2. DAP Forecast

The DAP MAPE is used to measure the accuracy of DAP forecast. For clarity, the data used in the computation of DAP MAPE is the Similar Day Load Forecast (SDLF) Demand for Luzon and Visayas. Similar with the computation of RTD forecast, the accuracy of DAP forecast is measured against the actual demand based on snapshot data of all generators at minute 59.

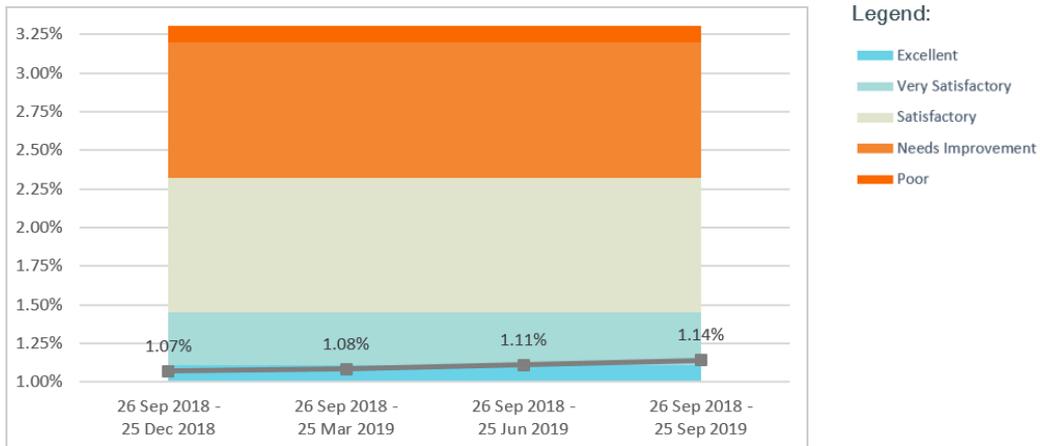
Out of the 8,760 total trading intervals, 8,508 and 8,532 trading intervals were considered in Luzon and Visayas, respectively. Table 7 shows the number of trading intervals considered and excluded in the monitoring of DAP forecast accuracy.

Table 7. Trading Intervals Considered and Excluded for DAP Forecast Accuracy in 2019

Category		Luzon	Visayas
Considered Trading Intervals		8,508	8,532
Excluded Trading Intervals	Generator Tripping	14	16
	Line Tripping	14	112
	Load Dropping	9	40
	Market Intervention	52	4
	Sudden rain	57	24
	Snapshot-related	20	32
	Non-compliance of Kalayaan Pump Storage to its Pump Schedule	86	

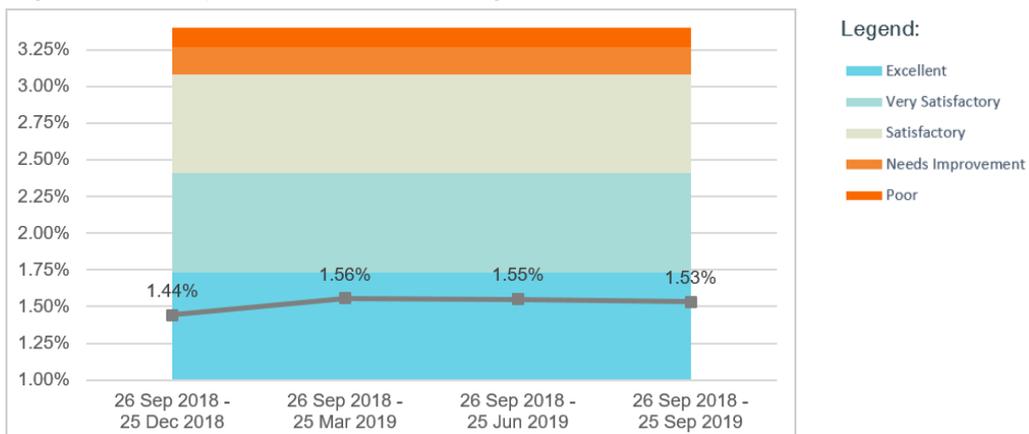
As provided in Figure 9, the Luzon DAP-MAPE rating was Very Satisfactory at 1.14% in 2019.

Figure 9. Luzon DAP-MAPE Rating, 2019



On the other hand, the Visayas DAP-MAPE rating was Excellent at 1.53% in 2019 as shown in Figure 10.

Figure 10. Visayas DAP-MAPE Rating, 2019



### 3.4. Dispatch Scheduling and Pricing

This category deals with the market scheduling and pricing performance by the MO. It is particularly important that market processes be properly managed because of its impact to participant behavior and market outcome. As such, this category is measured in terms of the success in implementing RTD and real-time ex-post (RTX) workflow processes, timeliness of pricing error issuance and the duration of market intervention (MI) attributable to the MO, as provided in Table 8.

Table 8. Dispatch Scheduling and Pricing Performance Ratings

Section	Sub-Category	Satisfactory Target	Actual	Score
3.4.1	RTD Workflow Successful Run	99.75%	100%	5
3.4.2	RTX Workflow Successful Run	99.75%	100%	5
3.4.3	Timeliness of Pricing Errors and Market Re-runs before the issuance of Preliminary Statements	98.50%	99.63%	5
	Timeliness of Pricing Errors and Market Re-runs before the issuance of Final Statements	99.50%	100%	5
3.4.4	Number of Market Intervention (MI) Attributable to MO	≤ 14	6	4

### 3.4.1. RTD Workflow

Since the RTD workflow process is run at an hourly interval, its success rate is evaluated by the number of trading intervals with resulting schedule completed within the timetable. These include RTD runs that were manually run by PEMC within the timetable.

Under the MOPS, unsuccessful RTD runs that are attributable to factors beyond the control of MO (e.g. attributable to the SO and communication failure by service providers) are excluded from the calculations. Further, RTD runs with MI attributable to the MO are excluded in the trading intervals considered.

The MO maintained a 100% success rate for RTD workflow. There were six (6) excluded trading intervals due to the occurrence of market intervention attributed to the MO (see Section 3.4.4).

### 3.4.2. RTX Workflow

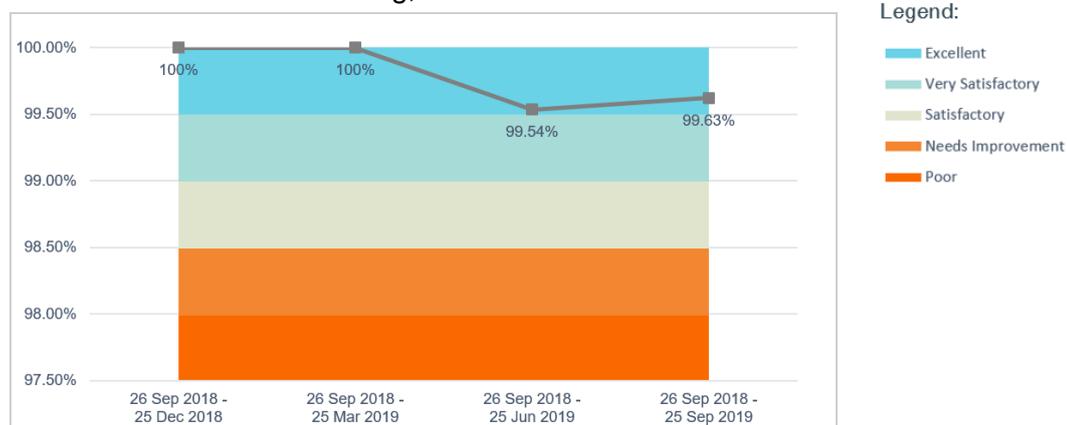
The ex-post run or RTX workflow is measured in the same manner as with the RTD workflow process. The success rate for RTX workflow runs was maintained at 100% in 2019.

### 3.4.3. Pricing Errors and Market Re-runs

This sub-category particularly refers to the process of validating intervals with PENs and the timely completion of market re-runs (MRR) prior to the issuance of preliminary and final settlements for Luzon and Visayas.

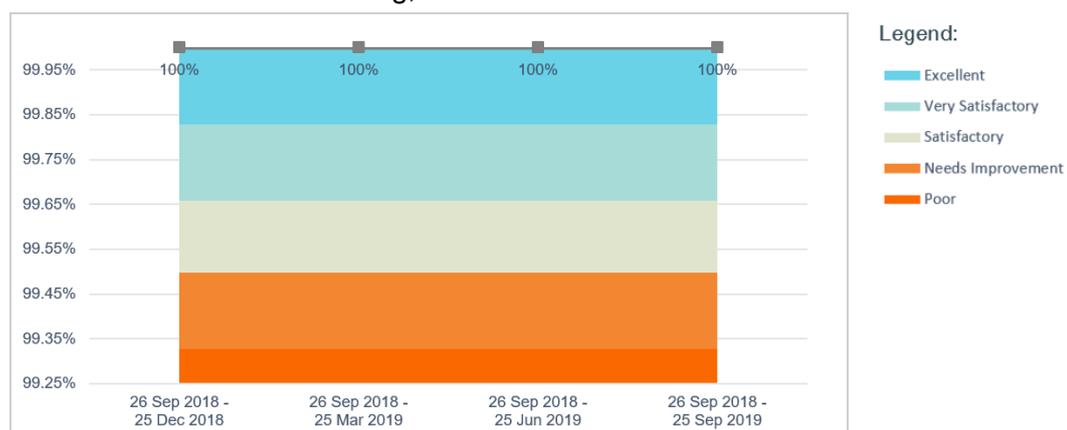
For the submission of prices prior to the preliminary settlements, the MO was rated 99.63% in 2019 as shown in Figure 11. PEN was not issued on 23 May 2019 at 0200H for RTD and RTX prior to preliminary settlement run.

Figure 11. Issuance of Pricing Errors and Conduct of Market Re-runs for Preliminary Settlements Timeliness Rating, 2019



As provided in Figure 12, the timeliness rating for the issuance of prices for the final settlements this year was at 100%.

Figure 12. Issuance of Pricing Errors and Conduct of Market Re-runs for Final Settlements Timeliness Rating, 2019



### 3.4.4. Market Intervention Attributable to MO

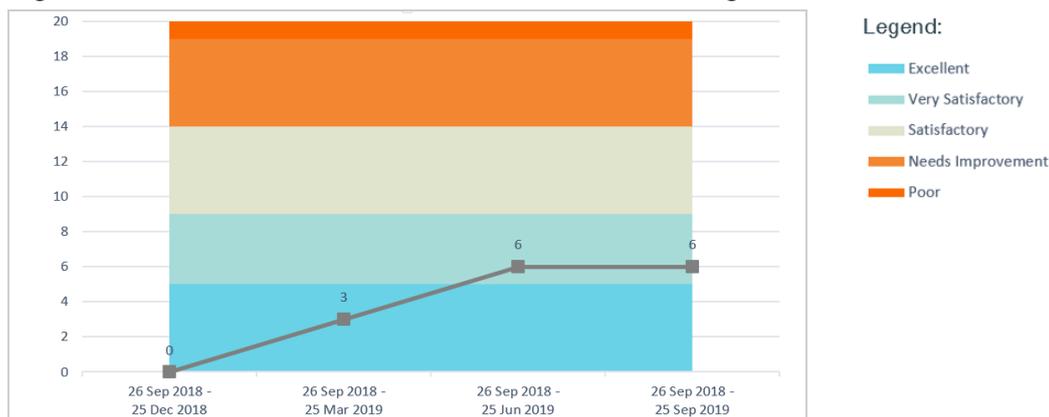
The duration or frequency of market interventions (MIs) that are attributable to the MO is being monitored to ensure that the WESM is operational 24/7. The satisfactory target for allowable number of MIs in a year is equal to or less than 14 trading intervals.

A total of six (6) intervals with MO-attributable MIs were reported in 2019. Details were shown in Table 9.

Table 9. Market Intervention Attributable to MO in 2019

Date	Reason
24 Jan 2019, 0200H	Linear Programming (LP) solution error
29 Jan 2019, 1000H	Linear Programming (LP) solution error
9 Feb 2019, 1800H	Incorrect MO input to the Load Predictor (LDP)
27 Mar 2019, 2100H	LDP (Load Predictor) workflow stoppage
15 Apr 2019, 1300H	Linear Programming (LP) solution error
19 Apr 2019, 0400H	Incorrect input of outage schedule

Figure 13. Market Intervention Attributable to MO Rating, 2019



### 3.5. Billings, Settlements and Accounts Management

This category is related to the financial aspect of the WESM operations. It is essential that the MO handle financial transactions of the WESM with utmost integrity and efficiency considering the possible financial impact of the transactions to the Market Participants. The MOPS provides that this category be measured in terms of timeliness, frequency and accuracy. The ratings for the sub-categories under this major category are summarized below.

As shown in Table 10, poor performance ratings were recorded for three (3) measures namely, Accuracy of Preliminary Settlement Calculations, Accuracy of Final Settlement Calculations and Frequency of Final Settlement Adjustments as a result of the error in the NSS Allocation.

Table 10. Billings, Settlement and Accounts Management Performance Ratings

Section	Sub-Category	Satisfactory Target	Actual	Score
3.5.1	Timeliness of Preliminary and Final Settlement Statements	98%	99.79%	5
3.5.2	Accuracy of Preliminary Settlement Calculations	95%	71.30%	1
	Accuracy of Final Settlement Calculations	99%	38.46%	1
	Frequency of Final Settlement Adjustments	≤ 6	9	1
3.5.3	Timeliness of Meter Data Error Detection	98%	100%	5
0	Remittance Efficiency	0 amount late	0 amount late	5
	Timeliness of Monetary Transactions	0 days late	0 days late	5
3.5.5	Timeliness of Margin Call	100%	100%	5
	Timeliness of Default Notice	0 days late	0 days late	5

For reference, Table 11 provides the relevant dates and WESM billing periods that are covered in Sections 3.5.1 to 3.5.2.

Table 11. WESM Billing Periods

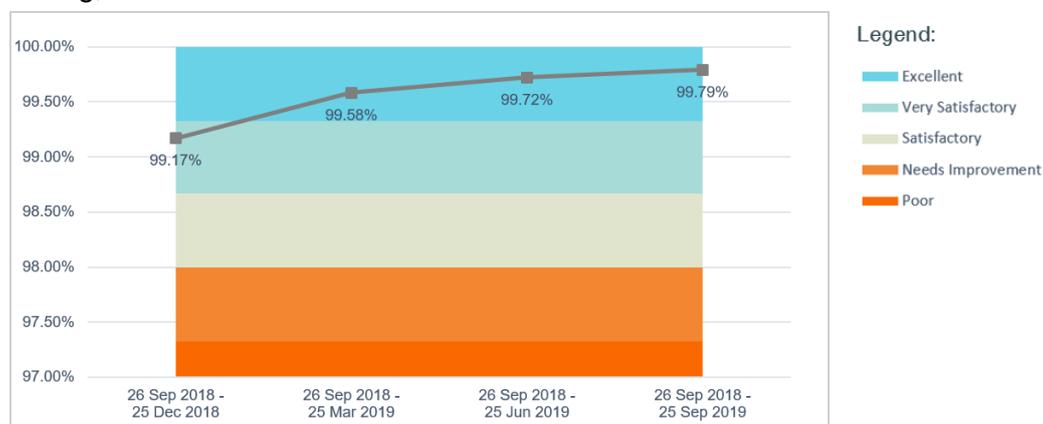
Monitoring Period	Covered Billing Periods	Billing Period	Dates
Q1 26Sep18 - 25Dec18	147 – 149	147	26 August 2018 to 25 September 2018
		148	26 September 2018 to 25 October 2018
		149	26 October 2018 to 25 November 2018
Q2 26Dec18 - 25Mar19	150 – 152	150	26 November 2018 to 25 December 2018
		151	26 December 2018 to 25 January 2019
		152	26 January 2019 to 25 February 2019
Q3 26Mar19 - 25Jun19	153 – 155	153	26 February 2019 to 25 March 2019
		154	26 March 2019 to 25 April 2019
		155	26 April 2019 to 25 May 2019
Q4 26Jun19 - 25Sep19	156 – 158	156	26 May 2019 to 25 June 2019
		157	26 June 2019 to 25 July 2019
		158	26 July 2019 to 25 August 2019

### 3.5.1. Timeliness of Preliminary and Final Settlement Statements

The WESM Rules require the issuance of the Preliminary and Final Settlement Statements within seven (7) days and 18 days after the end of each billing period, respectively. Further, if the deadline falls on a Non-Working Day, the issuance of the settlement statements shall be made during the next immediate Working Day.

The MO was 99.79% timely for the issuance of Preliminary and Final Statements in 2019 and was rated Excellent, as shown in Figure 14. The preliminary settlement statement for the 149<sup>th</sup> Billing Month was issued one (1) day late on 4 December 2018.

Figure 14. Issuance of Preliminary and Final Settlement Statements Timeliness Rating, 2019



### 3.5.2. Accuracy of Preliminary and Final Settlement Calculations

Given the possible financial impact of WESM settlement statements, the MO is rated according to the accuracy of issued billing statements. Accuracy rating of Preliminary Settlements is computed as the mean of the absolute percentage error of the preliminary settlement total trading amount (TTA) and the final settlement TTA per participant invoice.

The adjustments related to claims for additional compensation for Administered Prices (AP) and must run units (MRUs) are excluded, as well as the adjustments due to corrections in meter quantities that are attributable to the metering service provider (MSP).

The measures covered in this section were affected by the error in the computation of the NSS allocation. MO issued final settlement adjustments to implement the correction in the NSS allocation for the billing months June 2018 to May 2019, which affected the first nine (9) billing months of the 2019 monitoring period.

Based on the formula, the Accuracy of Preliminary Settlement Calculations will not be affected by the correction in the NSS allocation, which means that the preliminary settlements are still accurate compared with the final settlements. However, noting that both settlements are in error, the IEMOP agreed to reflect a score for this measure, where the prelim settlements were likewise compared against the adjusted final settlement.

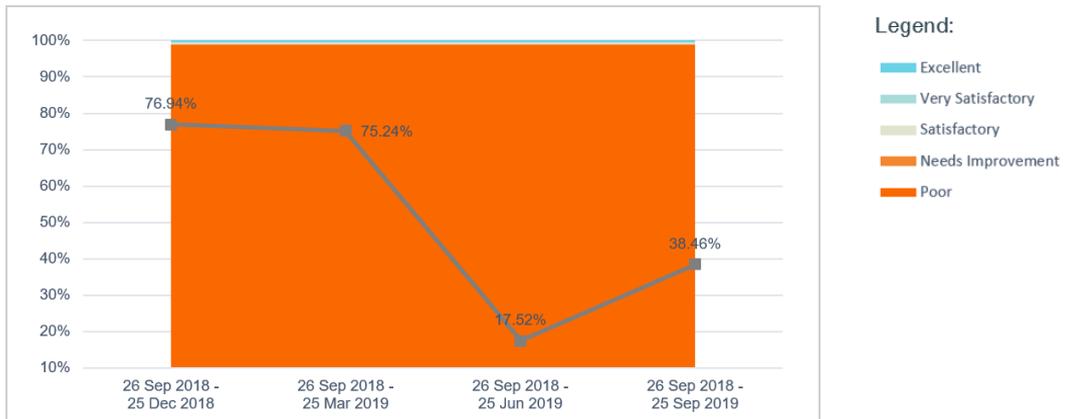
The rating for Accuracy of Preliminary Settlement Calculations in 2019 was Poor at 71.3%, as presented in Figure 15.

Figure 15. Accuracy of Preliminary Settlement Calculations Rating, 2019



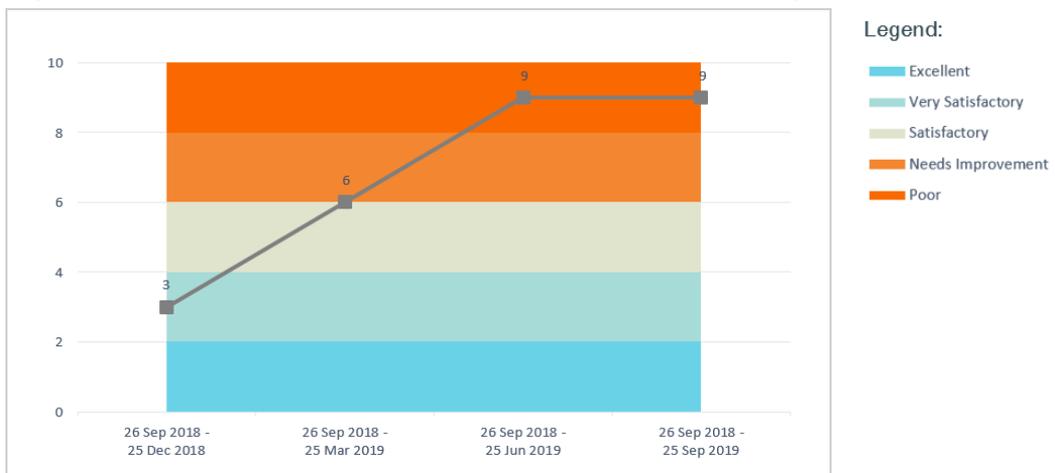
Similarly, Poor rating was recorded for the Accuracy of Final Settlement Calculations in 2019 at 38.46%.

Figure 16. Accuracy of Final Settlement Calculations Rating, 2019



Final settlement statements are also evaluated according to the number of adjustments in the final settlement calculations with the satisfactory target being less than 6 adjustments per year. Correspondingly, Poor rating was reported for the Frequency of the Final Settlement Adjustments with nine (9) adjustments in 2019, shown in Figure 17.

Figure 17. Frequency of Final Settlement Adjustments Rating, 2019



### 3.5.3. Meter Data Error Detection

The MO is also evaluated in terms of its ability to detect meter data errors through the timely issuance of Meter Trouble Reports (MTRs) within four (4) calendar days after receipt of meter data from the Metering Services Provider (MSP).

Timeliness of the issuance of MTRs was recorded at 100%, Excellent, in 2019. While this is the case, there is a need to implement enhancements to the quality of metering data being received by the MO in consideration of the significant volume of MTRs and responsibility of the MSPs to provide accurate MQs.

A total of 16,213 monthly MTRs (MMTR) and 144,377 daily MTRs (DMTR) were issued in 2019 as presented in Table 12. The number of MTRs is further categorized based on the markets the meters are associated with. Majority of both MMTRs and DMTRs are associated with RCOA meters.

Table 12. Number of Monthly and Daily MTR per Market, 2019

Category	MMTR	DMTR
WESM	8,050	53,064
RCOA	8,163	91,313
Total	16,213	144,377

#### 3.5.4. Monetary Transactions and Remittance Efficiency

As provided in the MOPS and the WESM Billing and Settlements Manual, all monetary transactions must be remitted to WESM Members in accordance to the WESM settlement timetable, i.e. no later than 3:00 p.m. on the next business day following the day on which the MO is to be paid.

The MO was rated Excellent in timely processing of monetary transactions, ensuring that all payments received from buying Trading Participants are remitted to selling Trading Participants on time.

#### 3.5.5. Timeliness of Margin Calls and Default Notices

In accordance with the WESM Rules, the MO should verify whether each market participant has sufficient levels of prudential support to cover their financial trading activity in the spot market. If the actual exposure of a Market Participant exceeds its trading limit, then the MO shall issue a "Margin Call" to the Market Participant. As provided in the MOPS, the MO shall be evaluated according to the timeliness of issuing a notice for margin call to relevant WESM Member.

The MO target of margin call is three (3) working days upon issuance of the preliminary settlement statement.

With regards the issuance of default notices, WESM Rule 3.14.11.2 requires the MO to issue a default notice, which specifies the nature of the alleged default, as soon as practicable, during any of the default events specified under WESM Rule 3.14.11.1. Further, the MO is required to disclose information pursuant to DOE DC No. 2013-07-0018 issued on 26 July 2013, Section 1.1.(a) containing the Settlement amount unpaid by the end of the month, and the specific WESM member that failed to pay the settlement amounts.

The MO was rated Excellent in providing timely margin calls and default notices to Trading Participants.<sup>11</sup> There were a total of 17 margin calls and 146 default notices issued on time in 2019. The list of WESM members with unpaid energy settlement amounts are published, as required, in the WESM website.

### 3.6. Registration and Customer Relations

This category evaluates the MO in relation to its efficiency in addressing the concerns and requests of external parties, which may directly influence the perception of the market participants on IEMOP as an organization, and WESM as a venue for trading electricity.

In summary, the ratings for the sub-categories under this major category are provided below.

Table 13. Registration and Customer Relations Performance Ratings

Section	Sub-Category	Satisfactory Target	Actual	Score
3.6.1	Timeliness of Processing Registration Applications	95%	100%	5
3.6.2	Timeliness of Processing Customer Switching Applications	95%	100%	5
3.6.3	Timeliness of the conduct of Participant Trainings	95%	100%	5
	Participant's Feedback re: Training	90%	98.09%	5
3.6.4	Timeliness in addressing Participant Queries and Data Requests	95%	100%	5
3.6.5	Timeliness in addressing Participant/ Customer Complaints	95%	100%	5

#### 3.6.1. Timeliness of Processing Registration Applications

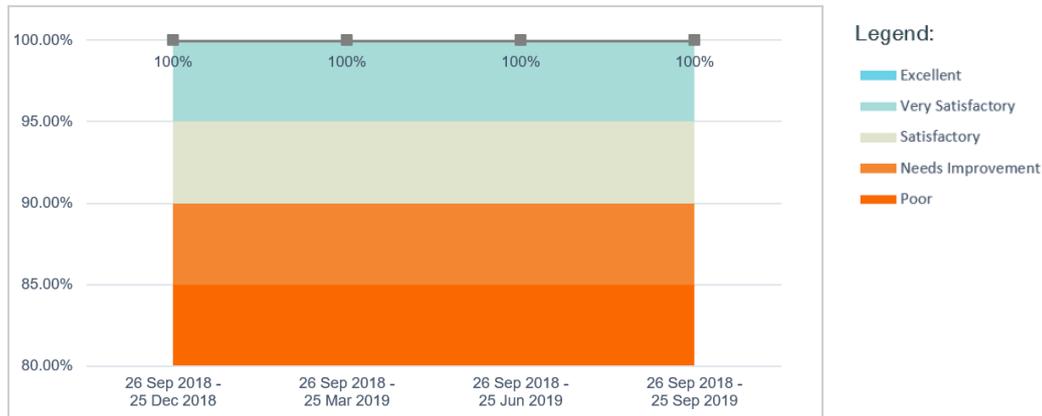
The process of registration of the WESM participants under the WESM Rules is being implemented according to the following timeline:

- Within five (5) working days from receiving an application, the MO shall advise the applicant of any further information, which the MO reasonably considers to be required to properly assess the application (WESM Rules, Clause 2.5.3.1);
- The MO shall send written notice of approval to the applicant within 15 working days from receipt of the application or the additional information or fees, if any;
- The registration of the applicant shall take effect on the date specified in the notice of approval, which shall be a date not more than 7 working days after the date the MO sends the notice of approval.

The MO fully met the abovementioned target timelines in processing of registration applications resulting to Excellent rating in 2019, as shown in Figure 18.

<sup>11</sup> Monitoring of timely default notices was implemented starting in 2015, under the current version of the MOPS.

Figure 18. Timeliness of Processing Registration Applications Rating, 2019



### 3.6.2. Timeliness of Processing Customer Switching Applications

In accordance with the Retail Rules, customer switching requests should be processed by the MO, subject to the completion of all requirements, within 30 days prior to the proposed effective date.

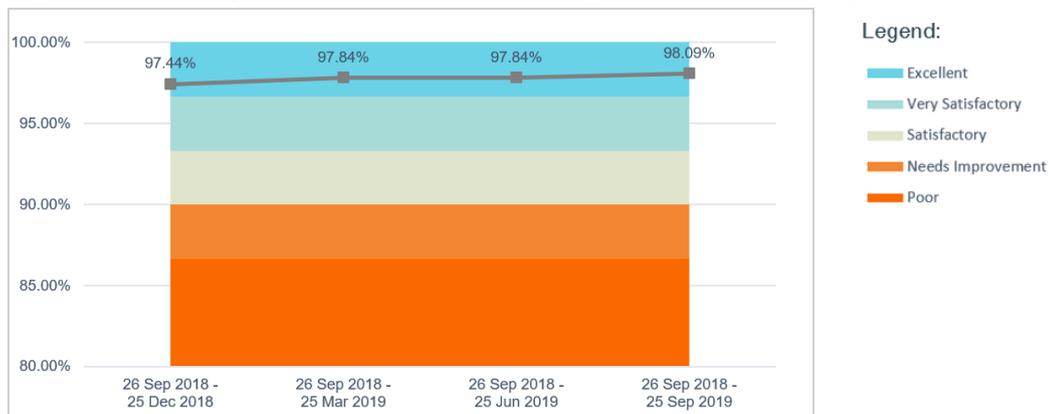
The MO was rated 100% (Excellent) in timely processing of requests for customer switching. MO received 130 customer switching requests in 2019.

### 3.6.3. Participant's Feedback and Timeliness of the Conduct of Participant Trainings

To gauge the effectiveness of trainings, their timely conduct and the participants' feedback on the trainer/speaker and other aspects of the training (e.g. logistics and materials), which are gathered through survey forms to rate, are monitored.

All trainings were conducted on time in 2019. There were 7 trainings conducted with an average feedback of 98.09%, as presented in Figure 19.

Figure 19. Participants' Feedback on Trainings Conducted Rating, 2019

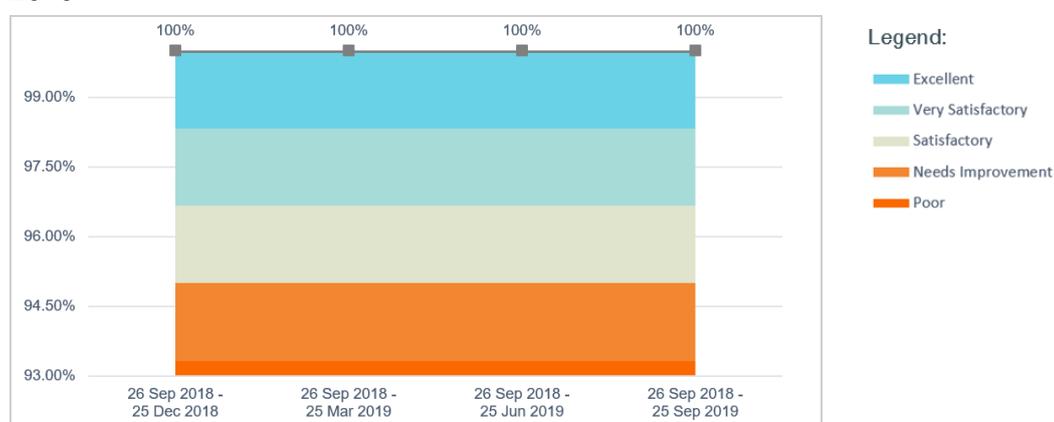


### 3.6.4. Timeliness in Addressing Participant Queries and Data Requests

The MOPS requires the MO to address queries and data requests in a timely manner. Queries and data requests may include requests for historical data, clarifications regarding WESM concepts and requests for in-depth analysis or simulations.

The MO received a total of 170 queries and data requests in 2019. All of these were responded on time resulting to Excellent rating, as provided in Figure 20.

Figure 20. Timeliness in Processing Participant Queries and Data Requests Rating, 2019

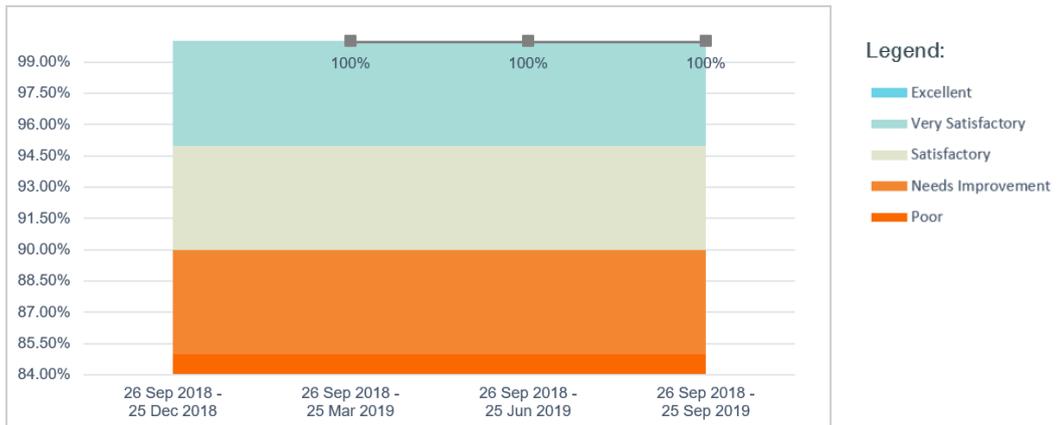


### 3.6.5. Timeliness in Addressing Participant/Customer Complaints

The MOPS provides that complaints by customers should be resolved in a timely manner, i.e. within 5 working days. The MOPS provides that customers refer to Trading Participants, which may be generation companies or customer/load, Network Service Provider, Metering Services Provider, the System Operator, Contestable Customers, Retail Metering Services Provider, Retail Suppliers, the DOE, and the ERC.

The MO resolved on time all four (4) valid complaints received in 2019. The complaints were received during the second and third monitoring quarters. The rating for Timeliness in Addressing Participant/Customer Complaints was Excellent.

Figure 21. Timeliness in Addressing Participant/Customer Complaints Rating, 2019



## 4. Over-all MO Performance

The over-all performance of the MO in 2019 for the period 26 September 2018 to 25 September 2019 is Very Satisfactory. The MO's performance rating in each performance category is summarized below.

The over-all MO performance rating is computed as the rounded-off sum of the weighted scores, which are computed from the equivalent scores multiplied by the assigned weights of the performance categories.

Table 14. Over-all MO Performance, 2019

Category	Measure	Weight (%)	Satisfactory Range	Actual		Score
<b>G. IT Systems</b>						
Market Management Systems	Availability	15	99.80%≤x<99.87%	100%	5	Excellent
WESM Website	Availability	5	99.50%≤x<99.67	99.96%	5	Excellent
<b>H. Market Reports and Data Publication</b>	Availability	5	90% ≤ x < 95%	99.975%	4	Very Satisfactory
	Timeliness	10	90% ≤ x < 95%	98.07%	4	Very Satisfactory
<b>I. Forecast Accuracy</b>						
RTD Forecast - MAPE	Accuracy (L)	3.75	0.92%≤x<=0.98%	0.69%	4	Very Satisfactory
	Accuracy (V)	3.75	1.17%≤x<=1.23%	0.89%	4	Very Satisfactory
RTD Forecast - FAR	Accuracy (L)	3.75	97.65%>=x>=96.75%	99.26%	5	Excellent
	Accuracy (V)	3.75	94.33%>=x>=91.67%	97.49%	5	Excellent
DAP Forecast - MAPE	Accuracy (L)	2.5	1.45%<x<2.32%	1.14%	4	Very Satisfactory
	Accuracy (V)	2.5	2.41%<x<3.08%	1.53%	5	Excellent
<b>J. Dispatch Scheduling and Pricing</b>						
RTD Workflow	Successful Run	2.5	99.75%≤x<99.83%	100%	5	Excellent
RTX Workflow	Successful Run	2.5	99.75%≤x<99.83%	100%	5	Excellent
Pricing Errors and Market Re-runs	Timeliness (Prelim)	2	98.50% <x<99.00%	99.63%	5	Excellent
	Timeliness (Final)	3	99.50%≤x<99.67%	100%	5	Excellent
Market Intervention Attributable to MO	Duration	10	14>=x>9	6	4	Very Satisfactory
<b>K. Billing, Settlements and Accounts Management</b>						
Preliminary and Final Settlement Statements	Timeliness	2	98%≤x<98.67%	99.79%	5	Excellent
Preliminary Settlement Calculations	Accuracy	2	95%≤x<96.67%	71.30%	1	Poor
Final Settlement Calculations	Accuracy	3	99%≤x<99.33%	38.46%	1	Poor
	Frequency	2	6 ≥ x > 4	9	1	Poor
Meter Data Error Detection	Timeliness	2	98%≤x<98.67%	100%	5	Excellent
Monetary Transactions	Efficiency	1	0 amount late	0 late	5	Excellent
	Timeliness	1	0 days late	0 late	5	Excellent
Margin Call	Timeliness	1	95%≤x<96.67%	100%	5	Excellent
Default Notice	Timeliness	1	0 days late	0 late	5	Excellent
<b>L. Registration and Customer Relations</b>						
Registration	Timeliness	2	90% ≤ x < 95%	100%	5	Excellent
Customer Switching	Timeliness	1	90% ≤ x < 95%	100%	5	Excellent
Participant Training	Timeliness	2	90% ≤ x < 95%	100%	5	Excellent
	Feedback	1	90%≤x<93.33%	98.09%	5	Excellent
Participant Queries and Data Requests	Timeliness	2	95%≤x<96.67%	100%	5	Excellent
Participant/ Customer Complaints	Timeliness	2	90% ≤ x < 95%	100%	5	Excellent
<b>2019 Over-all Rating</b>					<b>4</b>	<b>Very Satisfactory</b>

## Appendix A. Rating System References<sup>12</sup>

MO Performance Category	Measure	Rating System	Target	Ranges				
				Excellent 5	Very Satisfactory 4	Satisfactory 3	Needs Improvement 2	Poor 1
<b>IT Systems (20%)</b>								
Market Management Systems	Availability	RS 2a	99.80%	99.93%≤x≤100%	99.87%≤x<99.93%	99.80%≤x<99.87%	99.80%>x≥99.73%	99.73%>x
WESM Website	Availability	RS 2a	99.50%	99.83%≤x≤100%	99.67%≤x<99.83%	99.50%≤x<99.67	99.50%>x≥99.33%	99.33%>x
<b>Market Reports and Data Publication (15%)</b>	Availability	RS 3	95%	=100%	95% ≤ x < 100%	90% ≤ x < 95%	85% ≤ x < 90%	x < 85%
	Timeliness	RS 3	95%	=100%	95% ≤ x < 100%	90% ≤ x < 95%	85% ≤ x < 90%	x < 85%
<b>Forecast Accuracy (20%)</b>								
RTD Forecast - MAPE	Accuracy - Luzon	RS 4b	0.95%	x≤0.68%	0.68%< x<0.92%	0.92%<= x <=0.98%	0.98%< x<1.28%	x ≥1.28%
	Accuracy - Visayas		1.20%	x ≤0.86%	0.86%< x<1.17%	1.17%<= x <=1.23%	1.23%< x<1.65%	x ≥1.65%
RTD Forecast - FAR	Accuracy - Luzon	RS 2b	97.20%	x ≥98.55%	98.55%> x>97.65%	97.65%>= x >=96.75%	96.75%> x>95.85%	x ≤95.85%
	Accuracy - Visayas		93.00%	x ≥97.00%	97.00%> x>94.33%	94.33%>= x >=91.67%	91.67%> x>89.00%	x ≤89.00%
DAP Forecast - MAPE	Accuracy - Luzon	RS 4C	1.60%	x <1.11	1.11%< x<1.45%	1.45%< x<2.32%	2.32%< x<3.20%	x >3.20%
	Accuracy - Visayas		2.20%	x <1.73	1.73%< x<2.41%	2.41%< x<3.08%	3.08%< x<3.27%	x >3.27%
<b>Dispatch Scheduling and Pricing (20%)</b>								
RTD Workflow	Successful Run	RS 2a	99.75%	99.92%≤x≤100%	99.83%≤x<99.92%	99.75%≤x<99.83%	99.75%>x≥99.67%	99.67%>x
RTX Workflow	Successful Run	RS 2a	99.75%	99.92%≤x≤100%	99.83%≤x<99.92%	99.75%≤x<99.83%	99.75%>x≥99.67%	99.67%>x
Pricing Errors and Market Re-runs	Timeliness - Prelim	RS 2a	98.50%	99.50% <x<100%	99.50% <x<99.00%	98.50% <x<99.00%	98.50% <x<98.00%	98.00%>x
	Timeliness - Final	RS 2a	99.50%	99.83%≤x≤100%	99.67%≤x<99.83%	99.50%≤x<99.67%	99.50%>x≥99.33%	99.33%>x
Market Intervention Attributable to MO	Duration	RS 4a	14	5>=x>=0	9>=x>5	14>=x>9	14<x<=19	19<x

<sup>12</sup> Refer to the MO Performance Standards Scoring System, Section 9, MOPS as approved by the DOE in October 2015

MO Performance Category	Measure	Rating System	Target	Ranges				
				Excellent 5	Very Satisfactory 4	Satisfactory 3	Needs Improvement 2	Poor 1
<b>Billings, Settlements and Accounts Management (15%)</b>								
Preliminary and Final Settlement Statements	Timeliness	RS 2a	98%	$99.33\% \leq x \leq 100\%$	$98.67\% \leq x < 99.33\%$	$98\% \leq x < 98.67\%$	$98\% > x \geq 97.33\%$	$97.33\% > x$
Preliminary Settlement Calculations	Accuracy	RS 2a	95%	$98.33\% \leq x \leq 100\%$	$96.67\% \leq x < 98.33\%$	$95\% \leq x < 96.67\%$	$95\% > x \geq 93.33\%$	$93.33\% > x$
Final Settlement Calculations	Accuracy	RS 2a	99%	$99.67\% \leq x \leq 100\%$	$99.33\% \leq x < 99.67\%$	$99\% \leq x < 99.33\%$	$99\% > x \geq 98.67\%$	$98.67\% > x$
	Frequency	RS 4a	$\leq 6$	$2 \geq x \geq 0$	$4 \geq x > 2$	$6 \geq x > 4$	$6 < x \leq 8$	$8 < x$
Meter Data Error Detection	Timeliness	RS 2a	98%	$99.33\% \leq x \leq 100\%$	$98.67\% \leq x < 99.33\%$	$98\% \leq x < 98.67\%$	$98\% > x \geq 97.33\%$	$97.33\% > x$
Monetary Transactions	Remittance Efficiency	RS 1	0 amount late	$x=0$				$x>0$
	Timeliness	RS 1a	0 days late	$x=0$				$x>0$
Margin Call	Timeliness	RS 2a	95%	$98.33\% \leq x \leq 100\%$	$96.67\% \leq x < 98.33\%$	$95\% \leq x < 96.67\%$	$95\% > x \geq 93.33\%$	$93.33\% > x$
Default Notice	Timeliness	RS 1	0 days late	$x=0$				$x>0$
<b>Registration and Customer Relations (10%)</b>								
Registration	Timeliness	RS 3	95%	$x=100\%$	$95\% \leq x < 100\%$	$90\% \leq x < 95\%$	$85\% \leq x < 90\%$	$x < 85\%$
Customer Switching	Timeliness	RS 3	95%	$x=100\%$	$95\% \leq x < 100\%$	$90\% \leq x < 95\%$	$85\% \leq x < 90\%$	$x < 85\%$
Participant Training	Timeliness	RS 3	95%	$x=100\%$	$95\% \leq x < 100\%$	$90\% \leq x < 95\%$	$85\% \leq x < 90\%$	$x < 85\%$
	Feedback	RS 2a	90%	$96.67\% \leq x \leq 100\%$	$93.33\% \leq x < 96.67\%$	$90\% \leq x < 93.33\%$	$90\% > x \geq 86.67\%$	$86.67\% > x$
Participant Queries and Data Requests	Timeliness	RS 2a	95%	$98.33\% \leq x \leq 100\%$	$96.67\% \leq x < 98.33\%$	$95\% \leq x < 96.67\%$	$95\% > x \geq 93.33\%$	$93.33\% > x$
Participant/ Customer Complaints	Timeliness	RS 3	95%	$x=100\%$	$95\% \leq x < 100\%$	$90\% \leq x < 95\%$	$85\% \leq x < 90\%$	$x < 85\%$

## Appendix B. Observations on Publication of Market Reports and Data

Publication	Rules/Manual References	Location / Audience	Availability		Timeliness		
			Score	Rating	Score	Rating	
<b>Registration Information</b>							
1. Registration Fees	WESM Rules 2.9.2 & 2.5.1	<a href="#">IEMOP website</a> / Public	100%	5	Not rated		
2. Suspension Notice	WESM Rules 3.15.7.1 a to 3.15.7.1 b and WESM Rules 3.15.8.3 & Manual – Billing and Settlement Section 5.1	Public website / Public	100%	5	Not rated		
3. Notice of Deregistered WESM Participants	WESM Rules 4.7.5 & WESM Rule 3.15.8.6 (b) & Dispatch Protocol Appendix A.10 Market Information Publication 4.2.1.4. Registration	Public website / Public	100%	5	100%	5	
4. Register of all WESM Members	WESM Rule 1.3.1.1 (f) & WESM Rules 5.2.3 (a), (c) and (d) & WESM Rule 2.5.7 & MO Information Disclosure and Confidentiality Manual – Market Information Catalogue & Dispatch Protocol Appendix A.10 Market Information Publication 4.2.1.4. Registration	<a href="#">IEMOP website</a> / Public <a href="#">IEMOP website</a> /Public	100%	5	99.6%	5	
5. Register of all WESM Applicants	WESM Rules 2.5.7 & WESM Rules 5.2.3 (a) and (b)	<a href="#">IEMOP website</a> /Public <a href="#">IEMOP website</a> /Public	100%	5	Not rated		
6. New Metering Installation of the MSP	Manual - Metering Standards and Procedures	<a href="#">Public website</a> / Public	100%	5	58.33%	1	
<b>Market Manuals, Regulatory Issuances, and Guidelines</b>							
7. Formulation Of The Market Dispatch Optimization Model (Price Determination Methodology)	WESM Rules 3.6.1.2 & MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	<a href="#">Public website</a> / Public	100%	5	n/a		
8. Structure and level of market fees and the methods used in determining the structure	WESM Rules 2.10.5 & MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	<a href="#">Public website</a> / Public	100%	5	100%	5	
9. Spot Market Operation Timetable (contained in the Dispatch Protocol Manual)	WESM Rules 3.4.2.3	<a href="#">Public website</a> / Public	100%	5	Not rated		
10. Forecast Tolerance Range (contained in the Load Forecasting Manual)	WESM Rules 3.5.4.1	<a href="#">Public website</a> / Public	100%	5	Not rated		
11. Dispatch Tolerances Standards (PEM Board)	WESM Rules 3.8.7	<a href="#">Public website</a> / Public	100%	5	Not rated		

Publication	Rules/Manual References	Location / Audience	Availability		Timeliness	
			Score	Rating	Score	Rating
Resolution (2005-15)						
12. Procedures for determination of market re-run prices (contained in the Criteria and Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-Run)	WESM Rules 3.10.5	<a href="#">Public website</a> / Public	100%	5	Not rated	
13. Procedure In Establishing the Network Configuration and Other Constraints for the determination of ex-post nodal energy prices (contained in the Dispatch Protocol Manual and Determination of Ex-post Nodal Prices Manual)	WESM Rules 3.10.7	<a href="#">Public website</a> / Public	100%	5	Not rated	
14. Electronic Communication Procedures (contained in the MO Information Disclosure and Confidentiality Manual)	WESM Rules 5.2.2.5 (a) to 5.2.2.5 (c)	<a href="#">Public website</a> / Public	100%	5	Not rated	
15. Methodology For Determining the Administered Price (contained in the Administered Price Determination Methodology Manual)	WESM Rules 6.2.3	<a href="#">Public website</a> / Public	100%	5	Not rated	
16. Constraint Violation Coefficients or Procedures for Calculating Constraint Violation Coefficients for Each Constraint and Revisions in the Constraint Violation Coefficient levels (contained in the Constraint Violation Coefficients (CVC) Manual)	WESM Rules 3.6.2.4 (DOE Circular No. DC 2010-03-0004 & Manual – Constraint Violation Coefficients (CVC) Sections 3.1, 10.1 and 10.3 & Dispatch Protocol Appendix A.10 Market Information Publication 4.2.1.2	<a href="#">Public website</a> / Public	100%	5	Not rated	
17. MDOM Performance Standards	WESM Rule 3.6.1.2	<a href="#">Public website</a> / Public	100%	5	Not rated	
18. Operating Procedures (Dispatch Protocol,	Dispatch Protocol Appendix A.10 Market Information Publication 4.2.1.1. Systems and Procedures	<a href="#">Public website</a> / Public	100%	5	100%	5

Publication	Rules/Manual References	Location / Audience	Availability		Timeliness	
			Score	Rating	Score	Rating
Emergency Procedures, Load Shedding, Registration Manual)						
19. Initial Loss Percentage	Load Forecasting Manual 6.3. Initial Loss Percentage	<a href="#">Public website</a> / Public	100%	5		
<b>Market Reports</b>						
20. Significant Variations Report	WESM Rules 1.3.1.4 & Manual - Guidelines on Significant Variations In and Between Trading Intervals Clause 7.2	<a href="#">IEMOP website</a> / Public	100%	5	100%	5
21. Market Network Model / Market Trading Nodes / MNM Bus-Oriented Single Line Diagram	WESM Rules 3.2.1 & WESM Rules 3.2.2.4 & Manual – Market Network Model & MO Information Disclosure and Confidentiality Manual – Market Information Catalogue & Dispatch Protocol Appendix A.10 Market Information Publication 4.2.1.2	<a href="#">Public website</a> / Public	100%	5	95.45%	4
22. Review of the Underlying Factors Giving Rise to any Net Settlement Surplus	WESM Rules 3.13.16.3 b	<a href="#">Public website</a> / Public	100%	5	100%	5
23. Post Dispatch Reports	Dispatch Protocol	Public website ( <a href="#">Luzon/Visayas</a> ) / Public	100%	5	100%	5
24. Summary of PEN Issuance	Manual – Criteria for Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-run in WESM Clause 9.4	<a href="#">Public website</a> / Public	100%	5	100%	5
25. Summary of PSM Issuance	Manual - Methodology for Determining Pricing Errors and Price Substitution Due to Congestion for Energy Transactions in the WESM Clause 9.3	<a href="#">Public website</a> / Public	100%	5	99.82%	4
26. Market Re-Run (MRR) Results	Manual – Criteria for Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-run in WESM Clause 9.5	<a href="#">Public website</a> / Public	100%	5	100%	5
27. Monthly Performance Rating of the MSP	Manual - Metering Standards and Procedures in WESM Clause 10.7.1	<a href="#">Public website</a> / Public	99.22%	4	98.44%	4
28. MRU Report by the SO	MO Information Disclosure and Confidentiality Manual – Market Information Catalogue & Transmission System Information provided by the System Operator to the Market Operator	<a href="#">Public website</a> / Public (MyWESM log-in)	100%	5	100%	5
<b>Market Data</b>						
29. Day-Ahead Projections	WESM Rules 3.4.2.2 (b) & WESM Rules 3.7.2.1 & Dispatch Protocol & MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	MPI / per participant Public website (DAP: <a href="#">Load/Gen</a> & Next Day Summary: <a href="#">Luzon/Visayas</a> ) / Public	99.99%	4	99.96%	4

Publication	Rules/Manual References	Location / Audience	Availability		Timeliness	
			Score	Rating	Score	Rating
30. Week-Ahead Projections	WESM Rules 3.4.2.2 (a) & WESM Rules 3.7.1.1 & Dispatch Protocol & MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	MPI / per participant Public website (WAP: <a href="#">Load/Gen</a> & Next Week Summary: <a href="#">Luzon/ Visayas</a> ) / Public	100%	5	99.84%	4
31. Scheduled Generation Or Scheduled Load	WESM Rules 3.11.1.3 & MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	<a href="#">Public website</a> / Public	99.99%	4	99.99%	4
32. Levels of NSS / NSS Allocations	WESM Rules 3.13.16.3 a & Manual - Management of The Net Settlement Surplus Clause 10.1 & ERC/DOE Directive	<a href="#">Public website</a> / Public	100%	5	100%	5
33. Administered Prices for one billing period	Manual - Administered Price Determination Methodology	<a href="#">Public website</a> / Public	100%	5	100%	5
34. Hourly Total Registered Pmin of All Scheduled Generating Units	Dispatch Protocol (DP) - Bids and Offers	MMS-MPI / WESM Trading participants	100%	5	98.90%	4
35. Hourly Nodal Demand Forecasts for RTD, DAP, WAP Reserve Requirement	DP - Demand Forecasting & MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	MMS-MPI / WESM Trading participants, DOE and ERC <a href="#">Public website</a> / Public	99.98%	4	99.02%	4
36. Generation Offers and Demand Bids	MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	<a href="#">Public website</a> / Public	99.98%	4	99.98%	4
37. Ex-Ante and Ex-Post Load Weighted Average Price (LWAP)	MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	<a href="#">Public website</a> / Public (MyWESM log-in)	100%	5	100%	5
38. MRU generation prices	MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	<a href="#">Public website</a> / Public	100%	5	100%	5
39. Marginal Plants and Market Clearing Prices	MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	<a href="#">Public website</a> / Public	100%	5	99.32%	4
40. Generator and Line Outages, Security Limits and Contingency Lists as submitted by SO to the MMS	MO Information Disclosure and Confidentiality Manual – Market Information Catalogue & Transmission System Information provided by the System Operator to the Market Operator	<a href="#">Public Website</a> / WESM Trading Participants and exceptions under WESM Rules 5.3.2 (MyWESM log-in)	100%	5	99.98%	5
41. Substitute prices for PSM for congestion related pricing errors	MO Information Disclosure and Confidentiality Manual – Market Information Catalogue	MMS-MPI / WESM Trading participants	99.82%	4	99.18%	4