



Market Surveillance Committee 2018 Annual Report

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This Report is prepared by the
Philippine Electricity Market Corporation –
Market Assessment Group for the
Market Surveillance Committee



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The Market Surveillance Committee (MSC) submits this Annual Report covering the MSC's accomplishments for the year 2018. This report also presents the proposed activities of the MSC for the year 2019 - 2021.

The Market Assessment Group (MAG) provides both technical as well as administrative support to the MSC in performing its functions and obligations under the WESM Rules and applicable WESM Manuals.

I. 2018 ACCOMPLISHMENTS

A. Assessment of the Market

A.1. Market Assessment Reports

In accordance with Section 7.3 of the Market Surveillance, Compliance and Enforcement Manual (MSCEM) and Section 3.1 of the Catalogue of Retail Market Monitoring Data and Indices, the MSC submitted to the PEM Board the following reports:

- a. Twelve (12) Monthly Monitoring Reports, together with the Market Assessment Reports covering the billing months of November 2017 to October 2018;
- b. Annual Market Assessment Report covering the period 26 December 2016 to 25 December 2017;
- c. Four (4) quarterly Retail Market Monitoring Reports, together with the Retail Market Assessment Reports covering the fourth quarter of 2017 to third quarter of 2018; and
- d. Annual Retail Market Monitoring Report, together with the Retail Market Assessment Report covering the period 26 December 2016 to 25 December 2017.

The Market Assessment Report provides an assessment of the results of the integrated Luzon and Visayas operations of the Wholesale Electricity Spot Market (WESM). The report sets-out an overview of the results of market performance, trends and drivers which in turn provide the means by which to assess competition and conditions in the WESM, as well as the bidding behavior of trading participants.

On the other hand, the Retail Market Assessment Report discusses the outcome of monitoring indices and provides indications on how the retail market performed during the period in review and how it fared with the performance during the previous period. The MSC presented to the PEM Board the highlights of the Market Assessment Report and Retail Market Assessment Report for the third quarter of 2018 on 28 November 2018 and 30 January 2019, respectively.

The reports were also furnished to the ERC and DOE for its reference and published in the PEMC website¹.

A.2. Interesting Pricing Events Report

In compliance with the DOE's instruction², the MSC submitted six (6) Interesting Pricing Events Reports to the DOE and provided a copy of the same to the ERC for its information. The report provides an in-depth analysis of intervals determined to have price outliers based on the relationship of market price and supply margin or also known as "interesting pricing events". The determination of the interesting pricing events was based on the methodology approved by the MSC.

There were twenty-nine (29) interesting pricing events that occurred during the period in review, the summary of which are discussed as follows:

Q3 to Q4 2017, Nineteen (19) Interesting Pricing Events

- The five (5) interesting pricing events that occurred in Luzon on August 16 at 1000H – 1100H and 1400H, and August 17 and 30 at 1100H were due to demand and supply interplay attributed to (a) higher rate of increase in demand plus reserve schedule than the effective supply; (b) high capacity on outage by coal plants which were mostly due to forced outages; and (c) higher level of capacity not offered on August 17 at 1100H.

The frequent occurrence of forced outages by coal plants significantly affected the level of supply and consequently the market, thus this should be validated and monitored by the Grid Management Committee (GMC) to determine the plants' reliability and performance.

- On the other hand, eleven (11)³ trading intervals with negative market prices in Visayas were identified as interesting pricing events. The negative market prices all occurred during off-peak period when the demand for electricity was low. With the required dispatch of the power plants' minimum loading level (Pmin) and priority and must dispatch of non-scheduled generating units, the level of competition was almost nil during the interesting pricing events. This condition further provided justification on why it was important to remove the Pmin constraint from the market dispatch

¹ Link: http://www.wesm.ph/inner.php/downloads/retail_market_assessment_report

² DOE Letter to MSC dated 28 October 2016

³ Interesting pricing events: August 6 at 0800H – 0900H, August 13 at 0700H – 0800H, August 14 at 0700H, August 20 at 1000H – 1200H, August 24 at 0300H, August 25 at 0700H, August 27 at 0800H, and September 09 at 0800H

optimization under the enhanced WESM design. Requiring generators to manage their Pmin through their offers will further encourage competition and provide a level playing field in the WESM.

The interesting pricing events on October 2, 22 and 23 all occurred during the peak hour at 1800H. The increase in the system demand was the main reason for the high price during the three subject intervals. Further, the effective supply showed an hourly decline attributed to the high capacity on outage as well as the decrease in the capacity from solar plants, which were typically unavailable starting at 1800H.

A review of the outage duration of coal plants in 2017 showed that the average number of days of forced outage per plant took longer than its planned outage and maintenance outage days. This subsequently provided an indication on how reliable the existing coal plants were in Luzon and Visayas and what the ideal planned outage days should be as far as the formulation and implementation of the Grid Operating and Maintenance Program was concerned. In view of the foregoing, the MSC recommended that the ERC, through the GMC, continue the monitoring of the reliability of power plants and consider the results of the same in its ongoing efforts in developing the generators' reliability and performance indices. Also, the reliability and performance ratings of generating plants should be published.

In relation to the outage classification by the NGCP-System Operator of outages during the subject period, there were instances when the outage classification was inconsistent with the defined outage classification under the ERC Resolution No. 17, Series of 2013. As the outage classification was important in monitoring the reliability performance of generating plants, the NGCP-System Operator should carefully review and classify outages in accordance with the relevant ERC Resolution. Moreover, the proper outage classification will promote accountability, greater operation, and economic efficiency of generation companies.

In addition to outage, the non-availability of solar plants starting at 1800H contributed to the lower available capacity in the market. This expected shutdown of solar plants during night time should be considered by the NGCP-System Operator in its operational planning. Also, the DOE may introduce and encourage the use of solar-battery hybrid systems that will store energy during off-peak periods and inject power to the grid during peak load periods to augment power supply during tight demand and supply conditions.

Lastly, the offer pattern of the price setting plants during the interesting pricing events appeared to be consistent with its historical, same day type and same hour offer pattern. Same observation was noted to the offer pattern of the other plants dispatched during the subject intervals.

Q1 to Q3 2018, Ten (10) Interesting Pricing Events

- The interesting pricing event that occurred on February 26 at 1600H was due to the remarkably tight demand and supply condition. The decrease in supply levels during the subject interval was mainly attributed to the high capacity on outage and higher capacity not offered. Dispatchable reserve offer was utilized to meet the high demand requirement at 1600H.
- The interesting pricing event that occurred on April 20 at 1400H was mainly due to the localized contingency constraint at the Paco substation transformers resulting in the use of ex-post price in the Luzon grid. Moreover, in addition to the existing planned outages, another coal plant went on forced outage leading to the dispatch of higher priced hydro plant. The high outage capacity, attributed to simultaneous planned preventive maintenance of major natural gas, coal and hydro plants, affected the level of effective supply on April 20.

In view of the high planned outage during the interesting pricing event, the MSC recommended that in developing the Grid Operating and Maintenance Program, the System Operator should ensure that no large generating units will simultaneously undertake a preventive maintenance outage or planned outage during summer months, when demand is typically high. This was to ensure that there will be an adequate level of supply and reserves in the grid as well as mitigate the occurrence of price increase.

- There were three (3) interesting pricing events that occurred on May 4 and 8 at 1600H and May 19 at 1900H. The interesting pricing event on May 4 was primarily driven by the higher-priced capacities of oil-based, hydro and natural gas plants, and forced outage of major natural gas plant.

On the other hand, the interesting pricing event on May 8 was attributed to the lower effective supply following the high capacity on outage and the observed decline in the available capacity from solar plants.

The other interesting pricing event that occurred on May 19 was due to the higher rate of increase in system demand than the effective supply. In the said interval, a high outage capacity among generating units was recorded and a lower capacity from renewable energy resources was observed due to the non-availability of solar plants at night.

- Three (3) interesting pricing events occurred on June 1 at 1400H, June 4 at 1900H and June 20 at 1000H. The interesting pricing events were mainly driven by high demand requirement during the subject intervals which are all peak hours. Further, a

decline in the effective supply was observed in all three intervals due to the high level of capacity on outage among generating units.

- There were two (2) interesting pricing events that occurred on September 8 at 1400H and 1900H). Said interesting pricing events were mainly driven by the forced outage of major coal plant coupled with the increase in demand during afternoon peak and evening peak period.

B. Monitoring of Compliance with the Real Time Dispatch Schedule and Must-Offer Rule

The MSC monitored the activities of the Trading Participants in terms of its compliance with the RTD schedule and the MOR for the period 26 October 2017 to 25 September 2018. As part of its monitoring, the MSC reviewed the Compliance Monitoring Reports containing the list of Trading Participants in Luzon and Visayas and the number of trading intervals with capacity gaps and deviations from the RTD schedule. The MSC also reviewed the results of the evaluation of the Significant Event Reports and supporting documents submitted by Trading Participants for possible non-compliance with the MOR.

Effective 26 September 2018, the MAG's function on monitoring of compliance with the RTD schedule and MOR, including the monitoring of compliance with the submission of nomination of loading level and projected output, was transferred to the Enforcement and Compliance Office (ECO).

In November 2018, the ECO finalized the interim Compliance Monitoring and Assessment Process, and submitted the first Compliance Monitoring and Assessment Report covering the period 26 September to 25 October 2018 on 04 December 2018. The Compliance Monitoring and Assessment Report was the result of the daily compliance monitoring activities by the ECO after assessing the Trading Participants' compliance with the RTD schedule, MOR and submission of nomination of loading level and projected output.

B.1. Compliance of Trading Participants with the Real Time Dispatch Schedule

For the billing months of November 2017 to October 2018, the MSC observed 23,987 total resource trading intervals with deviation exceeding the dispatch tolerance limit in Luzon, and 10,748 total trading intervals in Visayas that were recommended for investigation.

The monthly breakdown of trading intervals with deviations exceeding the dispatch tolerance limit for Luzon is shown in Figure 1.

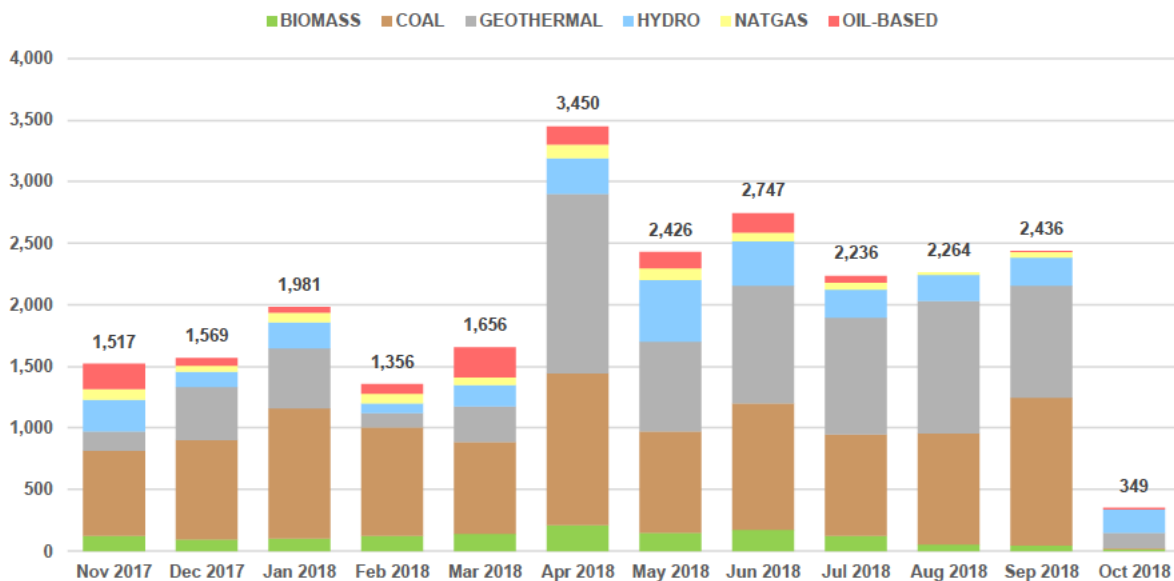


Figure 1 | Trading Intervals with Deviation on the RTD Schedule, per Resource, Luzon

As seen in Figure 1, the highest total trading intervals with deviation exceeding the dispatch tolerance limit in Luzon was recorded in April 2018, mainly due to the high number of deviations from geothermal plants (about 42%), followed by coal plants (about 36%).

Based on plant type, coal plants had the most number of trading intervals with deviation exceeding the dispatch tolerance limit, recording a total of 10,198 trading intervals for the year in review. Most of these were cases when coal plants had deviations due to generator problem, and deviations that were 10 MW and below but were not included by the System Operator in its Deviation Dispatch Monitoring Report, as these deviations were negligible to the Luzon grid. Nonetheless, the MSC recommended these deviations for investigation.

The noticeable drop in the number of trading intervals with deviation for the billing month of October 2018 was attributable to the daily compliance monitoring activities conducted by the ECO as part of the enhanced Compliance Monitoring and Assessment Process. The ECO's monitoring activities were carried out by issuing Daily Compliance Notices to the Trading Participants that were initially flagged for possible non-compliance, and by validating and assessing the Trading Participants' explanations in the Significant Event Report Form and Dispatch Discrepancy Report Form, supporting documents, and other market data or reports from the Market Operator and System Operator. After validation and assessment, the ECO found that most of the initially flagged possible non-compliances were justified, while the possible non-compliances without adequate

explanation, without submission, or with responses but without supporting documents were recommended for investigation.

Figure 2 shows the monthly breakdown of trading intervals with deviations exceeding the dispatch tolerance limit for Visayas.

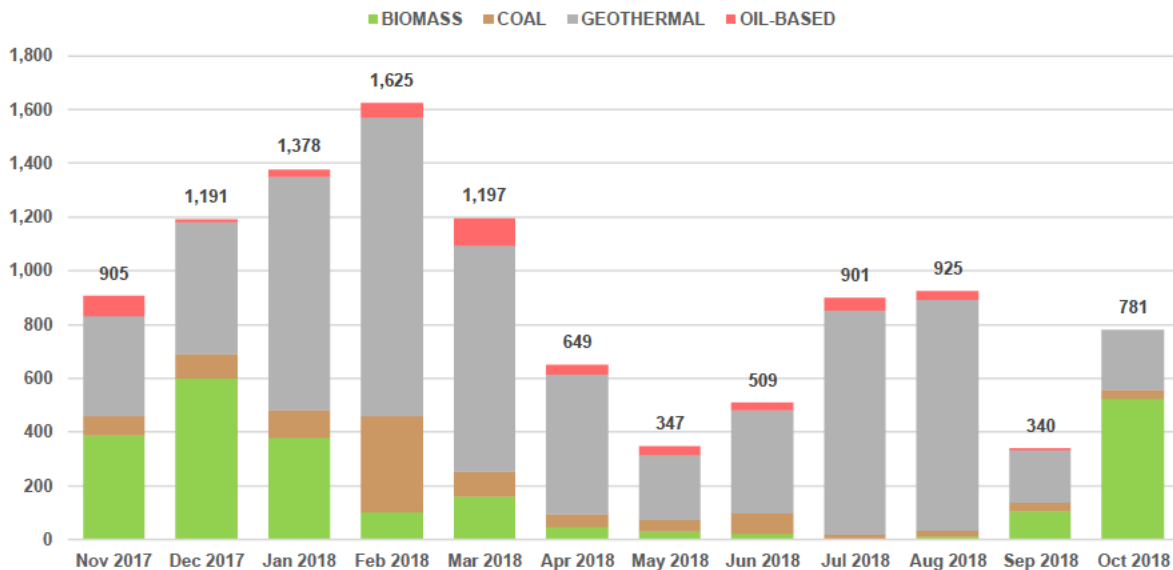


Figure 2 | Trading Intervals with Deviation on the RTD Schedule, per Resource, Visayas

As shown in Figure 2, the highest total trading intervals with deviation exceeding the dispatch tolerance limit in Visayas was recorded in February 2018, mainly due to geothermal plants (about 68%), followed by coal plants (about 22%).

Consequently, based on plant type, geothermal plants had the highest number of trading intervals with deviation exceeding the dispatch tolerance limit in Visayas, recording a total of 6,950 trading intervals for the year in review. Majority of these were cases when the geothermal plants had deviations due to non-compliance to dispatch instructions, and deviations that were 5 MW and below that were not included by the System Operator in its Deviation Dispatch Monitoring Report, as these deviations were negligible to the Visayas grid. Nonetheless, the MSC recommended these deviations for investigation.

B.2. Compliance of Trading Participants with the Must-Offer Rule

As part of the revised Compliance Monitoring Process⁴, the MSC reviewed the results of MAG's evaluation of the Significant Event Reports and supporting documents submitted

⁴ Effective 26 September 2016, the MSC started evaluating the Significant Event Reports submitted by the Trading Participants in accordance with the WESM Compliance Bulletin 6.1 (issued on 30 June 2016) and 6.2 (issued on 07 December 2016).

by Trading Participants regarding its compliance with the MOR. The Significant Event Reports, together with the supporting documents, were evaluated to assess if the reasons given for the possible non-compliance with the MOR were justified. Upon evaluation, the possible non-compliances that were not found justified, without adequate explanation or without supporting documents were recommended for investigation.

In addition to the Significant Event Reports, the MSC also referred to the System Operator Reports in evaluating the trading intervals with capacity gaps to be recommended for investigation. The Trading Participants that were contracted by the System Operator to provide dispatchable reserve were excluded and not recommended for investigation.

For the cases with Significant Event Reports, covering the billing months of December 2016 to December 2017, the MSC observed a total of 19,268 trading intervals with capacity gap in Luzon and 12,850 total trading intervals with capacity gap in Visayas that were recommended for investigation.

The monthly breakdown of these trading intervals is shown in Figure 3.

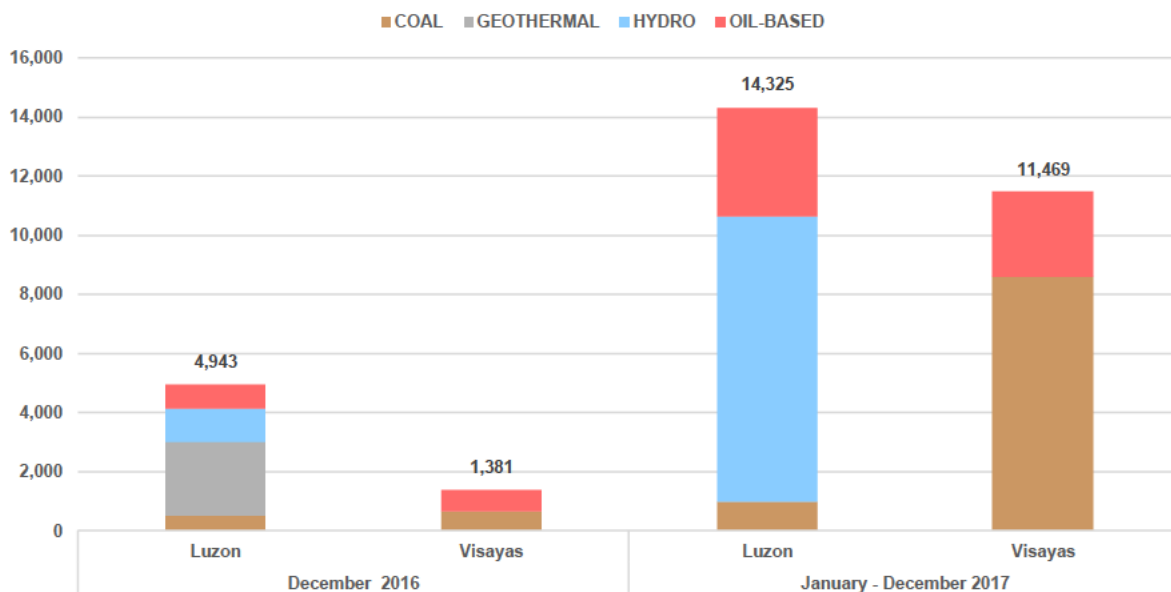


Figure 3 | Trading intervals with Capacity Gap (with Significant Event Report), per Resource, Luzon and Visayas

Based on plant type, hydro plants had the highest number of trading intervals with capacity gap in Luzon for the covered billing months, recording a total of 10,803 trading intervals, followed by oil-based plants at 4,484 trading intervals. In Visayas, the coal plants had the most number of trading intervals with capacity gap for the covered billing months, recording a total of 9,239 trading intervals, followed by oil-based plants at 3,611 trading intervals.

In cases when the concerned Trading Participant was unable to submit the Significant Event Reports and complete supporting documents within the allowable submission period, said Trading Participant was automatically recommended for investigation. For the cases without Significant Event Reports, covering the billing months of July 2017 to October 2018, the MSC observed a total of 200,064 trading intervals with capacity gap in Luzon, and 91,135 total trading intervals in Visayas that were recommended for investigation.

Figures 4 and 5 show the monthly breakdown of these trading intervals.

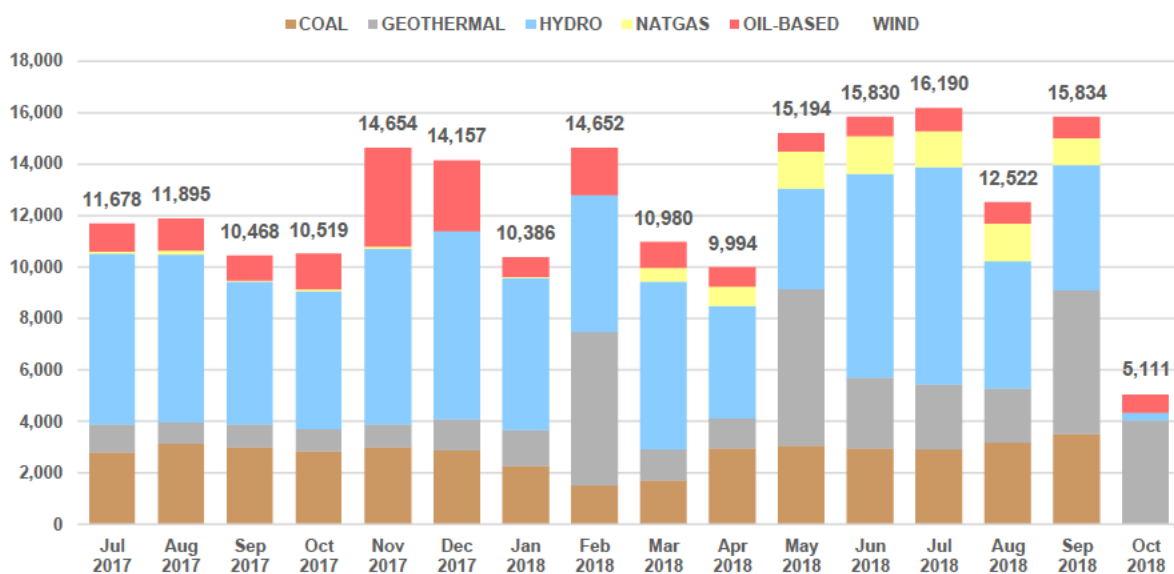


Figure 4 | Trading Intervals with Capacity Gap (without Significant Event Report), per Resource, Luzon

As seen in Figure 4, the highest total trading intervals with capacity gap in Luzon was recorded in July 2018, mainly attributable to hydro plants (about 52%). Hydro plants consistently had the highest number of trading intervals with capacity gap every month, due to limitations in water availability, irrigation requirement by the National Irrigation Administration and pumping requirements of Kalayaan Pumped Storage Power Plant, among others. Consequently, based on plant type, hydro plants had the highest total number of trading intervals with capacity gap in Luzon, recording a total of 90,632 trading intervals for the year in review.

On the other hand, the highest total trading intervals with capacity gap in Visayas was recorded in September 2018 with oil-based plants comprising the majority or 63% of trading intervals with capacity gap (Figure 5). These were mainly attributable to equipment-related concerns. Consequently, based on plant type, oil-based plants had the highest total number of trading intervals with capacity gap in Visayas, recording a total of 57,150 trading intervals for the year in review.

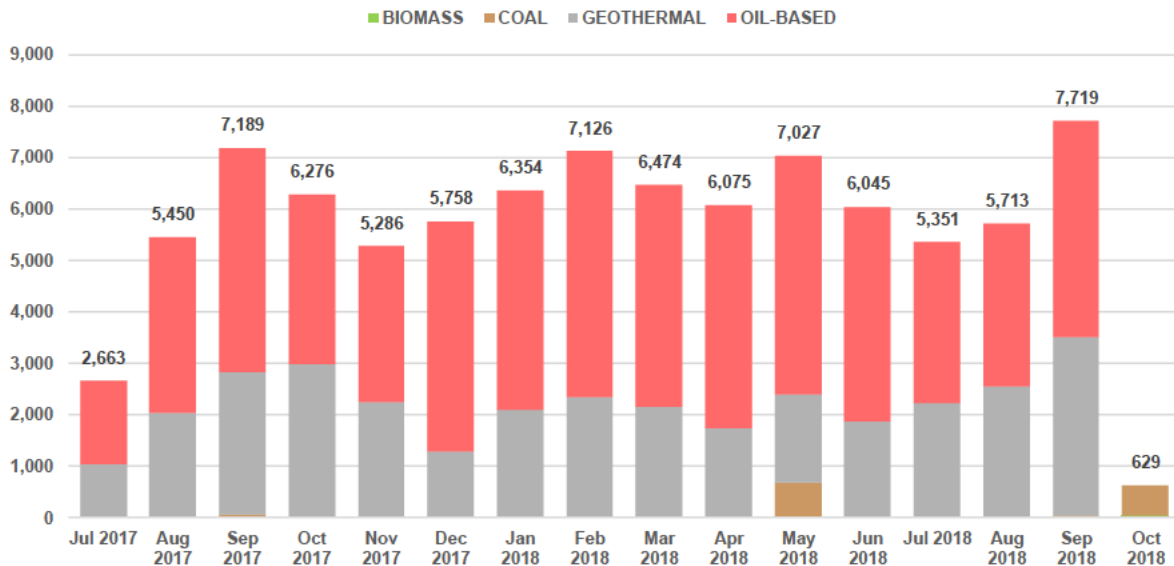


Figure 5 | Trading intervals with Capacity Gap (without Significant Event Report), per Resource, Visayas

Consistent with the previous discussion in Section B1., the noticeable drop in the number of trading intervals with capacity gap for the billing month of October 2018 was attributable to the daily compliance monitoring activities conducted by the ECO as part of the enhanced Compliance Monitoring and Assessment Process.

B.3. Issuance of Requests for Investigation

On the basis of its review of the Monthly Monitoring Reports on the Compliance of Trading Participants with the RTD schedule and MOR (See related discussions in Sections B.1 and B.2), the MSC found possible non-compliances with the RTD schedule and MOR and thereafter submitted requests for investigation to the PEM Board.

In total, the MSC submitted to the PEM Board 1,074 requests for investigation, 527 of which were requests for possible non-compliance with the MOR and the remaining 547 were requests for possible non-compliance with the RTD schedule. The number of requests for investigation corresponds to the number of ECO cases investigated by the ECO for the corresponding billing month.

The monthly number of requests for investigation submitted by the MSC to the PEM Board during the period in review is shown in Figure 6.

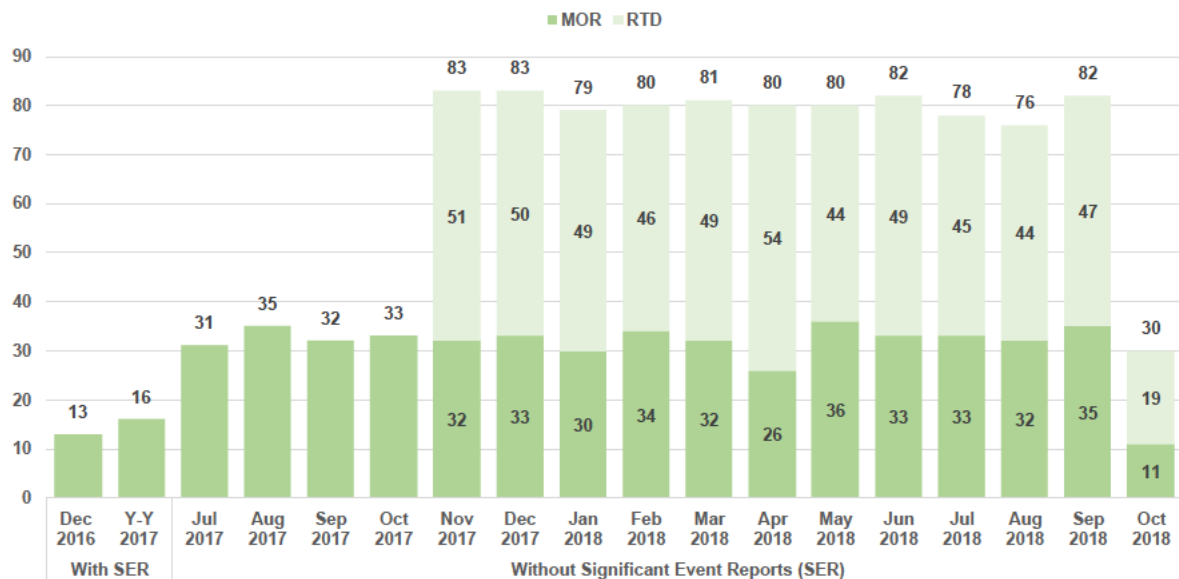


Figure 6 | Requests for Investigation Submitted to the PEM Board, MOR and RTD

There were significantly lower number of requests for investigation for the billing month of October 2018 due to the enhanced Compliance Monitoring and Assessment Process.

C. Monitoring of Nomination of Loading Level and Projected Output

The MSC monitored the submission of nomination of loading levels and projected output by Trading Participants for the period 26 October 2017 to 25 September 2018. In accordance with the WESM Rules, all non-scheduled generating units are required to submit a nomination of loading level, while must-dispatch and priority dispatch generating units are required to submit its projected output, for each trading interval⁵.

As of 25 September 2018, there were a total of 77 resources registered as non-scheduled, must-dispatch and priority dispatch generating unit. Of the total 77 registrants, sixteen (16) were non-scheduled, fifty (50) were must-dispatch and eleven (11) were priority-dispatch generating units. The corresponding registered capacity of the resources under these categories was about 1,500 MW.

One (1) solar resource started its WESM participation during this period. Meanwhile, 14 registered resources were still on testing and commissioning while one (1) biomass resource was on outage for the entire September 2018 billing month. Thus during this period, only 62 resources were monitored for compliance with the submission of nomination of loading level and projected output.

⁵ WESM Rules Clause 3.5.5.4, 3.5.5.5, 3.5.11.2, 3.5.11.3.

Out of the 62 resources monitored, 42 resources did not submit its nomination of loading level and projected output in some or all of the covered trading intervals for the September 2018 billing month. This comprised of seven (7) biomass, four (4) hydro, one (1) oil-based, one (1) wind and 29 solar resources.

On 24 January 2018, the MSC commenced sending letters of inquiry to the identified Trading Participants with non-scheduled, must-dispatch and priority dispatch generating units, and requested to provide detailed explanation and supporting documents on its non-submission of nomination of loading level or projected output for the relevant trading intervals. The MSC evaluated the reasons provided by said Trading Participants and subsequently elevated the issues and concerns to the appropriate entities (i.e. System Operator, Market Operator, etc.).

In view of the transfer of compliance monitoring function from the MAG to the ECO effective 26 September 2018, and the enhancements in the ECO's Compliance Monitoring and Assessment Process, the MSC agreed to no longer send monthly letters of inquiry to the identified Trading Participants effective the October 2018 billing month, considering that the process of communication and validation with the Trading Participants was already included in the ECO's enhanced Compliance Monitoring and Assessment Process (See related discussions in Sections **B**).

D. Monitoring of Over-riding Constraints

In accordance with Section 6.2.1(i) and 11.5 of the MSC-EM, the MSC monitored the over-riding constraints imposed by the System Operator on generators and the N-1 contingency requirements⁶. The over-riding events were categorized as non-security limit and security limit in accordance with Section 7.6.1 of the Dispatch Protocol Manual 12.0. Security limits include reasons due to must run units, emergency de-rating/outage of specific transmission and other types as recommended by the System Operator. Non-security limits on the other hand include reasons due to commercial testing, regulatory requirements and generating unit limitations.

During the period covered, the MSC reviewed twelve (12) Monthly Monitoring Reports on Over-riding Constraints covering the billing period 26 October 2017 to 25 October 2018. The month-on-month comparison of the number of generators and number of over-riding events imposed per generator resource type is shown in Table 2 below:

⁶ The monitoring of the over-riding constraints on generators is done on a per generator trading node per trading interval. A constraint imposed on a generator trading node on a particular trading interval is considered as one **over-riding event**. The monitoring of the over-riding constraints is based on the data and information provided by MO (i.e. real time market results and MMS-input files on security limits) and SO (i.e. SO Data for Market Monitoring).

Table 1 | Summary of Over-riding Events in November 2017 to October 2018

	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	TOTAL
No. of Generators	58	57	68	56	47	35	40	42	45	50	45	33	
No. of Over-riding Events	10,030	10,484	10,317	10,687	7,925	7,984	6,271	3,538	3,586	4,051	3,859	3,845	82,577
<i>Battery Energy Storage</i>	0	0	0	0	0	65	230	0	0	0	0	12	307
<i>Biomass/Biofuel</i>	1,727	1,313	1,441	1,918	672	742	706	743	697	744	744	713	12,160
<i>Coal</i>	314	1,141	1,221	1,690	1,047	1,042	518	72	128	67	288	638	8,166
<i>Geothermal</i>	0	0	0	0	262	620	106	1	0	0	0	1	990
<i>Hydro</i>	2,582	3,054	3,176	2,852	2,685	2,621	1,776	512	539	894	707	731	22,129
<i>Natural Gas</i>	33	173	250	125	46	3	25	45	213	57	39	18	1,027
<i>Oil-Based</i>	240	196	43	129	358	429	480	49	35	97	150	37	2,243
<i>Solar</i>	5,134	4,607	4,186	3,973	2,855	2,462	2,430	2,116	1,974	2,192	1,931	1,695	35,555
<i>Wind</i>	0	0	0	0	0	0	0	0	0	0	0	0	0

The total number of over-riding events reached 82,577 events during the twelve-month period. This was lower by 45 percent when compared with the previous year's 150,103 over-riding events. Similar with the previous year, solar plants contributed to the bulk of over-riding events (35,555 events) from the total impositions during the period covered. Hydro plants came next (22,129 events) and then followed by biomass/ biofuel plants (12,160 events).

All impositions on solar plants and biomass/ biofuel plants, and majority of impositions on hydro plants, were on account of non-security related events due to commissioning tests (i.e. performance tests, ancillary tests, and testing and commissioning), the most common of which was the conduct of testing and commissioning. The MSC also observed that the conduct of testing and commissioning exceeded the allowable two (2)-month period provided under the ERC Resolution No.16, Series of 2014⁷ (see related discussions in Section H.1).

On 19 January 2018, the MSC commenced sending letters of inquiry beginning the billing month of November 2017, to all the Trading Participants that exceeded the allowable 2-month period, and requested for reasons or explanations for its prolonged conduct of testing and commissioning. The MSC thereafter regularly sent letters of inquiry to the concerned Trading Participants as part of its monthly monitoring.

The MSC reviewed and discussed the responses and explanations provided by the concerned Trading Participants and accordingly elevated the issues and concerns to the appropriate parties (i.e. System Operator, Market Operator, etc.) for their information and appropriate action.

As shown in Figure 7, the number of imposition of over-riding events significantly decreased during March 2018 billing month. The decrease was about 21 percent when compared with the November 2018 billing month. Further significant drop was observed

⁷ A Resolution Adopting the 2014 Revised Rules for the Issuance of Certificates of Compliances (COCs) for Generation Companies, Qualified End-users and Entities with Self-Generation Facilities

on the number of impositions during the June 2018 billing month. Said decrease was about 65 percent when compared with the November 2018 billing month. The June 2018 billing month by far recorded the lowest number of over-riding constraints imposed during the year in review.

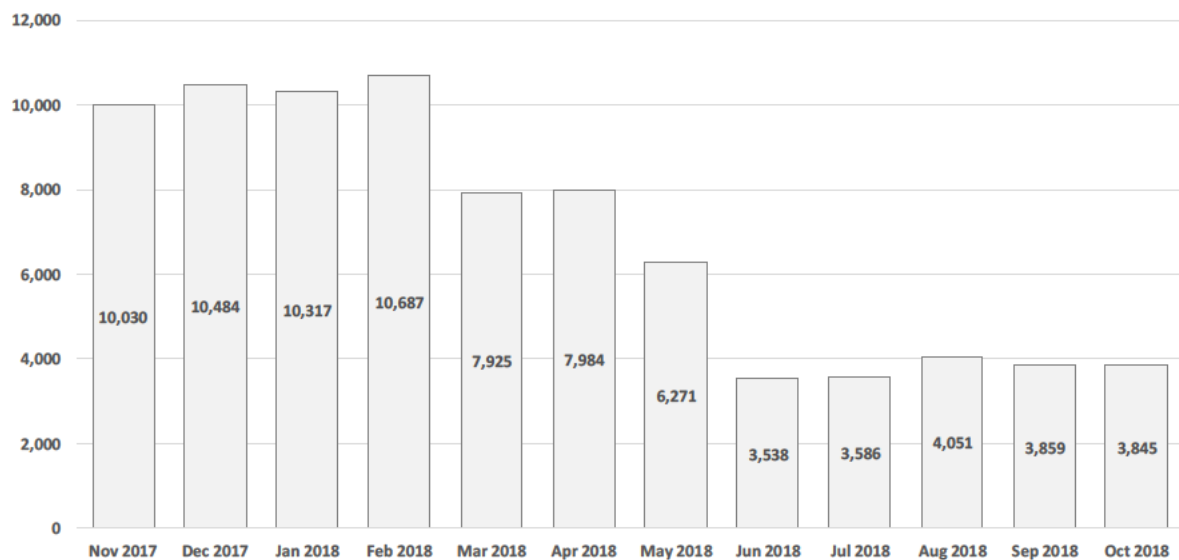


Figure 7 | Over-riding Events Imposed in November 2017 to October 2018

It was observed that the number of impositions visibly dropped after the MSC commenced sending letters of inquiry to the Trading Participants. A number of responses and explanations provided by the concerned Trading Participants were with regard to pending approval of Certificate of Compliance, unawareness on the registration process of the concerned Trading Participants particularly on the submission of required documents for the start of its WESM participation, among others. The issues and concerns were addressed after the same were elevated to the appropriate entities.

On 12 December 2018, the MSC presented to the PEM Board the highlights of the MSC's Monitoring Report on Over-riding Constraints for the third quarter of 2018.

E. Review Report on ECO Investigation

In accordance with Section 6.2.1(f) and 10.7 of the MSCEM, the MSC reviewed the ECO Investigation Reports with respect to ECO's compliance with the procedures set forth in the MSCEM for the conduct of Investigation, and validity and completeness of the data and documents upon which the factual findings were based.

During the covered period, the MSC conducted various special meetings to review and deliberate on the sixty (60) ECO Investigation Reports on alleged violations of the WESM Rules regarding compliance with the MOR and RTD schedule by various Trading Participants.

Upon due deliberation, the MSC agreed that the ECO substantially complied with the procedural requirements provided in the MSCEM without materially affecting the rights of the parties, and that the credibility of the data and documents upon which the ECO based its factual findings were complete. The MSC also concurred with the ECO's findings, relative to its investigation of the Trading Participants' compliance with the MOR and RTD schedule of no breach in 31 submitted reports and with breach in 29 other reports for which MSC recommended appropriate penalties.

The MSC thereafter adopted the factual findings of the ECO that there were no breaches committed by concerned Trading Participants in all the intervals investigated in 31 reports, and there were breaches committed by concerned Trading Participants for various identified intervals in 29 reports. Moreover, the MSC adopted the ECO's recommendations to enhance the compliance with the WESM Rules on the MOR and RTD schedules, and address issues relative to ECO investigated cases as enumerated in the submitted ECO Investigation Reports.

The MSC submitted its Review on the ECO Investigation Reports to the PEM Board on 19 September 2018. The MSC also presented the same during the Board Review Committee Meeting and the PEM Board Meeting, during which the PEM Board approved the MSC recommendations.

F. Proposed Amendments to the WESM Rules and Market Manuals

F.1. Proposed WESM Penalty Manual

The MSC continued with its review of the proposed WESM Penalty Manual Issue 2.0 and conducted special meetings to discuss the MSC's further revisions to the proposed Manual. The MSC finalized the proposed Manual and conducted consultations with the PEMC-Transition Committee, Board Review Committee, PEM Board, and Rules Change Committee (RCC) in various dates in May 2018. The proposal was also published in the PEMC website for comments of stakeholders and other interested parties.

During various MSC meetings held in August 2018, the MSC deliberated the inputs from the DOE and the consolidated comments on the proposed Manual provided by PEMC-Transition Committee, Board Review Committee, PEM Board, RCC and other interested parties

Upon due deliberation of all inputs and comments submitted, the MSC finalized its proposed WESM Penalty Manual Issue 2.0 and endorsed the same to the DOE for approval, on 10 September 2018.

F.2. Proposed Market Surveillance Manual

The MSC reviewed the consolidated comments submitted by stakeholders and other interested parties on its proposed Market Surveillance Manual and provided its responses accordingly. The same was presented to the RCC for deliberation.

During its special meeting, the MSC was informed that the RCC approved the proposals for submission to the PEM Board. The proposed Market Surveillance Manual, together with the proposed Enforcement and Compliance Manual, and corresponding changes to the WESM Rules were approved by the PEM Board during its meeting in August 2018, and were subsequently submitted to the DOE for final approval.

F.3. Proposed WESM Industry Code of Ethics

During its regular meeting, the MSC discussed the need to have a code of conduct for Market Participants and recalled that it had long called for such a code to be adopted to guide the Market Participants.

The MSC thereafter reviewed the PEMC-proposed WESM Industry Code of Ethics which was previously submitted to the DOE in 2011, and subsequently revised the same. The MSC agreed to issue a resolution recommending to the DOE the adoption of the proposed WESM Industry Code of Ethics, once finalized. The review is included in the MSC activities for 2019 - 2021 (See MSC Work Plan, *Review of WESM Industry Code of Ethics*).

F.4. Proposed Guidelines on Offer for Settlement

The MSC reviewed the ECO-proposed guidelines on Offer for Settlement including the sample simulation for the computation of the Offer for Settlement amount. In the course of its review, the MSC deemed that there may be a need to further enhance the provisions on Offer for Settlement, which were incorporated in the proposed Enforcement and Compliance Manual that was already submitted to the DOE in September 2018 for approval.

The MSC agreed to jointly transmit with the ECO the additional proposed changes during the conduct of the public consultation of the proposals to the WESM Rules and Manuals related to Market Surveillance, Compliance and Enforcement, that was currently pending

approval with the DOE. In the course of its review of the proposed guidelines, the MSC agreed to instead proceed with the promulgation of the said guidelines instead of submitting additional changes on the proposals to the WESM Rules and Manuals related to Market Surveillance, Compliance and Enforcement. The review is included in the MSC activities for 2019 – 2021 (See MSC Work Plan, *Review of Proposed Guidelines on Offer for Settlement*).

In January 2019, the MSC participated as resource speaker during the DOE public consultation on the proposed WESM Rules and Manuals related to Market Surveillance, Compliance and Enforcement.

G. Meetings with Other Stakeholders

G.1. Meeting with Cebu Energy Development Corporation

Upon the request of Cebu Energy Development Corporation (CEDC), the MSC convened a meeting with CEDC for a presentation on its position relative to the findings and recommendations in the ECO Investigation Report on CEDC's breaches of the WESM Rules on the RTD schedule. Representatives from CEDC presented their justifications based on the bounds of its capability, registration license and technical limitation.

The MSC noted the information presented but expressed that the matter will have to be further discussed within the MSC before it will agree on a final decision. In the course of its review of the ECO Investigation Reports, the MSC agreed to adopt the factual findings and recommendations in the ECO Investigation Report for CEDC's possible non-compliance with the RTD schedule (see related discussions in Section E).

G.2. Meeting with Power Sector Assets and Liabilities Management Corporation

The MSC convened a meeting with Power Sector Assets and Liabilities Management Corporation (PSALM) to discuss its observations on the trading activities of Kalayaan Pumped Storage Power Plant. The MSC highlighted that on average, around 200 MW of Kalayaan was consistently being offered by PSALM at high prices in both peak and off-peak intervals. Further, Kalayaan's violation of the WESM Rules on the MOR and the central scheduling protocol especially during peak intervals, and high demand requirement greatly affected the resulting market price.

For the MSC's information, representatives from PSALM presented the overview of Kalayaan's operation, operating principle and constraint, including its cyclic operations and ancillary service provision to the System Operator. With regard to the protocol on central scheduling of energy and reserve, PSALM highlighted the issue on the requirement to

submit offers for energy even when Kalayaan was scheduled for ancillary service. Further, PSALM confirmed that it will be penalized by the System Operator if Kalayaan complied with its dispatch schedule for energy resulting to its inability to provide dispatchable reserve.

The MSC discussed that if a generator was scheduled for dispatchable reserve and the said generator was also scheduled for energy due to limited supply, said generator must not be penalized by the System Operator due to its inability to provide dispatchable reserve since the said generator just complied with its dispatch schedule for energy. The MSC agreed that there was a need to review the SO's Ancillary Service Procurement Agreement to address the issue raised by PSALM. The review will be covered in the MSC activities for 2019 – 2021 (See MSC Work Plan, *Reserve Market Assessment*).

With regard to PSALM's violation of the WESM Rules on MOR, the MSC suggested that PSALM develop a protocol in documenting and communicating the technical constraints of the generators, between the plant operator to the trader, and from the trader to the PEMC, MSC, ERC and DOE. The MSC noted that if this information was properly documented and communicated, the generator's possible non-compliances with the WESM Rules will be easily monitored and assessed.

H. Other Matters

H.1. Comments on the Draft Department Circular entitled “Providing Further Policies for the Efficient Transition to the Independent Market Operator of the WESM”

The MSC submitted to the DOE its comments on the draft Department Circular (DC) entitled “Providing Further Policies for the Efficient Transition to the Independent Market Operator of the WESM”, specifically with regard to the creation of a DOE-ERC Enforcement and Compliance Committee (DEECC). In general, the MSC was of the opinion that the draft DC, insofar as it proposed to create the DEEC, was not consistent with the intent of the framers of EPIRA to make the Market Operator truly independent, and to create an atmosphere that will foster the independence of the Market Operator.

H.2. Request for Study on the Period of the Conduct of Testing and Commissioning per Type of Facility

In the course of its review of the over-riding constraints imposed by the System Operator on generators, the MSC observed that a number of generators exceeded the allowable two 2-month period for the conduct of testing and commissioning provided under the ERC Resolution No.16, Series of 2014 (see related discussions in Section D).

The MSC informed the GMC regarding the impact of the prolonged conduct of testing and commissioning to the market, and requested the GMC to revisit the allowable period of the conduct of testing and commissioning as provided under the ERC Resolution.

The GMC informed that it already submitted to the ERC its proposal to extend the testing and commissioning period to five (5) months from the current two (2) months indicated in the said Resolution. However, the ERC requested for a study to justify the GMC's proposal, thus the GMC was still gathering data to come up with a study that will support its proposal, or to formulate appropriate recommendation in amending the allowable period of testing and commissioning.

With the dissolution of the GMC and reorganization within ERC in the later quarter of 2018, the MSC deemed it necessary to elevate the matter to the Technical Committee (TC) for assistance. In this regard, the MSC requested the TC for a study or review and recommendations on the appropriate period for the conduct of testing and commissioning, taking into consideration the complexity and the type of facility being tested.

H.3. Participation in the 37th Energy Intermarket Surveillance Group Meeting

The MSC, represented by the MSC chairperson, together with representatives from the PEMC, participated in the 37th Energy Intermarket Surveillance Group (EISG) Meeting hosted by the Australian Energy Regulator (AER) in Melbourne, Australia on October 15 – 17, 2018.

The EISG is a gathering of independent market monitors in the world responsible for the surveillance of the competitiveness of wholesale electricity markets. The EISG meeting offers a forum for the private discussion of ideas about issues, techniques, procedures and other matters relating to surveillance of the competitiveness of wholesale electricity markets, as well as to develop common ideas with respect to information requirements, market performance indicators and the types of conduct that should be subject to mitigation or sanction, among others.

H.4. Participation in the WESM Governance Committee Strategic Planning

The MSC participated on the preparatory activities conducted by the PEMC for the WESM Governance Committee Strategic Planning, as follows:

- Workshop to revisit PEMC's Vision, Mission and Corporate Values and Strategic Direction Setting; and

- PEMC Top Management Strategic Planning: Direction Setting - Review of Balanced Scorecard Strategies.

During the WESM Governance Committee Strategic Planning held on 04 – 05 December 2018 and 17 December 2018, the MSC formulated its work plan for year 2019 – 2021 aligned with the PEMC Corporate Strategic Plans. The MSC will finalized its work plan within the first quarter of 2019.

H.5. Participation in the WESM Compliance Officers Summit Event

In the course of its discussions arising from its monitoring of compliance with the submission of nomination of loading level and projected output, the MSC deemed it necessary to inform or educate the Trading Participants of its responsibilities or obligations under the WESM Rules and Manuals, specifically on the submission of nomination of loading level and projected output, and forecast accuracy standards.

In view of the foregoing, the MSC participated as resource speaker during the WESM Compliance Officers (WCO) Summit Event at Novotel, Araneta Center, Cubao. During the said event, compliance with the submission of nomination of loading level and projected output and compliance with the forecast accuracy standards were included in the workshop breakout sessions.

II. MSC WORK PLAN

Annex A provides details of the MSC's program of activities for 2019 until 2021 consistent with the PEMC's Corporate Strategic Plan which was approved by the PEM Board on 27 March 2019.

III. MEMBERSHIP

For 2018, the members of the MSC were as follows:

1. Engr. Francis V. Mapile (Chairperson)
2. Ms. Eulinia M. Valdezco
3. Dr. Peter Lee U
4. Atty. Doroteo B. Aguila
5. Engr. Fernando Martin Y. Roxas

During the PEM Board meeting in November 2018, the PEM Board approved the appointment of Engr. Fernando Martin Y. Roxas effective 28 November 2018.

IV. RESPONSIBILITIES

The responsibilities of the MSC are set out in Section 1.6.2 of the WESM Rules, to wit:

1. Monitor activities conducted by WESM Participants in the spot market;
2. Prepare periodic reports, which outline the following:
 - a. Activities of WESM Participants in the spot market;
 - b. Matters concerning the operation of the spot market.
3. Assist the PEM Board or the ECO to investigate and gather evidence of:
 - a. unusual or suspicious behavior or activities of WESM members in the spot market; and
 - b. suspected or alleged breaches of the WESM Rules by WESM members; and
4. Propose amendments to the WESM Rules as necessary to: i) improve the efficiency and the effectiveness of the operation of the WESM; and ii) to improve or enhance the prospects for the achievement of the WESM objectives;
5. Assist the RCC in relation to its assessment of proposals to amend the WESM Rules.

In addition, the MSC is tasked under Section 6.2.1 of the MSCEM to perform the following responsibilities:


1. Define the monitoring data and indices necessary to effectively carry out its market surveillance function;
2. Review market monitoring indices and Market Assessment Report prepared by the MAG;
3. Submit Monthly Market Surveillance Reports and Annual Reports;
4. Identify acts or omissions which constitute breaches and initiate an investigation;
5. Review the Non-Compliance Report prepared by the ECO pursuant to the review of a Non Compliance Notice and submit its review to the PEM Board;
6. Review Investigation Reports prepared by the ECO pursuant to an Investigation of an alleged Breach and submit its review to the PEM Board;
7. Monitor the design and efficiency of the WESM Rules and propose amendments thereto;
8. Investigate an event of Intervention or Market Suspension and prepare the corresponding Intervention Report or Market Suspension Report to be submitted to the PEM Board;
9. Review Over-Riding Constraints;
10. Recommend mitigation measures, in accordance with Section 12 of the MSCEM on matters under Investigation;
11. Review of the significant variations reports.

The MSC deliberated on a number of compliance matters and monitored participants in line with its mandate to primarily monitor and assess the trading activity in the WESM to ensure

market efficiency and fair competition. The MSC conducted twenty (20) meetings⁸ during the period covered.

Submitted By:


THE MARKET SURVEILLANCE COMMITTEE


Francis V. Mapile

Chairperson


Eulinia M. Valdezco


Member


Peter Lee U

Member


Fernando Martin Y. Roxas

Member


Doroteo B. Aguila

Member

⁸ At any time and as may be practicable, the MSC may conduct meetings more than once a month.