



**WHOLESALE ELECTRICITY SPOT MARKET  
RULES CHANGE COMMITTEE**

**RESOLUTION NO. 2019-07**

**Proposed Urgent Amendments to the WESM Rules and Proposed New Market  
Manual on Market Intervention due to Prolonged Market System Failure**

**WHEREAS**, on 30 January 2019, the Philippine Electricity Market (PEM) Board directed<sup>1</sup> the Philippine Electricity Market Corporation (PEMC) and the Independent Electricity Market Operator of the Philippines (IEMOP) to form a technical working group (TWG) to address issues on market intervention due to prolonged market system failure;

**WHEREAS**, on 27 February 2019, the PEM Board approved the concept of unconstrained solution to address market intervention due to prolonged market system failure as presented by the TWG, and subsequently directed the latter to develop and submit the same to the RCC as urgent amendments;

**WHEREAS**, on 15 March 2019, PEMC submitted the proposed urgent amendments to the WESM Rules and proposed new Market Manual on Market Intervention due to Prolonged Market System Failure;

**WHEREAS**, the said proposal was submitted to establish dispatch, scheduling and pricing protocols during market intervention due to prolonged market system failure;

**WHEREAS**, the RCC, during its 150<sup>th</sup> meeting held on 15 March 2019 reviewed the proposal and subsequently agreed to certify it as an urgent amendment classified under Section 3.1 (c)<sup>2</sup> of the WESM Manual on Procedures for Changes to the WESM Rules, Retail Rules and Market Manuals Issue 3.0;

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<sup>1</sup> **PEM Board Resolution No. 2019-08-03**. Dated 30 January 2019.

<sup>2</sup> WESM Manual on Procedures for Changes to the WESM Rules, Retail Rules and Market Manuals. **Section 3.1 Urgent Amendments**

*Urgent Amendments are those which are needed:*

*a) To avoid, reduce the risk of or mitigate the adverse effects of certain conditions on the ability of the power system to function normally;*

xxx

**WHEREAS**, during the presentation, National Grid Corporation of the Philippines – System Operator (NGCP-SO) raised system security concerns on the proposed use of unconstrained solution for the dispatch of generators during prolonged market system failure, emphasizing that the Philippine Grid Code<sup>3</sup> requires the use of security-constrained solution in the dispatch of generating units;

**WHEREAS**, noting the concerns raised, the RCC agreed to decide between the options discussed through voting<sup>4</sup>, as provided in the table below:

Option 1	
Use of Unconstrained Solution for Dispatch and Settlement	Agree: 2 Disagree: 9 Abstain: 1
Option 2	
Use of Unconstrained Solution Only for Settlement	Agree: 8 Disagree: 2 Abstain: 2

**WHEREAS**, on Option 2, Aboitiz Power Corporation (APC) expressed that for purposes of transparency, the System Operator should provide the criteria in re-dispatching generating facilities and the corresponding explanations for its actions when issuing re-dispatch instructions;

**WHEREAS**, following the majority decision of the RCC to adopt Option 2, PEMC was directed to revise the proposal in line with the agreements of the committee;

**WHEREAS**, during the 151<sup>st</sup> RCC meeting held on 12 April 2019, PEMC, in coordination with the NGCP-SO, proposed an alternative mechanism, on a conceptual level, making use of the new Market Management System (for determination of dispatch, schedule and prices) and the current Market Management System – Market Interface (for communication of the real-time dispatch to the Trading Participants and the NGCP-SO);

**WHEREAS**, PEMC explained that with this procedure, the concerns raised by NGCP-SO will be addressed and the existing pricing mechanisms shall still apply (e.g. locational marginal pricing, pricing substitution, additional compensation, net settlement surplus, use of pre-emptive mitigating measures, etc.) for settlement;

**WHEREAS**, there being no more objections on the proposed concept, PEMC proceeded with drafting of the proposal to be deliberated by the RCC;

*Provided further that the urgent amendments shall be implementable on the affected WESM/Retail operations and/or transactions within the period of six (6) months subject to the confirmation of the Market Operator.*

<sup>3</sup> Philippine Grid Code. SD 8.3.2.5. The Market Operator shall prepare the security-constrained economic Dispatch Schedule and pricing to be made available to the concerned industry participants and the System Operator in accordance with the WESM timetable.

<sup>4</sup> Minutes of the 150<sup>th</sup> RCC Meeting ([www.wesm.ph](http://www.wesm.ph): Downloads> RCC Meeting Minutes)

**WHEREAS**, on 12 April 2019, the RCC received a letter from the DOE which recommends for the subject proposal to be submitted as a general proposal rather than an urgent proposal due to the fact that: "1) the proposal has not satisfied any of the criteria provided in the WESM Rules for it to be categorized as urgent amendments and 2) the issue can only be resolved by the eventual commercial operation of the new Market Management System";

**WHEREAS**, during the 152<sup>nd</sup> RCC meeting held on 17 May 2019, PEMC presented the revised proposal incorporating the approved alternative mechanism presented during the 151<sup>st</sup> RCC meeting;

**WHEREAS**, giving due consideration to the recommendations of the DOE, and after thorough review and subsequent deliberation on the proposal, the RCC still found merit in certifying the proposal as urgent amendments and proceeded with the finalization of the same;

**WHEREAS**, there being no other matters left for deliberation, the RCC approved the endorsement of the proposal to the PEM Board;

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

**RESOLVED**, that the attached Proposed Urgent Amendments to the WESM Rules and Proposed New Market Manual on Market Intervention due to Prolonged Market System Failure are hereby approved by the RCC;


**RESOLVED FURTHER**, that the Proposed Urgent Amendments to the WESM Rules and Proposed New Market Manual on Market Intervention due to Prolonged Market System Failure are hereby endorsed to the PEM Board for approval and subsequent implementation.

Done this 17 May 2019, Pasig City.







Approved by:  
RULES CHANGE COMMITTEE


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


Members:


  
**Concepcion I. Tanglao**  
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**Francisco L.R. Castro, Jr.**  
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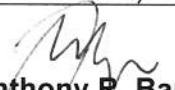
  
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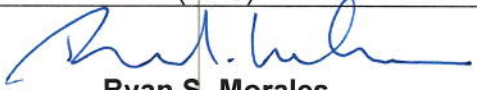
  
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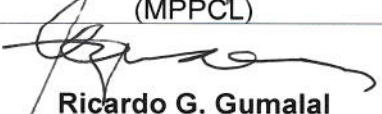
  
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**Virgilio C. Fortich, Jr.**  
Distribution Sector (EC)  
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(CEBECO3)

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

Title	Section	Provision	Proposed Amendment	Rationale
<b>OVERVIEW</b>	6.2	OVERVIEW		
<b>Preparations and Responses</b>	6.2.1	Preparations and Responses		<p><i>The proposed rules changes are to provide for the following:</i></p> <ul style="list-style-type: none"> <li><i>a) Prolonged failure of market systems hardware or software is a force majeure event under Clause 6.7.2 and is a ground for market intervention.</i></li> <li><i>b) During market intervention due to prolonged market system failure, an alternative market-based methodology shall be adopted for purposes of determining (1) dispatch schedules and (2) administered prices that will be used for settlements.</i></li> <li><i>c) This alternative market-based methodology will only be used if</i></li> </ul>

Title	Section	Provision	Proposed Amendment	Rationale
				<i>intervention is due to prolonged market systems failure. If this event coincides with other events giving ground to market intervention or if market suspension is declared by the ERC at the same time, then this methodology will not apply and the dispatch procedures under relevant provisions of Chapter 6 and the regular APDM will apply.</i>
	6.2.1.1	The <i>System Operator</i> is responsible for giving directions and coordinating the actions, which are to be taken by <i>WESM Participants and Market Operator</i> when there is market suspension or market intervention. <u>(As amended by DOE DC No. 2016-06-0008 dated 17 June 2016)</u>	<b>Subject to Clause 6.7.5</b> , the <i>System Operator</i> is responsible for giving directions and coordinating the actions, which are to be taken by <i>WESM Participants and Market Operator</i> when there is market suspension or market intervention.	It is proposed that in cases of prolonged market systems failure, the Market Operator shall continue to generate dispatch schedules using an alternative market-based methodology, provided for in proposed Clause 6.7.5.

Title	Section	Provision	Proposed Amendment	Rationale
				Thus, issuance of dispatch instructions by the System Operator under this type of market intervention shall be qualified.
	6.2.1.3	<i>Market intervention</i> may also be warranted if there are interruptions in the operations of market software used by the <i>Market Operator</i> to support various processes in the WESM during the simulation of the <i>business continuity</i> plan and <i>disaster recovery</i> procedures of the <i>Market Operator</i> developed under Clause 6.8.1.1. <u>(Added per DOE DC No. 2013-12-0028 dated 16 December 2013 and further amended by DOE DC No. 2016-06-0008 dated 17 June 2016)</u>	<i>Market intervention</i> may also be warranted if there are interruptions in the operations of market software used by the <i>Market Operator</i> to support various processes in the WESM during the simulation of the <i>business continuity</i> plan and <i>disaster recovery</i> procedures of the <i>Market Operator</i> developed under Clause 6.8.1.1., <b><u>or if there is failure in the operations of the market systems hardware or software as provided for in Clause 6.7.2.</u></b>	This is to clarify that market intervention may also be declared in cases of failure of either or both the hardware or software components of any market systems, as defined in Clause 6.7.2.  <i>Market systems failure contemplated is that which makes it impossible to receive and/or process input data or process bids and offers in order to generate feasible dispatch schedule in accordance with the WESM Rules. Please see definition in Clause 6.7.2.</i>
	6.2.1.5	<i>WESM Participants</i> acknowledge that:	<i>WESM Participants</i> acknowledge that:	Amendment to paragraph (c) to

Title	Section	Provision	Proposed Amendment	Rationale
		<p>(a) The operation of the <i>power system</i> involves risks to public safety and property and therefore accepts that the provisions of this chapter 6 are appropriate and reasonable;</p> <p>(b) Their business interests will subordinate to the need for the <i>Market Operator</i> and the <i>System Operator</i> to implement <i>emergency</i> procedures in accordance with the <i>Grid Code</i> and Clause 6.3.2 and to issue declarations and <i>emergency directions</i> under Clause 6.5 in an <i>emergency</i>; <u>(As amended by DOE DC No. 2016-06-0008 dated 17 June 2016)</u></p> <p>(c) Subject to Clause 6.2.1.1, the <i>System Operator</i> shall issue <i>emergency instructions</i> to all <i>WESM members</i> in accordance with the <i>WESM Rules</i> and the <i>Grid Code</i>, and shall prepare and submit a significant incident</p>	<p>(a) The operation of the <i>power system</i> involves risks to public safety and property and therefore accepts that the provisions of this chapter 6 are appropriate and reasonable;</p> <p>(b) Their business interests will be subordinate to the need for the <i>Market Operator</i> and the <i>System Operator</i> to implement <i>emergency</i> procedures in accordance with the <i>Grid Code</i> and Clause 6.3.2 and to issue declarations and <i>emergency directions</i> under Clause 6.5 in an <i>emergency</i>;</p> <p>(c) Subject to Clause 6.2.1.1 <u>and Clause 6.7.5</u>, the <i>System Operator</i> shall issue <i>emergency instructions</i> <u>pursuant to Clause 6.5.1 or dispatch instructions pursuant to Clause 6.7.5</u> to all <i>WESM members</i> in accordance with the <i>WESM Rules</i>, <u>relevant Market Manuals</u>, and the <i>Grid</i></p>	<p>1) include proposed Clause 6.7.5 in the proviso as exception to discretion of the <i>System Operator</i> in providing instructions or directions to market participants;</p> <p>2) Include reference to dispatch instructions that will be issued under proposed Clause 6.7.5 in case of prolonged market systems failure. The original provision refers only to emergency instructions which is defined as instructions given in an emergency under Clause 6.5.1 (which does not include market systems failure under clause 6.7.2).</p> <p>3) Include reference to Market Manuals, as some guidelines and procedures are set out in market manuals.</p>



Title	Section	Provision	Proposed Amendment	Rationale
		<p>report, as soon as practicable, to the <i>ERC, PEM Board, DOE, Grid Management Committee</i> and the <i>Market Operator</i>.</p> <p><u>Renumbered per DOE DC No. 2013-12-0028 dated 16 December 2013 and amended by DOE DC No. 2016-06-0008 dated 17 June 2016)</u></p>	<p>Code, and shall prepare and submit a significant incident report, as soon as practicable, to the <i>ERC, PEM Board, DOE, Grid Management Committee</i> and the <i>Market Operator</i>.</p>	
<b>Administered Price</b>	6.2.3	<p>During <i>market suspension</i> and <i>market intervention</i>, the <i>Market Operator</i> shall impose an <i>administered price</i> to be used as basis for settlements.</p> <p>The <i>Market Operator</i> shall formulate, and update as necessary, the methodology for determining the <i>administered price</i> to be used during <i>market suspension</i> and <i>market intervention</i>. Said <i>administered price</i> and any change thereto is to be endorsed by the <i>PEM Board</i> for <i>ERC approval</i>. <u>(As amended by DOE DC No. 2005-11-010 dated 11 November 2005 and further amended by</u></p>	<p>During <i>market suspension</i> and <i>market intervention</i>, the <i>Market Operator</i> shall impose an <i>administered price</i> to be used as basis for settlements.</p> <p>The <i>Market Operator</i> shall formulate, and update as necessary, the methodology for determining the <i>administered price</i> to be used during <i>market suspension</i> and <i>market intervention</i>; <b><u>Provided, that, a different methodology may be adopted in case of market intervention due to prolonged market systems failure as provided for in Clause 6.7.5.</u></b> Said <b><u>methodology for determining</u></b> <i>administered price</i></p>	<p>This is to allow for adoption of different administered pricing methodology in case of market intervention due to market system failure.</p> <p>The current methodology involves using average of same day-same hour market prices. It is proposed, however, that in cases of prolonged market systems failure, an alternative market-based methodology will be applied, both for determining schedules and administered prices.</p>

Title	Section	Provision	Proposed Amendment	Rationale
		<a href="#"><u>DOE DC No. 2016-06-0008 dated 17 June 2016)</u></a>	and any change thereto is to be endorsed by the <i>PEM Board</i> for <i>ERC approval</i> .	The alternative methodology is proposed as the methodology using average market prices may no longer be reasonable in case of prolonged intervention as the average prices may no longer be reflective of prevailing market conditions.
<b>FORCE MAJEURE</b>	6.7	FORCE MAJEURE		
<b>Force Majeure Event</b>	6.7.1	A <i>force majeure</i> is the occurrence in a <i>trading interval</i> of an event or events in the <i>grid</i> where a <i>trading interval</i> is not within the reasonable control, directly or indirectly, of the <i>System Operator, Market Operator</i> and <i>WESM member</i> , to the extent that such event, despite the exercise of the reasonable diligence, cannot be or be caused to be prevented, or removed and has resulted in a reduction in the normal capacity of part or all of the power <i>transmission system</i> during that <i>trading interval</i> and such reduction is likely to materially affect the operation of the <i>spot market</i> or materially threaten		

Title	Section	Provision	Proposed Amendment	Rationale
		system security. <u>(As amended by DOE DC No. 2016-06-0008 dated 17 June 2016)</u>		
<b>Force Majeure Event</b>	6.7.2	<p>Events of <i>force majeure</i> shall include:</p> <p>(1) Major system disturbance that caused partial or system-wide blackout;</p> <p>(2) Market system hardware or software failure including that of <i>the System Operator</i> that makes it impossible to receive real-time status input data or process <i>market offer/bid</i> information to produce market schedules for real-time <i>dispatch</i> in accordance with the <i>WESM Rules</i>; and</p> <p>(3) Any other event, circumstance or occurrence in the nature of, or similar in effect to any of the foregoing.</p> <p><u>(As amended by DOE DC No.2014-10-0021 dated 24 October 2014 and further amended by DOE DC No.</u></p>	<p>Events of <i>force majeure</i> shall include:</p> <p>(1) Major system disturbance that caused partial or system-wide blackout;</p> <p>(2) <b><u>Failure in any of the</u></b> market system hardware or software failure including that of <b><u>used by either</u></b> the <i>System Operator</i> <b><u>or the Market Operator</u></b> that makes it impossible to receive real-time status input data or process <i>market offer/bid</i> information to produce market schedules for real-time <i>dispatch</i> in accordance with the <i>WESM Rules</i>; and</p> <p>(3) Any other event, circumstance or occurrence in the nature of, or similar in effect to any of the foregoing.</p>	Re-wording of paragraph (2) is to provide more clarity and to expressly include the Market Operator.

Title	Section	Provision	Proposed Amendment	Rationale
		<u>2016-06-0008 dated 17 June 2016)</u>		
<b>Notification</b>	6.7.3	Notification		
	6.7.3.1	The <i>WESM Participant</i> shall notify the <i>Market Operator</i> as soon as possible of the occurrence of any force majeure event.		
	6.7.3.2	The <i>Market Operator</i> shall notify all <i>Trading Participants</i> as soon as reasonably possible of the nature of the <i>force majeure</i> and the extent to which the <i>force majeure</i> affects the operation of the <i>spot market</i> .		
<b>Obligation of WESM Participants</b>	6.7.4	<i>WESM Participants</i> shall use all reasonable endeavors to: a) Ensure that they do not cause or exacerbate a <i>force majeure</i> event; and b) Mitigate the occurrence of a <i>force majeure</i> event.		
<b>Prolonged market systems failure</b>	<u>6.7.5</u>		<u>In case of the market system hardware or software failure provided for in Clause 6.7.2 occurs for a prolonged period,</u>	This is to provide for an alternative means of dispatch scheduling and implementation in cases of prolonged market intervention due, in turn, to

Title	Section	Provision	Proposed Amendment	Rationale
			<p>a) <u>The Market Operator shall determine the dispatch schedules and administered prices that will apply during the periods with prolonged market system failure using an alternative market-based methodology approved in accordance with Clause 6.7.5 (e).</u></p> <p>b) <u>Trading Participants shall comply with the dispatch schedules published by the Market Operator using the methodology developed under Clause 6.7.5(a), unless issued dispatch instructions by the System Operator Non-compliance to the dispatch schedules or the dispatch instructions of the System Operator shall constitute a breach of the WESM Rules.</u></p>	<p>prolonged market systems failure.</p> <p>This, effectively, provides an exception to the discretion granted to the System Operator under Clauses 6.2.1.1 and 6.2.1.5.</p> <p>It is proposed that a Market Manual be adopted for this purpose, rather than provide detailed instructions in the Rules.</p>



Title	Section	Provision	Proposed Amendment	Rationale
			<p>c) <u>If necessary for maintaining system security and reliability, the System Operator shall issue dispatch instructions to Trading Participants in accordance with a Merit Order Table that will be generated by the Market Operator.</u></p> <p>d) <u>The Market Operator shall, as soon as reasonably possible, notify the Trading Participants, the PEM Board, DOE, and ERC of the occurrence of the prolonged market systems failure.</u></p> <p>e) <u>The PEM Board shall adopt a Market Manual that sets out the criteria for determining what constitutes prolonged market systems failure, and the alternative market-based methodology for determining the dispatch schedules,</u></p>	

Title	Section	Provision	Proposed Amendment	Rationale
			<u>administered prices, and Merit Order Table that will be applied during periods with prolonged market systems failure; Provided that the methodology for determining administered prices shall also be subject to approval by the ERC.</u>	
Prolonged market systems failure	<u>6.7.6</u>		<u>In cases where there is simultaneous occurrence of: (a) Market Intervention initiated by MO due to prolonged market system failure; and (b) Market Suspension by ERC, Market Intervention initiated by SO or Market Intervention initiated by MO for causes other than prolonged market system failure, the methodology for determining the administered price under the pertinent WESM rules and other Market Manuals shall be used as basis for settlements. Also, the relevant procedures (i.e scheduling and dispatch) under</u>	<p>This is to clarify that the alternative methodology under the proposed Clause 6.7.5 will not apply if prolonged market systems failure coincides with other events that leads to either market suspension or intervention.</p> <p>Thus,</p> <ol style="list-style-type: none"> <li>1) If market suspension – Section 6.9</li> <li>2) Emergency – Section 6.5</li> </ol>

Title	Section	Provision	Proposed Amendment	Rationale
			<u>the said rules and market manuals shall apply.</u>	<p>3) System Security – Section 6.6</p> <p>4) Force Majeure Event (other than prolonged market systems failure) – Section 6.7</p> <p>5) Market intervention during simulation of business continuity or disaster recovery procedures – Section 6.8.</p> <p>In all the foregoing five (5) instances, Section 6.2 applies.</p>
<b>GLOSSARY</b>	Chapter 11	<b>Dispatch Schedule.</b> The target loading levels in MW for each <i>scheduled generating unit, must dispatch generating unit, priority dispatch generating unit, non-scheduled generating unit, scheduled load and reserve facility</i> for the end of that <i>trading interval</i> , determined by the <i>Market Operator</i> through the use of the <i>market</i>	<b>Dispatch Schedule.</b> The target loading levels in MW for each <i>scheduled generating unit, must dispatch generating unit, priority dispatch generating unit, non-scheduled generating unit, scheduled load and reserve facility</i> for the end of that <i>trading interval</i> , determined by the <i>Market Operator</i> through the use of the <i>market</i>	This is to qualify that in intervals when intervention due to prolonged market systems failure, the dispatch schedules are those determined based on the alternative methodology rather than the MDOM.

Title	Section	Provision	Proposed Amendment	Rationale
		<p><i>dispatch optimization model</i> in accordance with Clause 3.8.1.  <u>(As amended by DOE DC No. 16-01-0002 dated 12 January 2016)</u></p>	<p><i>dispatch optimization model</i> in accordance with Clause 3.8.1.  <b><u>When market intervention due to prolonged market system failure is declared, this shall refer to the dispatch schedules determined by the Market Operator using the alternative market-based methodology in accordance with Clause 6.7.5.</u></b></p>	
		<p><b>WESM Merit Order Table (WMOT)</b>          – for purposes of the dispatch protocol under the WESM, defined based on the Grid Code with an addition of unscheduled generating units arranged based on price offers; the WMOT is based on a single market.  <u>(As amended by DOE DC No. 2014-10-0021 dated 24 October 2014)</u></p>	<p><b><u>WESM Merit Order Table. (WMOT)</u></b>  <del>— for purposes of the dispatch protocol under the WESM, defined based on the Grid Code with an addition of unscheduled generating units arranged based on price offers; the WMOT is based on a single market.</del> <b><u>The list generated by the Market Operator showing:</u></b>          a) <b><u>the offered capacities of generating units that were scheduled, arranged by offer blocks in descending order such that the highest-priced offer block is at the top of the list; and</u></b></p>	<p>To correct the definition, based on actual practice and to be consistent with the definition in the Dispatch Protocol. Since the same definition is adopted, there is no need to qualify this is the “WESM” Merit Order Table.</p> <p>Abbreviation is not necessary.</p>

Title	Section	Provision	Proposed Amendment	Rationale
			b) <u>offered capacities of generating units that were not scheduled, arranged by offer blocks in ascending order such that the lowest-priced offer block is at the bottom of the list.</u>	



**PUBLIC**

## **WESM Manual**

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# **Market Intervention due to Prolonged Market System Failure 1.0**

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Abstract	This document provides the methodology for determining the dispatch schedules, prices, and settlement calculation for energy transaction in the Philippine Wholesale Electricity Spot Market in the event of market intervention due to prolonged market system failure.
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Issue No.: 1

Reason for Issue:

Approval Date:

Publication Date:

Effective Date:

## Document Change History

Issue No.	Proponent	Reason for Amendment
1.0	PEMC	New Manual – Proposed contingency plan during market intervention initiated by the Market Operator due to prolonged market system failure

**Document Approval**

<b>Issue No.</b>	<b>RCC Approval</b>	<b>RCC Resolution No.</b>	<b>PEM Board Approval</b>	<b>PEM Board Resolution No.</b>	<b>DOE Approval</b>	<b>DOE Department Circular No.</b>
1						

**Reference Documents**

<b>Document ID</b>	<b>Document Title</b>
	Electric Power Industry Reform Act (EPIRA)
	WESM Rules
	Market Manuals

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**SECTION 1 INTRODUCTION****1.1 Background**

- 1.1.1 The *WESM Rules* provide for the conditions under which a declaration of *market intervention* is warranted.<sup>1</sup>
- 1.1.2 One of the conditions referred thereto is failure in the operations of the market systems hardware or software as provided for in Clause 6.7.2 of the *WESM Rules*.
- 1.1.3 In case a market system hardware or software failure occurs for a prolonged period, an alternative methodology for determining the dispatch schedules, administered prices, and settlement calculation shall be adopted by the *PEM Board*.<sup>2</sup>

**1.2 Purpose**

- 1.2.1 This *Market Manual* establishes the procedure in cases of *market intervention* initiated by the *Market Operator* (MO) due to prolonged market system failure herein referred to as the “PMSF.”
- 1.2.2 This *Market Manual* specifically establishes the following:
  - a. criteria for determining what constitutes PMSF; and
  - b. methodology for the determination of the *dispatch schedules*, administered prices, and settlement calculation for the *energy* transactions in affected *trading intervals*.
- 1.2.3 This *Market Manual* intends to ensure that *WESM* prices are governed by commercial and market forces during PMSF situations. Such price shall be established in accordance with the following guiding principles:
  - a. The price shall be fair and reasonable to both the suppliers and consumers of electricity;
  - b. The price shall be applicable only to cases of PMSF;
  - c. The price shall be determined for the *energy* market only pending co-optimization of *energy* and reserve in the *WESM*;
  - d. The price shall be transparent to the *WESM Participants* and simple to implement;
  - e. The price shall be based on the latest available market information; and
  - f. The determination of the prices shall be as close as possible as in normal condition.

**1.3 Scope**

This *Market Manual* provides the following:

- a. Methodology by which *energy* shall be scheduled, priced, and settled during PMSF;

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<sup>1</sup> Clause 6.2.1, *WESM Rules*

<sup>2</sup> Clause 6.7.5, *WESM Rules*

- b. Computational formula that will enable the *Trading Participants* to verify the correctness of the charges being imposed; and
- c. Obligations and responsibilities of *MO*, *System Operator (SO)*, *Governing Body*, and *Trading Participants* under such circumstance.

<b>SECTION 2    DEFINITIONS, REFERENCES AND INTERPRETATION</b>
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**2.1 Definitions**

- 2.1.1 Unless otherwise defined or the context implies otherwise, the italicized terms used in this *Market Manual* shall bear the same meaning as defined in the *WESM Rules* and other *Market Manuals*.
- 2.1.2 The following words and phrases as used in this *Market Manual* shall have the following meaning –
- a. **Governing Body.** Shall refer to the *Philippine Electricity Market Corporation (PEMC)*.
  - b. **Merit Order Table (MOT).** The list generated by the *MO* showing: (a) the offered capacities of generating units that were scheduled, arranged by offer blocks in descending order such that the highest-priced offer block is at the top of the list; and (b) offered capacities of generating units that were not scheduled, arranged by offer blocks in ascending order such that the lowest-priced offer block is at the bottom of the list.

**2.2 References**

This *Market Manual* shall be read in association with the *WESM Rules* and other relevant *Market Manuals*.

**2.3 Interpretation**

- 2.3.1 Any reference to a clause in any section of this *Market Manual* shall refer to the particular clause of the same section in which the reference is made, unless otherwise specified or the context provides otherwise.
- 2.3.2 Standards and policies appended to, or referenced in, this *Market Manual* shall provide a supporting framework.

**SECTION 3 RESPONSIBILITIES****3.1 Market Operator**

The *MO* shall:

- a. establish procedures, processes and systems relevant to the functions contained in this *Market Manual*;
- b. issue prompt notification to all *WESM Participants*, the *Department of Energy (DOE)*, the *Energy Regulatory Commission (ERC)*, and the *PEM Board* of the declaration and lifting of the PMSF;
- c. coordinate with the *SO* for the resumption of normal market operation; and
- d. submit report to the *DOE*, the *ERC*, the *PEM Board*, and the *Market Surveillance Committee (MSC)* on the details of the PMSF.

**3.2 System Operator**

The *SO* shall:

- a. provide necessary information and references for the implementation and subsequent revisions and validation of this *Market Manual*; and
- b. provide dispatch instruction based on the schedule issued by the *MO* during the PMSF.

**3.3 Governing Body**

The *Governing Body* shall:

- a. monitor the compliance of all *WESM Participants* to the *WESM Rules* and *Market Manuals* consistent with the procedures set forth in the *Market Manual* on Market Surveillance, Compliance and Enforcement; and
- b. monitor and assess the market and the behavior of the *WESM Participants*.

**3.4 Generator Trading Participants**

The *Generator Trading Participants* shall:

- a. provide necessary and accurate information and references for the implementation and subsequent revisions and validation of this *Market Manual*;
- b. comply with all instructions issued by the *SO* during the PMSF;
- c. comply with the *WESM Rules*, *Market Manual* on System Security and Reliability Guidelines and other applicable rules; and
- d. act in a prudent manner consistent with the *WESM* objectives.

**SECTION 4 CRITERIA AND GUIDELINES****4.1 Criteria for Determining Prolonged Market System Failure**

- 4.1.1 Pursuant to the Clause 6.7.5 of the *WESM Rules*, there is PMSF when the following conditions jointly exist:
- a. The *WESM* is under *market intervention* for twenty-four (24) consecutive *trading intervals*; and
  - b. The reason for *market intervention* is due to market system failure that can be any of the following:
    - i. Software failure such as Linear Programming (LP) error; or
    - ii. Hardware failure; or
    - iii. Both i and ii.
- 4.1.2 For *market intervention* not within the criteria set in Section 4.1.1, the *Market Manual* on Administered Price Determination Methodology shall apply.

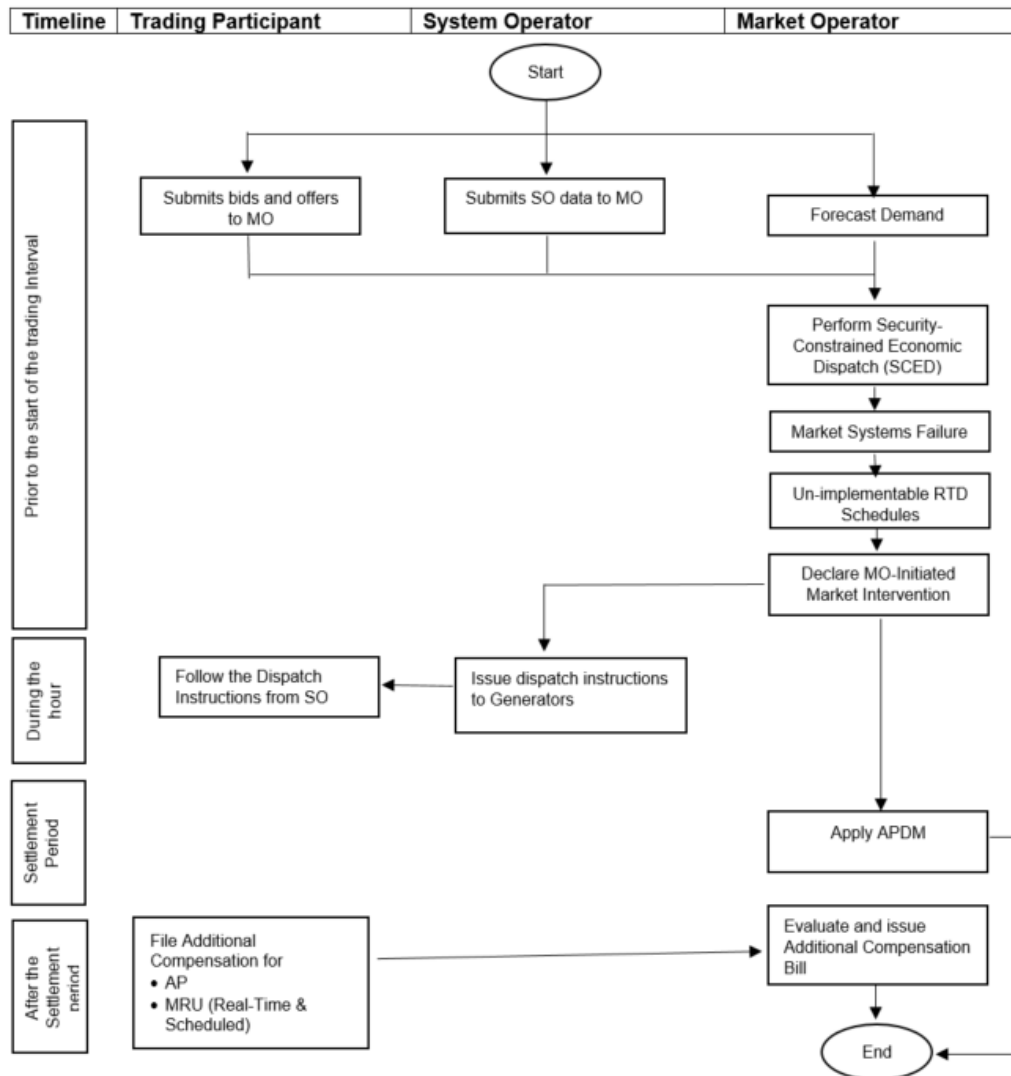
**4.2 Guidelines for the Application of the PMSF Methodology**

- 4.2.1 Upon determination by the *MO* of PMSF existence, it shall notify all *WESM Participants*, the *DOE*, the *ERC*, and the *PEM Board* prior to the implementation of the PMSF methodology through any of the following means:
- a. posting in the *Market Information Website*
  - b. email
  - c. digital telephone system
  - d. commercial telephone lines (land lines or mobile)
  - e. microwave radio
- 4.2.2 The PMSF methodology shall be applied system-wide and shall remain in effect until such time the *MO* is able to produce implementable RTD solutions for four (4) consecutive *trading intervals*. In such case, the *MO* shall promptly notify all *WESM Participants* prior to the lifting of the PMSF.
- 4.2.3 The pre-emptive mitigating measure (i.e. the Secondary Price Cap) shall continue to be in effect during the PMSF.
- 4.2.4 In consideration of the foregoing, the *MO* shall issue the final settlement as applicable.
- 4.2.5 The *PMSF price* and procedures set forth in this *Market Manual* shall only apply in cases of PMSF as defined under Section 4.1 hereof.
- 4.2.6 In cases where there is simultaneous occurrence of: (a) *market intervention* initiated by *MO* due to PMSF and (b) *market suspension* declared by *ERC*, *market intervention* initiated by *SO*, or *market intervention* initiated by *MO* for causes other than PMSF, then the methodology for determining the administered price under the pertinent *WESM rules* and other *Market Manuals* shall be used as basis for settlements. Also,

the relevant procedures (i.e. scheduling and dispatch) under the said rules and *Market Manuals* shall apply.

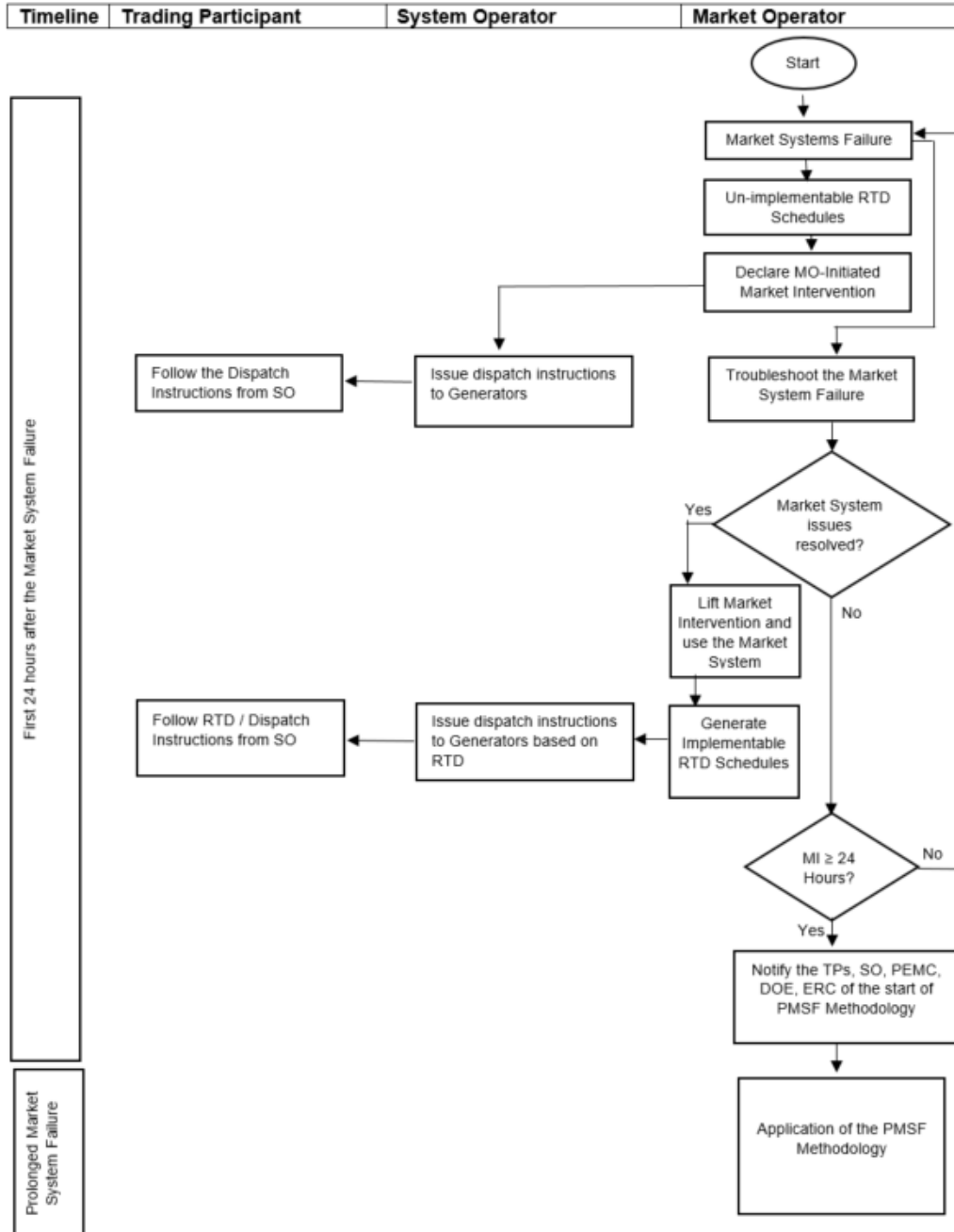
## SECTION 5 PROCESS OVERVIEW

### 5.1 Flowchart during Market Intervention (Current APDM)

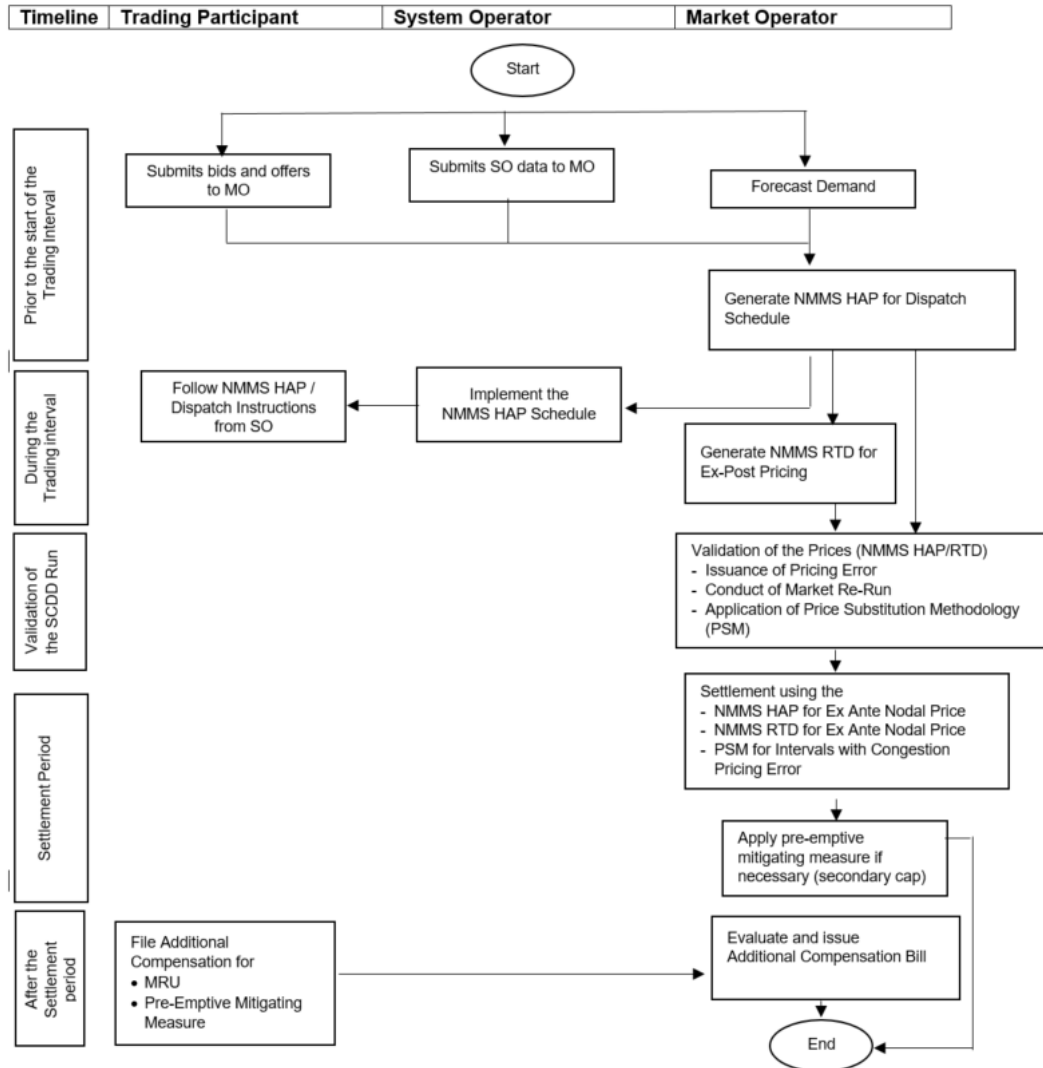




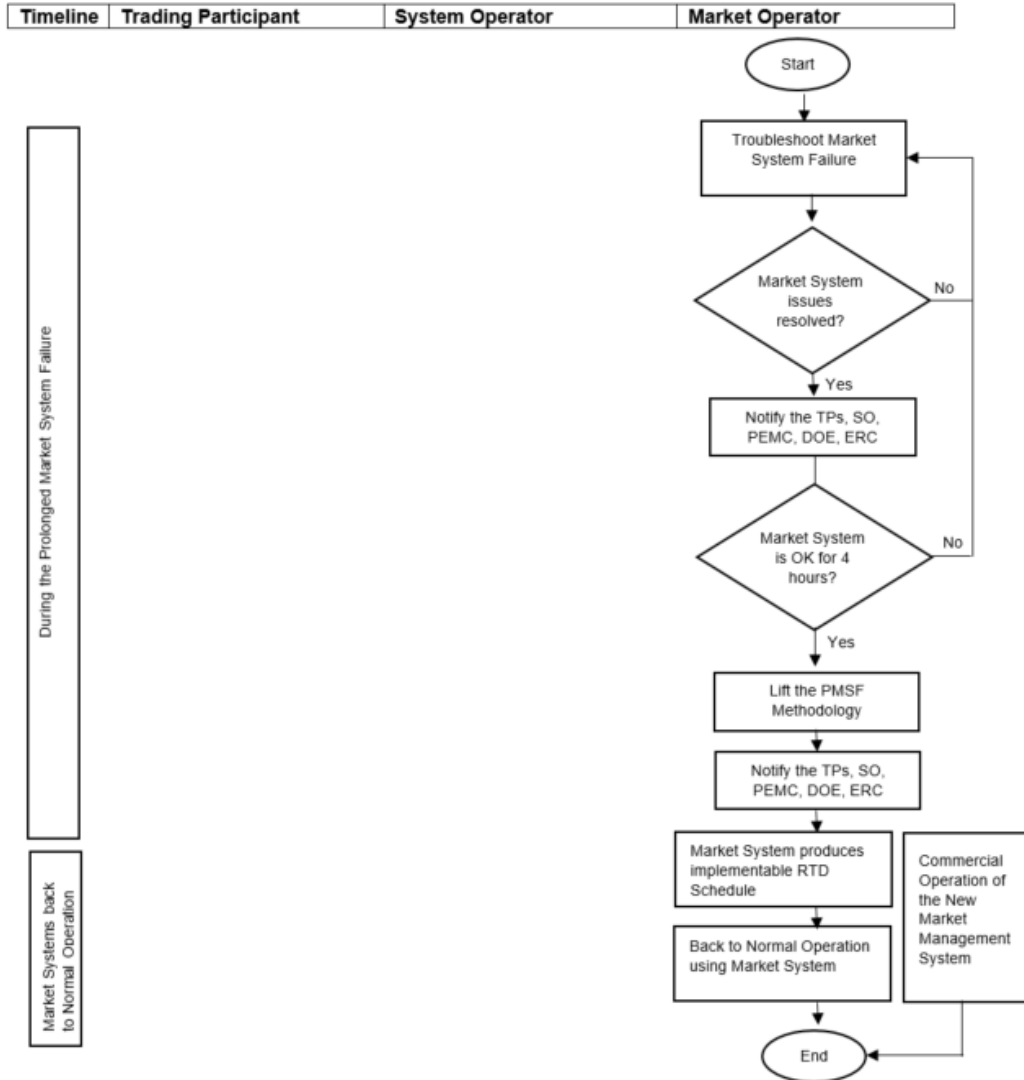
## 5.2 Flowchart Prior to the Prolonged Market System Failure



### 5.3 Flowchart During the Prolonged Market System Failure



## 5.4 Flowchart for Lifting the Prolonged Market System Failure



**SECTION 6 SCHEDULING AND DISPATCH****6.1 Submission of Generation Offers, Nomination, and Projected Output**

- 6.1.1 *Generator Trading Participants* shall submit generation offers, nominations, and projected output pursuant to *WESM Rules* Clause 3.5.5.
- a. *Scheduled Generation Company* – submit to the *MO* a generation offer as specified in *WESM Rules* Appendix A1.1 for each of its scheduled generating units for each dispatch interval.
  - b. *Non-Scheduled Generation Company* – submit to the *MO* a standing nomination of loading levels for each of its non-scheduled generating units for each dispatch interval.
  - c. *Must Dispatch and Priority Dispatch Generation Companies* – submit to the *MO* and the *SO* standing projected outputs for each of its generating units for each dispatch interval.

**6.2 Determination of Dispatch Schedule**

- 6.2.1 In trading intervals where there is a prolonged market system failure, the *MO* shall use the New Market Management System (NMMS) Hour Ahead Projection (HAP) to determine the dispatch schedule using the latest data from the System operator and Trading Participants.
- 6.2.2 The schedule of the ancillary service providers determined in Section 6.2.1 shall be considered in accordance with the *DOE* Circular DC2014-12-0022 on the Protocol for Central Scheduling of Energy and Contracted Reserve.

**6.3 Dispatch Implementation**

- 6.3.1 The *MO* shall transmit to the *SO* and the Trading Participants the dispatch schedules, in accordance with the timelines set in the *WESM* timetable.
- 6.3.2 The *SO* shall implement the dispatch as in normal condition in accordance with the *WESM Rules* Clause 3.8 and as set out in the Dispatch Protocol Section 11. This includes among others the re-dispatch process, designation of Must Run Units, and compliance with the dispatch schedule.
- 6.3.3 The *SO* shall monitor compliance and report non-compliance of the Trading Participants with dispatch schedules or *SO* instructions.
- 6.3.4 The Trading Participants shall comply with their respective dispatch schedules and the dispatch instructions issued to them by the *SO*. For this purpose, they shall ensure that their respective internal processes, systems and infrastructure, as well as their protocols with their counterparties, shall enable them for strict compliance.

**SECTION 7 PRICING AND SETTLEMENT****7.1 Determination of Ex-Ante and Ex-Post Nodal Energy Price**

- 7.1.1 The ex-ante nodal energy price for each market trading node in any trading interval shall be determined using the NMMS HAP for that trading interval
- 7.1.2 The ex-post nodal energy price for each market trading node in any trading interval shall be determined using the NMMS Real-Time Dispatch (RTD) for that trading interval
- 7.1.3 In the event where the calculated prices of the NMMS HAP or NMMS RTD are believed to be in error, WESM Rules Clause 3.10.5 shall apply along with the following Market Manuals:
  - a. Criteria and Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-Run
  - b. Methodology for Determining Pricing Errors and Price Substitution Due to Congestion for Energy Transactions in the WESM

**7.2 Settlement Calculations**

- 7.2.1 The calculation of the trading amounts of generators and customers shall be as in normal condition as provided under WESM Rules Clause 3.13.
- 7.2.2 Should there be congestion pricing error as reflected in the nodal prices determined by the NMMS HAP or NMMS RTD, the settlement calculation shall be as in normal condition as provided under Methodology for Determining Pricing Errors and Price Substitution Due to Congestion for Energy Transactions in the WESM shall apply.
- 7.2.3 Should there be Must-Run Units that were designated by the SO, the settlement calculation shall be as in normal condition as provided under the Market Manual on the Management of Must-Run and Must-Stop Units.
- 7.2.4 Should there be settlement surplus or deficit after the calculation of trading amounts in Section 7.2.1, the settlement surplus or deficit shall be as in normal condition as provided under the Market Manual on the Management of Net Settlement Surplus.
- 7.2.5 When the conditions for the application of pre-emptive mitigating measures occurred, the prices shall be determined in accordance with the methodology approved by the ERC.

**SECTION 8 REPORTORIAL REQUIREMENTS****8.1 Market Operator Report**

- 8.1.1 The publication in the market information of the following shall be as in normal condition that is consistent with the WESM Rules and corresponding Market Manual.
- a. Schedules and Prices determined using the NMMS HAP and NMMS RTD
  - b. Pricing Error Notices
- 8.1.2 The *MO* shall submit a report on the PMSF to the *DOE*, the *ERC* and the *MSC* within ten (10) calendar days after the resumption of the normal market operation. Said report shall include the following:
- a. details of and reasons for the PMSF;
  - b. the number of *trading intervals* affected;
  - c. the actions done to address the PMSF; and
  - d. supply and demand situation during affected *trading interval*
- 8.1.3 The *MO* shall record in its daily deviation monitoring log the occurrence of unimplementable RTD schedule, the resulting deviations, if any, and the specific plant or facility affected by the re-dispatch instruction by the *SO*.

**SECTION 9 MARKET MONITORING AND COMPLIANCE****9.1 Market Monitoring**

- 9.1.1 The *MSC* through the *Market Assessment Group (MAG)* shall monitor the trading behavior of all WESM Participants consistent with the procedures set forth in the Market Manual on Market, Surveillance, Compliance and Enforcement (MSCEMM).
- 9.1.2 The *MSC* shall assess any conduct of a WESM Member that could correspond to possible abuse of market power or Anti-Competitive Behavior and, as appropriate, recommend mitigating measures when necessary.

**9.2 Compliance to WESM Rules and Manuals**

- 9.2.1 Each *WESM Member* must comply with the *WESM Rules*, its *Market Manuals*, rules and regulations, and conduct its activities consistent with the *WESM* objectives.
- 9.2.2 The generator trading participants shall use all reasonable endeavors to follow the dispatch instructions of the *SO*.
- 9.2.3 *Generator Trading Participants* must:
- a. Ensure that the re-dispatch instructions of the *SO* and the related activities undertaken during PMSF are properly recorded or logged, and reported to the

- MSC* or the *Enforcement and Compliance Office (ECO)* through submission of the dispatch deviation report form or its equivalent form; and
- b. Inform the *MO* and the *SO* prior to the relevant *trading interval* whenever it will not be able to comply with the relevant rules and propose remedial plans and actions.

### **9.3 Compliance Monitoring, Investigation and Penalties**

- 9.3.1 The *ECO* shall monitor the compliance of all *WESM Participants* consistent with the procedures set forth in the *MSCEMM*.
- 9.3.2 For purposes of this *Market Manual*, a *WESM Participant* shall be in breach when it is found to be such after due investigation in accordance with the procedures set forth in the *MSCEMM*.
- 9.3.3 In cases of breach, the penalty level shall be determined in accordance with the *Financial Penalty Manual*.

<b>SECTION 10 AMENDMENT, PUBLICATION AND EFFECTIVITY</b>
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**10.1 Review and Update**

- 10.1.1 The criteria for determining PMSF including the relevant methodologies in this *Market Manual* shall be subject to a periodic review.
- 10.1.2 Any amendment or revision to this *Market Manual* shall be approved in accordance with Chapter 8 of the *WESM Rules* and corresponding *Market Manual* on the Procedures to the WESM Rules, Retail Rules and Market Manuals.
- 10.1.3 After the *DOE's* promulgation, the *PEMC* shall file with the *ERC* for the final approval of the pricing and settlement provisions of this *Market Manual*.

**10.2 Publication and Effectivity**

The publication and effectivity of this *Market Manual* shall be in accordance with the resolution of the *ERC*. This *Market Manual*, however, shall be deemed abolished upon approval of the *Market Manual* on Price Determination Methodology Issue No. 2.0 by the *ERC* and the commencement of the commercial operation of the NMMS by the *MO*.