



MINUTES OF MEETING

Rules Change Committee

150th Regular Meeting No. 2019-03

15 March 2019, 9:00 AM – 3:00 PM

PEMC Executive Board Room, Robinsons Equitable Tower

Ortigas Center, Pasig City

Agenda	Presenter	Action Required
I. Call to Order		
II. Determination of Quorum		
There being a quorum, Chairperson Maila Lourdes G. De Castro called the meeting to order at around 9AM.		
<p>The list of attendees is as follows:</p> <p><u>Rules Change Committee</u></p> <p>Principal Members:</p> <p>Maila Lourdes G. de Castro, Chairperson – Independent Francisco Leodegario R. Castro, Jr. – Independent Concepcion I. Tanglao – Independent Allan C. Nerves – Independent Abner B. Tolentino – Generation (PSALM) Cherry A. Javier – Generation (APC) Jose Ildebrando B. Ambrosio – Generation (NorthWind) Dixie Anthony R. Banzon – Generation (MPPCL) Jose P. Santos – Distribution (INEC) Ricardo G. Gumalal – Distribution (ILPI) Lorreto H. Rivera – Supply (TPEC) Ambrocio R. Rosales – System Operator (NGCP) Isidro E. Cacho – Market Operator (IEMOP)</p> <p>Alternate Members:</p> <p>Ryan S. Morales – Distribution (MERALCO)</p>		



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PEMC – Market Assessment Group (MAG)

Elaine D. Gonzales
John Mark S. Catriz
Divine Gayle C. Cruz
Aldjon Kenneth M. Yap
Romellen C. Salazar

PEMC – Legal Department

Atty. Monica M. Martin

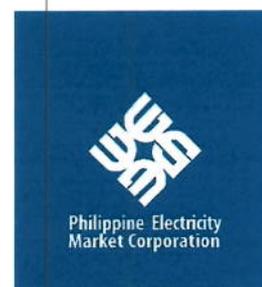
IEMOP

Robinson Descanzo
Jonathan B. dela Viña

DOE Observers

Ann Margaret Andres
Ryan Jaspher Villadiego

Agenda	Presenter	Action/s Taken
III. Adoption of the Agenda	Secretariat	Approved
The RCC adopted the agenda of the meeting as presented.		



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Agenda	Presenter	Action/s Taken
IV. Review of the Minutes of the Previous Regular Meeting (149 th Meeting, 22 February 2019)	Secretariat	Approved
The RCC approved the minutes of the 149 th RCC Meeting held on 22 February 2019, as revised.		
V. Matters Arising from Previous Meetings		
Agenda	Presenter	Action/s Taken
5.1. Draft RCC Resolution No. 2019-02: Approval of <i>Proposed Amendments to the WESM Rules and Various Manuals to Reduce Barriers to Entry and Participation in Retail Competition</i>	Secretariat	Approved
<p>Prior to the presentation of the subject RCC Resolution, the Secretariat recommended minor and clerical revisions to the RCC-approved changes in the Retail Rules and WESM Billing and Settlement Manual for the body's consideration.</p> <p><i>Attached Annex A – Matrix of Further Revisions</i></p> <p>The RCC approved the foregoing further amendments. There being no other matters left for discussion, the RCC approved the RCC Resolution No. 2019-02, endorsing for PEM Board's approval the Proposed Amendments to the WESM Rules and Various Manuals to Reduce Barriers to Entry and Participation in Retail Competition, as revised.</p>		
Agenda	Presenter	Action/s Taken
5.2. Draft RCC Resolution No. 2019-03: Approval of <i>Proposed Amendments to the WESM Rules and WESM Manual on Guidelines on Significant Variation In and Between Trading Intervals to Refine Publication Procedures</i>	Secretariat	Approved

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The Secretariat presented the draft RCC Resolution for the committee's review and subsequent approval. There being no comment and objection from the body, the RCC approved the RCC Resolution No. 2019-03, endorsing the Proposed Amendments to the WESM Rules and WESM Manual on Guidelines on Significant Variation In and Between Trading Intervals to Refine Publication Procedures, as presented for the PEM Board's approval.

Agenda	Presenter	Action/s Taken
5.3. Draft RCC Resolution No. 2019-04: Approval of Proposed Amendments to the WESM and Retail Rules and Various Manuals related to Audit Provisions and Performance Monitoring	Secretariat	Approved

The Secretariat presented the draft RCC Resolution for the committee's review and subsequent approval.

For the information of the RCC, Atty. De Castro informed the body of the discussions arising during the finalization of the PEMC Strategic Plan held on 13 March 2019, which was attended by members of the WESM Governance Committees. During that meeting, it was agreed that the timeline of the proposed SO review shall be aligned with the timeline of completion of the MO-SO protocol. Mr. Cacho clarified that the MO-SO Protocol relates to the operational relationships between the parties, such as data submission of the SO to the MO, etc. Based on that, Atty. De Castro expressed that the MO-SO shall define the responsibilities of the SO under the WESM Rules and shall be used as basis in formulating the measures for the proposed SO review.

In consideration of the above, Atty. De Castro solicited inputs from the RCC on whether or not the proposed SO review shall be elevated to the PEM Board for the RCC's guidance moving forward, as reflected in the RCC Resolution no. 2019-04, and await the finalization of the MO-SO protocol. Ms. Javier opined that it is prudent to retain the agreements of the RCC to seek guidance from the PEM Board.

There being no objection from the body, the RCC retained their previous agreement to elevate the SO review to the PEM Board for guidance of the RCC. Subsequently, the RCC approved the RCC resolution no. 2019-04, as presented.



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Other Comments and discussion:

- Ms. Cherry A. Javier inquired if there will be an operating agreement between the SO and PEMC. Mr. John Mark S. Catriz informed the RCC that there is a plan to have such protocol, and even a possible tripartite agreement among the MO, SO and PEMC.
- On the comment of Mr. Isidro E. Cacho, Jr. that the PEM Audit Committee (PAC) shall be informed with the changes on its proposal, Mr. Catriz stated that during the discussion of the matter, PAC Chairman Prof. Bustos was present during the meeting on the finalization of the PEMC's Corporate Strategic Plan.

VI. New Business

Agenda	Presenter	Action/s Taken
6.1. Proposed Urgent Amendments to the WESM Rules and New WESM Manual on Contingency Plan for Prolonged Market Systems Failure	PEMC (proponent)	Certified as Urgent Amendment, pending submission of revisions

Mr. Marcial Brummel J. Jimenez and Mr. Catriz, in behalf of PEMC, presented the proposed urgent amendments to the WESM Rules and the proposed new Market Manual on Contingency Plan for Prolonged Market Systems Failure, and requested the following:

- Certification from the RCC that the proposal is urgent (based on the criteria set forth under the WESM Manual on the Procedures for Changes to the WESM Rules, Retail Rules, and Market Manuals); and
- RCC approval on the proposal

Attached Annex B – Presentation on the Proposed Urgent Amendments to the WESM Rules and the Proposed New Market Manual on Market Intervention due to Prolonged Market System Failure

Mr. Ambrocio R. Rosales inquired about the difference between the current administered pricing mechanism and the proposal. Ms. Javier pointed out that the difference between

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the two is that the use of administered pricing is likely to be caused by natural disruption. Meanwhile, the proposal addresses market management system failures.

The RCC then agreed to first go through the proposal before certifying the same as urgent amendments. The body likewise noted that since the proposal introduces pricing mechanisms, the same will be subjected to ERC approval.

Attached Annex C – Proposed New Market Manual on Market Intervention due to Prolonged Market System Failure

During the presentation, Mr. Jimenez explained that the determination of price using the current administered price (AP) mechanism is based on historical prices for the similar day and similar hour for the previous four (4) weeks that have not been administered. In such case, the actual market conditions are not reflected. Meanwhile, the proposed pricing mechanism under the prolonged system market failure (PMSF) pricing methodology reflects actual conditions based on the offers and data submitted by the generator trading participants, as well as the supply and demand condition based on the merit order stacking prepared by the Market Operator using the data from the generators.

Ms. Javier expressed that under the current AP regime generators are allowed to recover for additional compensation but only corresponding to the variable costs.

Mr. Rosales inquired on the procedures to be used in determining the WESM Merit Order Table (WMOT) considering that the instance for which the proposal is applicable is when a market management system failure is in occurrence. Mr. Jimenez explained that there are two sub-systems in the current MMS: the Market Interface (MI) and the Market Applications (MA). The MA is the portion of the system that experiences failures. Meanwhile, MI is the system for the submission of bids which shall be used in coming up with a WMOT.

Following the explanations given, Mr. Rosales stated his objection on the proposed methodology, particularly, on the scheduling and dispatch to be adopted by the SO during PMSF. He expressed that the proposed pricing and settlement may be adopted, but the current protocol for scheduling and dispatch during MI shall be retained, since the same has already been in place since the commencement of the WESM. Mr. Rosales further explained that that SO cannot use the proposed WMOT during PMSF, which is

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not security constrained, since this will be in violation of the requirements under the Philippine Grid Code (PGC).

Mr. Robinson Descanzo clarified that the proposed procedure shall be temporary considering that the new MMS is still not ready for commercial operation, pending necessary approvals. He also highlighted that the proposal emanated from the direction of the PEM Board to address any anticipated prolonged market systems failure. Mr. Descanzo expressed that the proposed methodology provides an avenue for generators to recover for its operational costs during PMSF. He then discussed that SO shall still be able to re-dispatch generators based on the submitted WMOT and affirmed that only pricing mechanism is highly affected in the proposal. On the definition of "Dispatch Schedule", Mr. Rosales suggested to clarify that the dispatch schedule issued by the MO during PMSF is not implementable and is based on an unconstrained solution. This will be against the requirement of the Philippine Grid Code for the SO to ensure security of the grid. He added that implementing an unconstrained solution may cause security issues as the said schedule does not consider N-1 cases, among others. According to him, security constraints are needed to be considered during dispatch process.

On another note, for the case of two (2) similarly situated generating units but with differing offered prices, Mr. Rosales explained that the SO uses an advance application which optimizes the dispatch process. Ms. Javier then inquired if the SO is willing to provide the generators with the result of the dispatch schedule and the rationale for the same. Mr. Rosales explained that there are reportorial requirements provided in the WESM Rules that are to be complied with by the SO. He added that sharing the data may compromise confidentiality which may then be raised as a concern with the Market Surveillance Committee (MSC).

On the definition of "Governing Body", Atty. De Castro commented that it is no longer necessary to define the same and just use PEMC in relevant provisions.

On the responsibilities section, reportorial requirements are agreed to be further specified for relevant entities.

On Section 4.1.1, Atty. De Castro suggested to revise as follows to avoid limitation of instances of software failure:

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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.

On Section 4.2.4, Mr. Rosales commented that the provision does not clearly state that generators shall be paid as bid. Mr. Cacho meanwhile opined that it is not clear how PMSF constrained-off generators are to be settled.

Mr. Banzon then suggested to settle PMSF constrained-off generators based on pay as bid. On the other hand, Ms. Javier opined that for constrained-off generators, it should be settled based on unconstrained market clearing price (UMCP). Mr. Rosales recommended to simulate using the data when the 7-hour market failure occurred and apply the proposed mechanism for the committee to appreciate the proposal. Said simulation would present the resulting settlement prices and the behavior of the SO during such events. The RCC agreed with the recommendations of Mr. Rosales.

On another note, Mr. Cacho inquired if it is possible for generators to be constrained-on with capacity higher than its committed capacity and how will these generators be settled. Mr. Rosales confirmed that this may occur. For the settlement concern, PEMC explained that these generators will be paid as bid. Mr. Morales expressed that this may be an avenue for generators to abuse market power. Mr. Jimenez explained that Section 9 of the proposed manual provides for the market monitoring and compliance which shall address concerns on abuse of market power.

There being no other comments to the proposed new market manual, Mr. Catriz then proceeded with the presentation of the proposed amendments to the *WESM Rules*.

Please find the attached Annex D – Proposed Amendments to the WESM Rules on Market Intervention due to Prolonged Market System Failure

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On Clause 6.2.1.1, Mr. Rosales commented that Dispatch Schedule is not the same as the RTD schedule. Atty. De Castro requested PEMC to take note of the comments and provide explanation as applicable.

Clause 6.2.1.5 is proposed to be revised as:

Subject to Clause 6.2.1.1 **and Clause 6.7.5**, the System Operator shall issue emergency instructions **pursuant to Clause 6.5.1 or re-dispatch instructions pursuant to Clause 6.7.5** to all WESM members in accordance with the WESM Rules, **relevant Market Manuals**, and the Grid Code, and shall prepare and submit a significant incident report, as soon as practicable, to the ERC, PEM Board, DOE, Grid Management Committee and the Market Operator.

On the definition of "Market Intervention", Ms. Javier suggested to define PMSF and include the same in the definition in the WESM Rules and the proposed new market manual to avoid deletion of the phrase on administered prices, for clarity.

Ms. Javier suggested that the WMOT submitted by the MO should just be compared with the actual dispatch schedule of the SO and provide explanation as to why the WMOT was overridden by the SO. Mr. Francisco L.R. Castro, Jr. commented that other entity shall provide observations on these things and not the SO. Mr. Banzon on the other hand suggested that there shall still be a WMOT for the prices but the SO may dispatch according to its security constraints.

On the definition of WMOT, Mr. Cacho suggested retaining the term "WESM" on the term to specify that the MOT is for the WESM as there is current definition of MOT provided in the Grid Code. This is likewise agreed to be reflected in the proposed market manual.

Following the presentation and the discussions, the RCC acknowledged the urgency of the proposed amendments. It was likewise raised during the meeting that since the proposal is a PEM Board directive, then the RCC might have to adopt the proposal as submitted. Atty. De Castro however expressed that considering the concerns raised during the discussion, the proposal may necessitate further refinements prior to submission to the PEM Board. The RCC then agreed to vote with results as follows:



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Urgent with Revisions	Not Urgent
<ol style="list-style-type: none"> 1. Ms. Concepcion Tanglao 2. Mr. Francisco Castro 3. Ms. Lorreto Rivera 4. Mr. Dixie Banzon 5. Mr. Abner Tolentino 6. Ms. Cherry Javier 7. Mr. Ricardo Gumalal 8. Atty. Jose Ildebrando Ambrosio 9. Mr. Jose Santos 10. Mr. Isidro Cacho 11. Mr. Ambrocio Rosales 	<ol style="list-style-type: none"> 1. Mr. Ryan Morales 2. Dr. Allan Nerves

Following the discussions above, Ms. Elaine D. Gonzales provided an elaborate background of the proposal which arose from the presentation of the IEMOP to the PEM Board with regard to errors in the market management system. This then triggered the PEM Board to require the IEMOP to come up with a contingency plan in coordination with PEMC. The concept of the said plan was presented to the PEM Board and they agreed to adopt the use of unconstrained solution. Ms. Gonzales also discussed the case when the current procedures shall be used in cases of market intervention. She discussed that when there is prolonged market intervention, then administered prices will be used which do not reflect actual market conditions. Although the new market management system is already in place, necessary approvals are yet to be acquired to administer the commercial launch of the same. Mr. Cacho expressed that various solutions have already been proposed to the PEM Board, but the board adopted the implementation of a contingency plan. Ms. Gonzales then presented a summary of issues and concerns raised by the RCC as provided in the table below.

Process	Current	Proposed	RCC Remarks
Scheduling and Dispatch	SO determines the scheduling and dispatch during Market Intervention (as provided under the Dispatch Protocol)	During MI due to PMSF, MO shall determine the Unconstrained Schedule based on Merit-Order stacking taking into consideration:	SO objects the use of unconstrained schedule, citing that schedule is not implementable. SO will always issue a re-dispatch since it has to take into



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		<ul style="list-style-type: none"> • Offers, nominations, and projected output • security limits • Ramping limits • AS schedule • Forecast demand <p>No consideration of transmission line constraints / N-1 contingency</p> <p>SO to issue a re-dispatch of plants when necessary</p>	<p>account the security and reliability of the grid in the dispatch of plants. SO recommends retaining the current dispatch protocol where SO determines the schedule during MI.</p> <p>The generators, however, raised concern on the scheduling process of SO:</p> <ul style="list-style-type: none"> • no consideration of generation offers • non-transparency
Price Determination	Administered Price (AP) based on the price of the past four (4) similar day and hours under normal condition.	Unconstrained Market Clearing Price (UMCP) based on unconstrained solution, factoring in latest available market information (generation offers and prevailing market demand and supply condition)	Current AP not reflective of the latest available market information
Settlement	Additional compensation for MRUs and	<ul style="list-style-type: none"> • UMCP as basis for settlement 	SO suggested deleting the MRU settlement as there will be no scheduled



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	constrained generators on	<ul style="list-style-type: none"> Pay-as-bid for constrained generators Settlement for scheduled MRUs based on GPI (existing rules) 	MRUs during market intervention
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In view of the foregoing, the RCC identified two (2) options as follows:

Option 1: Use of unconstrained solution for scheduling and settlement (as written in the proposal)

Option 2: Use of unconstrained solution for settlement only

- SO to implement dispatch during market intervention in accordance with existing protocol; and
- MO to generate unconstrained solution for settlement purpose

The RCC members voted as follows:

Option 1	Option 2
<p><u>Agree - 2</u></p> <ol style="list-style-type: none"> Ms. Cherry Javier – Generation Sector Mr. Isidro Cacho – Market Operator <p><u>Disagree - 9</u></p> <ol style="list-style-type: none"> Dr. Allan Nerves – Independent Sector Mr. Francisco Castro – Independent Sector Mr. Ryan Morales – DU Sector (MERALCO) Mr. Ricardo Gumalal – DU Sector (Iligan Light) 	<p><u>Agree - 8</u></p> <ol style="list-style-type: none"> Mr. Ambrocio Rosales – System Operator Mr. Ricardo Gumalal – DU Sector (Iligan Light) Mr. Francisco Castro – Independent Sector Dr. Allan Nerves – Independent Sector Ms. Lorreto Rivera – Supply Sector (TEAMEnergy) Mr. Abner Tolentino – Generation Sector (PSALM)



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<p>5. Mr. Jose Santos – DU Sector (INEC)</p> <p>6. Mr. Abner Tolentino – Generation Sector (PSALM)</p> <p>7. Atty. Jose Ildebrando Ambrosio – Generation Sector (NorthWind)</p> <p>8. Ms. Lorreto Rivera – Supply Sector (TEAMEnergy)</p> <p>9. Mr. Ambrocio Rosales – System Operator</p> <p><u>Abstain - 1</u></p> <p>1. Mr. Dixie Banzon – Generation Sector</p>	<p>7. Atty. Jose Ildebrando Ambrosio – Generation Sector (NorthWind)</p> <p>8. Mr. Dixie Banzon – Generation Sector</p> <p><u>Disagree - 2</u></p> <p>1. Mr. Ryan Morales – DU Sector (MERALCO)</p> <p>2. Mr. Jose Santos – DU Sector (INEC)</p> <p><u>Abstain - 2</u></p> <p>1. Mr. Isidro Cacho – Market Operator</p> <p>2. Ms. Cherry Javier – Generation Sector</p>
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Majority of the vote went to Option 2. Hence, the RCC agreed to adopt Option 2. The RCC requested the TWG to revise the proposal accordingly and submit to the RCC via email on or before 20 March 2019.

VII. Other Matters

Agenda	Presenter	Action/s Taken
7.1.Update on the Formulation of the 2019 RCC Work Plan	Secretariat	Noted by the RCC

Mr. Catriz informed the RCC that last 13 March 2019, PEMC and members of WESM Governance Committees convened to approve the consolidated PEMC Corporate Strategic Plan for 2019-2021. He likewise informed the RCC that the approved RCC 2019 Work Plan was furnished to the committee via email as annex of the Minutes of the 149th RCC Meeting. The RCC noted the information.



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Agenda	Presenter	Action/s Taken
7.2. PEM Board Meeting	Secretariat	Noted by the RCC
<p>The RCC was informed of the PEM Board-related meetings for March 2019 as follows:</p> <ul style="list-style-type: none"> • Board Review Committee – 18 March 2019 • PEM Board Meeting – 27 March 2019 <p>Following the approval of the RCC resolutions in items 5.1-5.3, the Secretariat requested for the availability of the Independent Members to present the said amendments during the above-mentioned meetings. Mr. Castro confirmed his availability for the PEM Board meeting.</p>		
Agenda	Presenter	Action/s Taken
VIII. Next Meeting	Secretariat	Noted by the RCC
<p>The RCC agreed to schedule its next meetings as follows:</p> <ul style="list-style-type: none"> ▪ April 12 ▪ May 17 ▪ June 21 		
IX. Adjournment		
The RCC meeting was adjourned at around 2:30 PM		



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Prepared by:

A handwritten signature in blue ink, appearing to read "Aldjon Kenneth M. Yap", is written over the printed name.

Aldjon Kenneth M. Yap

Specialist

Market Assessment Group – Rules Review Division

Reviewed by:

A handwritten signature in black ink, appearing to read "John Mark S. Catriz", is written over the printed name.

John Mark S. Catriz

Manager

Market Assessment Group – Rules Review Division

Noted by:

A handwritten signature in black ink, appearing to read "Elaine D. Gonzales", is written over the printed name.

Elaine D. Gonzales

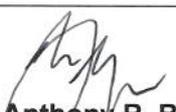
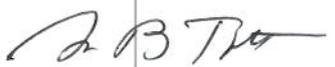
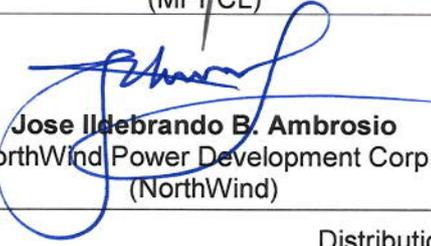
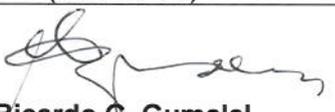
Acting Head

Market Assessment Group

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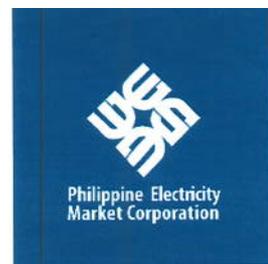
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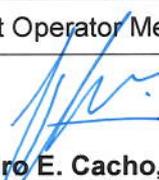
PEMC Executive Board Room, Robinsons Equitable Tower
Ortigas Center, Pasig CityPhilippine Electricity
Market Corporation

Approved by: THE RULES CHANGE COMMITTEE	
Independent Members:	
 Maia Lourdes G. de Castro Chairperson	Francisco L.R. Castro, Jr.
 Allan C. Nerves	Concepcion I. Tanglao
Generation Sector Members:	
 Dixie Anthony R. Banzon Masinloc Power Partners Co. Ltd. (MPPCL)	 Abner B. Tolentino Power Sector Assets and Liabilities Management Corporation (PSALM)
 Jose Ildebrando B. Ambrosio NorthWind Power Development Corp. (NorthWind)	 Cherry A. Javier Aboitiz Power Corp. (APC)
Distribution Sector Members:	
Virgilio C. Fortich, Jr. Cebu III Electric Cooperative, Inc. (CEBECO3)	 Ryan S. Morales Manila Electric Company (MERALCO)
 Ricardo G. Gumalal Iligan Light and Power, Inc. (ILPI)	 Jose P. Santos Ilocos Norte Electric Cooperative, Inc. (INEC)

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Supply Sector Member:	
Lorreto H. Rivera TeaM (Philippines) Energy Corporation (TPEC)	
Market Operator Member:	
 Isidro E. Cacho, Jr. Independent Electricity Market Operator of the Philippines (IEMOP)	
System Operator Member:	
Ambrocio R. Rosales National Grid Corporation of the Philippines (NGCP)	



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Annex A – Matrix of Further Revisions

RCC-approved amendments	Further revisions
<p>Retail Rules 2.3.1.1</p> <p>c) <u>Customers' account number,</u> d) <u>Customer contract information (telephone numbers and e-mail addresses)</u></p>	<p>Note: Clerical change</p>
<p>Retail Rules 3.2.3.4</p> <p>The conditions and procedures set out in this clause 3.2.3 shall apply only when the Registered facility of a Contestable Customer is transferred to different service address and the certification of contestability issued by the ERC remains valid; Provided, however that if a new certificate of contestability is issued by the ERC for the facility at its new location, this clause 3.2.3 shall not apply and the Contestable Customer shall –</p> <p>a) Apply for new registration in respect to said facility, which registration shall be governed by Chapter 2 of these <i>Retail Rules</i>; and Send a notice to the <i>Central Registration Body</i> of the cessation of registration of the previously-registered facility in accordance with Chapter 2 of the <i>Retail Rules</i> and relevant <i>Market manuals</i>.</p>	<p>(for enhancement)</p> <p>The conditions and procedures set out in this clause 3.2.3 shall apply only when the Registered facility of a Contestable Customer is transferred to different service address and the certification of contestability issued by the ERC remains valid; Provided, however that if a new certificate of contestability is issued by the ERC for the facility at its new location, this Clause 3.2.3 shall not apply and the Contestable Customer shall –</p> <p>a) Apply for The Contestable Customer shall be newly registration registered by the Central Registration Body in respect to said facility, which registration shall be governed by Chapter 2 of these <i>Retail Rules</i>; and b) Send a notice to The Central Registration Body shall cease the of the cessation of registration of the previously-</p>



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	registered facility in accordance with Chapter 2 of the <i>Retail Rules</i> and relevant <i>Market Manual</i> <i>Market manuals</i> .
<p>Retail Rules</p> <p>3.3.4.1 3.3.2.1 The <i>gross energy settlement</i> <i>metered</i> quantity of each <i>Contestable Customer</i> connected to a <i>grid off-take metering point</i> shall be determined as the net metered flows at their respective metering installations associated with such <i>grid off-take metering point</i>.</p> <p>3.3.4.2 3.3.2.2</p> <p>The <i>Central Registration Body</i> shall determine the <i>gross energy settlement quantity</i> of the <i>Contestable Customers</i> at a <i>grid off-take metering point</i> using the meter data provided by the relevant <i>Metering Services Provider</i> and <i>Retail Metering Services Provider</i> to the <i>Central Registration Body</i> in accordance with the <i>relevant Market Manual</i> <i>billing and settlement timetable</i>.</p>	<p>To be consistent with previous Clause 3.3.2.1</p> <p>3.3.4.2 3.3.2.2</p> <p>The <i>Central Registration Body</i> shall determine the <i>gross energy settlement quantity metered quantity</i> of the <i>Contestable Customers</i> at a <i>grid off-take metering point</i> using the meter data provided by the relevant <i>Metering Services Provider</i> and <i>Retail Metering Services Provider</i> to the <i>Central Registration Body</i> in accordance with the <i>relevant Market Manual</i> <i>billing and settlement timetable</i>.</p>
<p>WESM Billing and Settlement Manual Sec. 7.4.7</p> <p>(regarding formula for calculation of <u><i>additional security</i></u> from new Supplier during a switch request)</p> $AS_{s,c} = \frac{HMQ_c}{n_c} \times \frac{35}{30} \times MQE_{s,c} \times AAMP_{m-1}$	<p>Per IEMOP's response to FirstGen and SNAP's comment that average actual market price for past 12 billing periods may be used, variable changed to:</p> <p>IEMOP's proposed change:</p>



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<p><u>AAMP_{m-1}</u> <u>average actual</u> <u>market price, in PhP/MWh, for the past</u> <u>billing period</u></p>	$AS_{s,c} = \frac{HMQ_c}{n_c} \times \frac{35}{30} \times MQE_{s,c}$ <p>× AAMP_{m-1} past 12 billing periods</p> <p><u>Where:</u></p> <p><u>AAMP_{past 12 billing periods}</u> <u>average</u> <u>actual market price, in PhP/MWh, for the</u> <u>past twelve (12) billing periods</u></p>
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Market Corporation

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Annex B – Presentation on the Proposed Urgent Amendments to the WESM Rules and the Proposed New Market Manual on Market Intervention due to Prolonged Market System Failure



Summary of Proposed Changes

- The urgent amendments to the WESM Rules and the new market manual on the contingency plan for prolonged market systems failure are proposed to ensure that pricing, scheduling and settlement during such event are governed by commercial and market forces



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Background

- The Market Management System (MMS) has been used for almost 13 years.
 - wear and tear is a potential problem
 - gradual increase in the information/data on registered generators, loads including breakers, and even on the transmission system had affected its performance
- On January 2019 PEM Board- the MO reported of the latest occurrence of market intervention due to market system failure (January 24th & 28th)
 - The non-renewal of the maintenance contract with the ABB also does not help the current and future state of the MMS
 - Market system failure is reasonably expected to occur more.
 - The PEM Board directed the IEMOP and PEMC to develop a contingency plan to address the issue on market system failure if it continues for an extended period of time



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Proposed Rules Change

- The proposed amendments to the rules aligned the development of a manual for prolonged market system failure
- New market manual named as "**Market Intervention due to Prolonged Market System Failure 1.0**" seek to provide a methodology how to execute the contingency plan as directed by PEM Board. It contains the following:
 - Criteria for determining prolonged market system failure
 - Responsibilities of MO, SO, TPs, and PEMC
 - Methodology in determining dispatch schedule, prices, and calculation of settlement amounts
 - Market monitoring and compliance
 - Reportorial requirements



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Guiding Principles in the Development of the Manual

- The Market Prices shall be
 - fair and reasonable to both the suppliers and consumers of electricity
 - applicable only to cases of Prolonged Market System Failure
 - determined for the *energy* market only pending co-optimization of *energy* and reserve in the *WESM*
 - transparent to the *WESM Participants* and simple to implement
 - based on the latest available market information
 - as close as possible as in normal condition.



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Market Corporation**Annex C – Proposed New Market Manual on Market Intervention due to Prolonged Market System Failure**

Title	Section	Provision	Proposed Amendment	Rationale
OVERVIEW	6.2	OVERVIEW		
Preparations and Responses	6.2.1	Preparations and Responses		<p><i>The proposed rules changes are to provide for the following:</i></p> <p>a) <i>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></p> <p>b) <i>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></p> <p>c) <i>This alternative market-based methodology will only be used if intervention is due to prolonged market systems failure. If this</i></p>

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Title	Section	Provision	Proposed Amendment	Rationale
				<p><i>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></p>
	6.2.1.1	<p>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 <i>market suspension or market intervention</i>. <u>(As amended by DOE DC No. 2016-06-0008 dated 17 June 2016)</u></p>	<p>Subject to Clause 6.7.5, 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 <i>market suspension or market intervention</i>.</p>	<p>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.</p> <p>Thus, issuance of dispatch instructions by the System Operator under this type of market intervention shall be qualified.</p>

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Title	Section	Provision	Proposed Amendment	Rationale
	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., <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>	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: (a) The operation of the <i>power system</i> involves risks to public safety and property	<i>WESM Participants</i> acknowledge that: (a) The operation of the <i>power system</i> involves risks to public safety and property and therefore accepts	Amendment to paragraph (c) to 1) include proposed Clause 6.7.5 in the proviso as exception to discretion of the System Operator

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Title	Section	Provision	Proposed Amendment	Rationale
		<p>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, <i>the System Operator</i> shall</p>	<p>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>, <i>the System Operator</i> shall issue <u>emergency instructions 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>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>

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Title	Section	Provision	Proposed Amendment	Rationale
		<p>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 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><i>Code</i>, 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>	
Administered Price	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>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>This is to allow for adoption of different administered pricing methodology in case of market intervention due to market system failure.</p>

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Title	Section	Provision	Proposed Amendment	Rationale
		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 DOE DC No. 2016-06-0008 dated 17 June 2016)</u>	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> ; <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> Said <u>methodology for determining administered price</u> and any change thereto is to be endorsed by the <i>PEM Board</i> for <i>ERC approval</i> .	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. 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.
FORCE MAJEURE	6.7	FORCE MAJEURE		
Force Majeure Event	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		

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Title	Section	Provision	Proposed Amendment	Rationale
		<p>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 <i>system security</i>. <u>(As amended by DOE DC No. 2016-06-0008 dated 17 June 2016)</u></p>		
Force Majeure Event	6.7.2	Events of <i>force majeure</i> shall include:	Events of <i>force majeure</i> shall include: (1) Major system disturbance that caused partial or system-wide blackout;	Re-wording of paragraph (2) is to provide more clarity and to expressly include the Market Operator.

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Title	Section	Provision	Proposed Amendment	Rationale
		<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>(2) <u>Failure in any of the</u> market system hardware or software failure including that of <u>used by either the System Operator or the Market Operator</u> 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>	

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Title	Section	Provision	Proposed Amendment	Rationale
		<u>(As amended by DOE DC No.2014-10-0021 dated 24 October 2014 and further amended by DOE DC No. 2016-06-0008 dated 17 June 2016)</u>		
Notification	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> .		
Obligation of WESM Participants	6.7.4	<i>WESM Participants</i> shall use all reasonable endeavors to:		

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Title	Section	Provision	Proposed Amendment	Rationale
		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.		
Prolonged market systems failure	<u>6.7.5</u>		<p><u>In case of the market system hardware or software failure provided for in Clause 6.7.2 occurs for a prolonged period,</u></p> <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>This is to provide for an alternative means of dispatch scheduling and implementation in cases of prolonged market intervention due, in turn, to 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>

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Title	Section	Provision	Proposed Amendment	Rationale
			<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</u> Non-compliance to the dispatch schedules or the dispatch instructions of the System Operator shall constitute a breach of the <i>WESM Rules</i>.</p> <p>c) <u>If necessary for maintaining system security and reliability, the System Operator shall issue dispatch instructions to Trading Participants in accordance with</u></p>	

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Title	Section	Provision	Proposed Amendment	Rationale
			<p><u>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>	

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Title	Section	Provision	Proposed Amendment	Rationale
			<p><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></p>	
<p>Prolonged market systems failure</p>	<p><u>6.7.6</u></p>		<p><u>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,</u></p>	<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"> 1) If market suspension – Section 6.9 2) Emergency – Section 6.5 3) System Security – Section 6.6

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Title	Section	Provision	Proposed Amendment	Rationale
			<p><u>the relevant procedures (i.e. scheduling and dispatch) under the said rules and Market Manuals shall apply.</u></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>
GLOSSARY	Chapter 11	<p>Dispatch Schedule. 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</p>	<p>Dispatch Schedule. 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 dispatch optimization</i></p>	<p>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.</p>

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Title	Section	Provision	Proposed Amendment	Rationale
		<p>use of the <i>market 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>model</i> in accordance with Clause 3.8.1. <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></p>	
		<p>Market Intervention. A measure taken by the <i>System Operator</i> when the grid is in alert or emergency state as established in the <i>Grid Code</i> arising from a threat to system security, <i>force majeure event</i> or <i>emergency</i>, or by the <i>Market Operator</i> in relation to the simulation or implementation of the <i>business continuity</i> or <i>disaster recovery</i> procedures developed in accordance with Clause 6.8.1. During such</p>	<p>Market Intervention. A measure taken by the <i>System Operator</i> when the grid is in alert or emergency state as established in the <i>Grid Code</i> arising from a threat to system security, <i>force majeure event</i> or <i>emergency</i>, or by the <i>Market Operator</i> in relation to the simulation or implementation of the <i>business continuity</i> or <i>disaster recovery</i> procedures developed in accordance with Clause 6.8.1. During such event, the administered price shall be used for settlements.</p>	<p>To delete phrase which specifies that administered prices shall be used for settlement in case of Market Intervention.</p>

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Title	Section	Provision	Proposed Amendment	Rationale
		event, the <i>administered price</i> shall be used for <i>settlements</i> .		
		<p>WESM Merit Order Table (WMOT) – 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.</p> <p><u>(As amended by DOE DC No. 2014-10-0021 dated 24 October 2014)</u></p>	<p>WESM Merit Order Table. (WMOT) – 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.</p> <p><u>The list generated by the Market Operator showing:</u></p> <p>a) <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></p> <p>b) <u>offered capacities of generating units that were not scheduled,</u></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>

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Title	Section	Provision	Proposed Amendment	Rationale
			<u>arranged by offer blocks in ascending order such that the lowest-priced offer block is at the bottom of the list.</u>	

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**Wholesale Electricity
Spot Market**

Annex D – Proposed Amendments to the WESM Rules on Market
Intervention due to Prolonged Market System Failure

PUBLIC

WESM Manual

Market Intervention due to Prolonged Market System Failure 1.0

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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Document Identity: WESM-PMSF-001

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

Issue No.	RCC Approval	RCC Resolution No.	PEM Board Approval	PEM Board Resolution No.	DOE Approval	DOE Department Circular No.
1						

Reference Documents

Document ID	Document Title
	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.¹
- 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*.²

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;

¹ Clause 6.2.1, *WESM Rules*

² 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.

SECTION 2 DEFINITIONS, REFERENCES AND INTERPRETATION

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.
 - c. **PMSF Constrained-on Generator.** Refers to generators that were re-dispatched by the *SO* higher than their unconstrained schedule.
 - d. **PMSF Price.** Refers to the market price that shall apply for the generators during prolonged market system and that can either be (a) pay-as-bid; or (b) the unconstrained market clearing price (UMCP).
 - e. **Unconstrained Solution.** Is derived by a merit order stacking of the available generators based on their bids and offers for the relevant *trading interval* and taking into consideration the generator outages, security limits, ramping limits, ancillary services schedule, and the forecast demand.

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 unconstrained schedule and/or *MOT* 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**

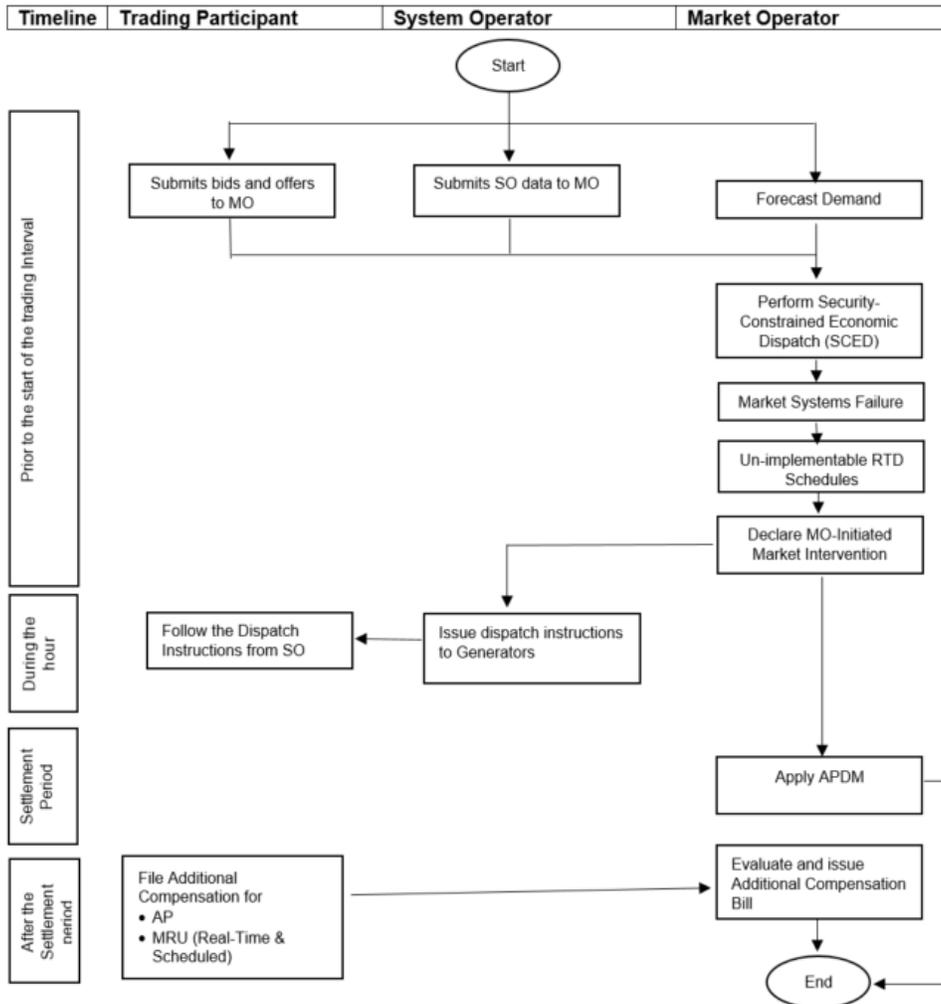
- 4.1.1 Pursuant to the Clause 6.7.5 of the *WESM Rules*, there is PMSF when the following conditions jointly exist:
- a. The *WESM* is under *market intervention* for twenty-four (24) consecutive *trading intervals*; and
 - b. The reason for *market intervention* is due to market system failure that 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.

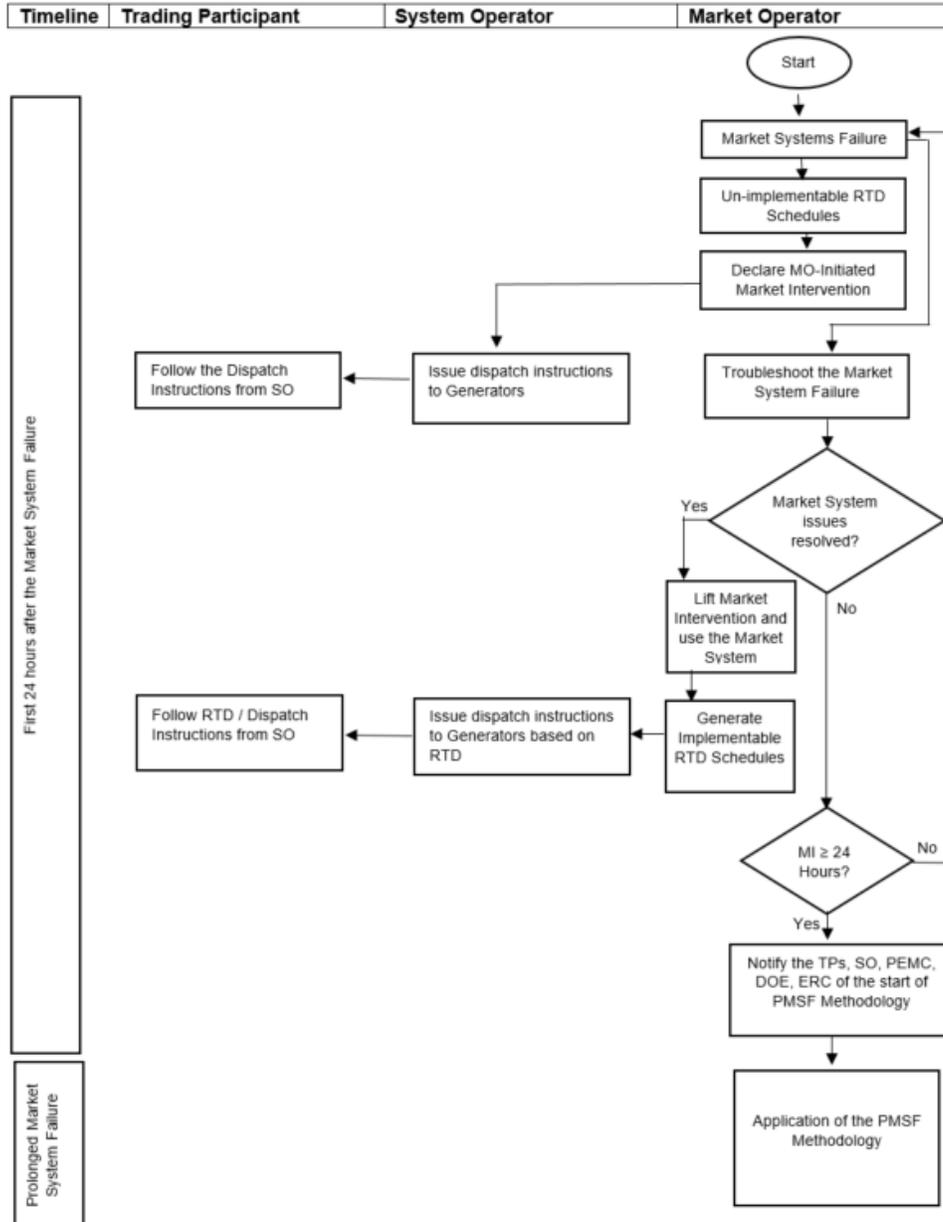
4.2 Guidelines for the Application of the PMSF Methodology

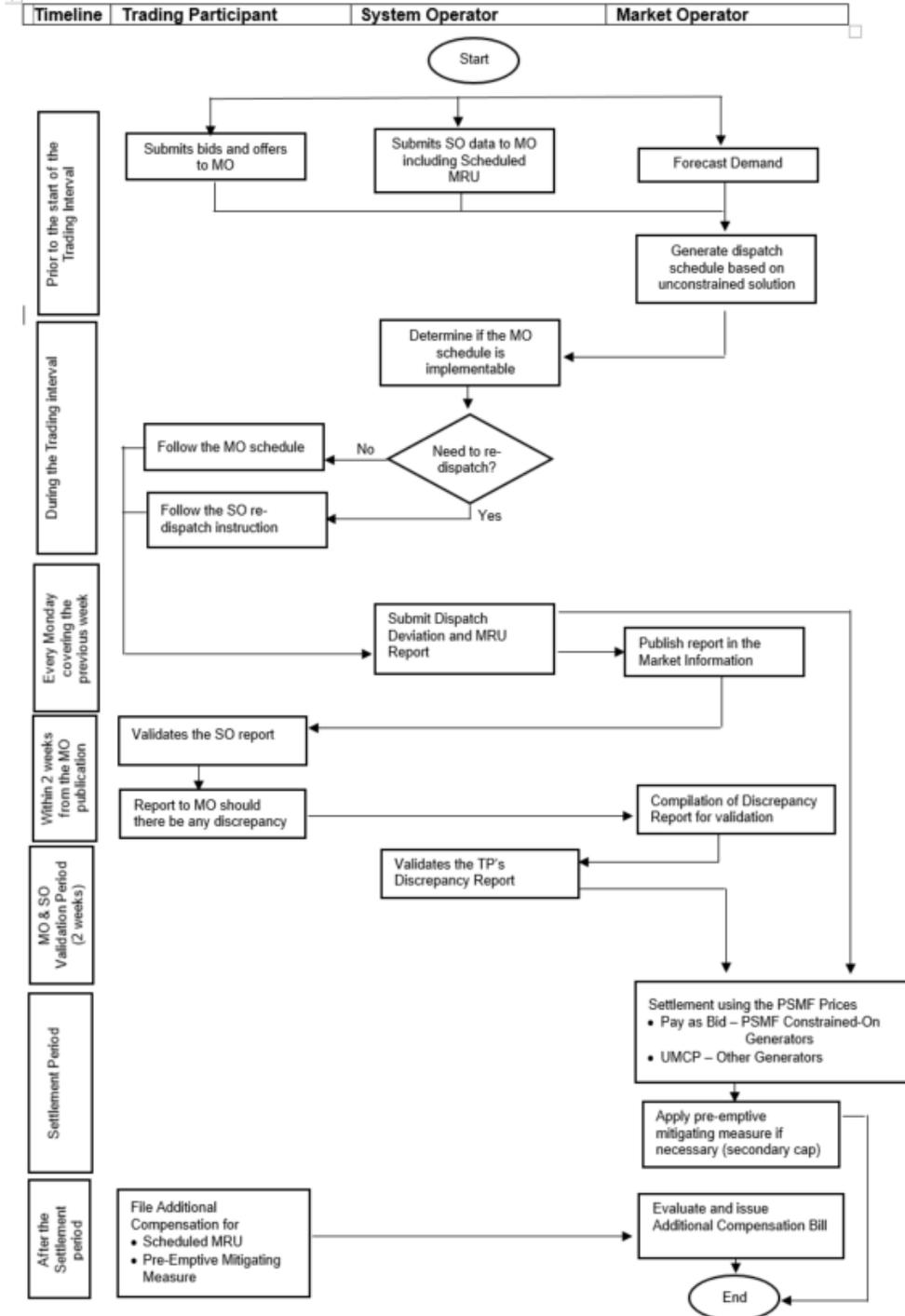
- 4.2.1 Upon determination by the *MO* of PMSF existence, it shall notify all *WESM Participants*, the *DOE*, the *ERC*, and the *PEM Board* prior to the implementation of the PMSF methodology through any of the following means:
- a. posting in the *Market Information Website*
 - b. email
 - c. digital 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 During the PMSF, the *market clearing price* for the affected *trading intervals* shall be determined using the *unconstrained solution*. This price shall be termed as the *Unconstrained Market Clearing Price (UMCP)* and shall be the basis for settlement of quantities that ran as scheduled.
- 4.2.4 In the event that a *Generator Trading Participant* was re-dispatched by the *SO*, it shall be settled based on its offer price corresponding to its re-dispatched capacity.
- 4.2.5 If the *SO* re-dispatched a generator based on its *Ancillary Service Agreement* with that generator, its *energy price* shall be equal to the UMCP.

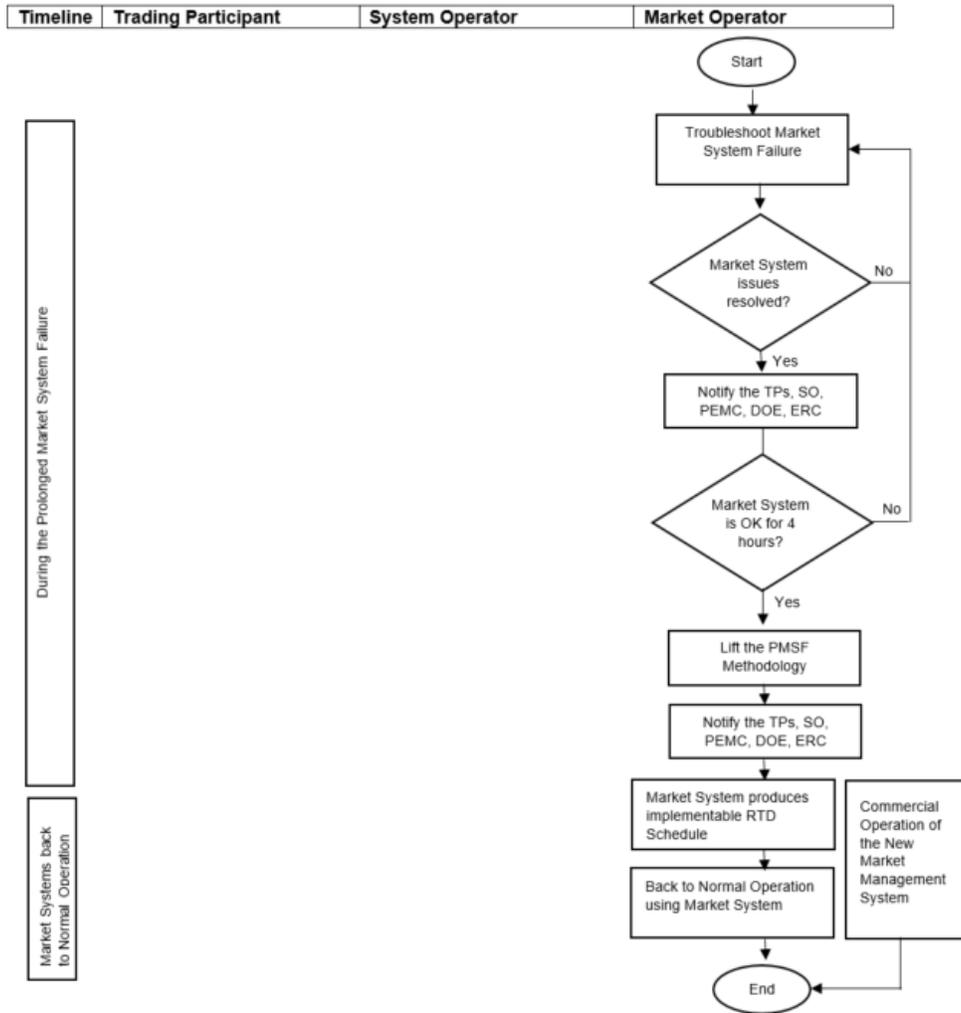
- 4.2.6 If the *SO* did not re-dispatch a generator, its *energy* price shall be equal to the *UMCP* regardless of its actual dispatch. The generator may, however, be subject to non-compliance if dispatch deviation is not within the required dispatch tolerance level.
- 4.2.7 The pre-emptive mitigating measure (i.e. the Secondary Price Cap) shall continue to be in effect during the PMSF.
- 4.2.8 In consideration of the foregoing, the *MO* shall issue the final settlement as applicable.
- 4.2.9 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.
- 4.2.10 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 determine the schedule and price based on unconstrained solution, which is derived by a merit order stacking of the available generators based on the following:
- a. offers, nomination, and projected output,
 - b. generator *outages*,
 - c. security limits,
 - d. ramping limits,
 - e. ancillary services schedule, and
 - f. forecast demand.
- 6.2.2 The resulting clearing price in Section 6.2.1 of this Manual shall be termed as the *UMCP* while the resulting schedule of the generators shall be termed the unconstrained schedule.
- 6.2.3 When the condition being addressed falls under the criteria for the designation of *Must-Run Unit (MRU)*, the *SO* shall designate generators as scheduled *MRUs* through the imposition of security limit prior the *trading interval* to be considered in the *unconstrained solution*.
- 6.2.4 The schedule of the ancillary service providers shall be considered in the generation of the *unconstrained solution* in accordance with *DOE Circular DC2014-12-0022* on the Protocol for Central Scheduling of Energy and Contracted Reserve.
- 6.2.5 Regional application shall apply when the interconnection between Luzon and Visayas is on *outage*. In such case, the *MO* shall generate unconstrained solution for each region with different *UMCP*. Likewise, the *MOT* for each region shall be provided by the *MO* to *SO*.

6.3 Dispatch of Generating Units

- 6.3.1 The SO shall use all reasonable endeavors to dispatch generating units in accordance with the *unconstrained schedule* and the *MOT* generated and communicated by the *MO* for the relevant *trading interval*.
- 6.3.2 Upon receipt from the *MO* of the unconstrained schedule for a *trading interval*, the *SO* shall review the same to determine if it shall become necessary to implement a re-dispatch.
- 6.3.3 The *SO* shall issue the necessary re-dispatch instructions based on the *MOT* to the generators in cases of the following:
- If there are congestions in actual condition to prevent the thermal overloading of the transmission lines and transformers;
 - If there is an increase or decrease in system demand within the *trading interval* or there are forecast errors to ensure that the supply and demand is balanced at all times; or
 - Any condition that necessitate the *SO* to re-dispatch generators to ensure the security and reliability of the grid at all times.
- 6.3.4 The *SO* shall implement the schedules for the ancillary service providers in accordance with their contract.

6.4 PSMF Constrained-On Generators

- 6.4.1 All generators that were re-dispatched higher than their unconstrained schedule in accordance with the Section 6.3.3 of this *Market Manual* shall be considered as *PMSF Constrained-On Generators*.
- 6.4.2 For clarity, the following generators shall not be considered as *PMSF Constrained-On Generators*:
- Generators that are dispatched by the *SO* at their *unconstrained schedule* as provided by the *MO*.
 - Generators that are dispatched by the *SO* lower than their unconstrained schedule as provided by the *MO*.
 - Scheduled MRUs* designated by the *SO* through the imposition of the security limit,
 - Ancillary service providers that were dispatched by the *SO* in accordance with their ancillary services agreement.
 - Generators running beyond their unconstrained schedule but without *SO*'s re-dispatch instructions
 - Must-Dispatch*, *Priority Dispatch*, and *Non-scheduled* generating units running higher than their projected output.

SECTION 7 PRICING AND SETTLEMENT
7.1 Determination of PSMF Price

7.1.1 The *PMSF Price* for each generator during the relevant *trading interval* shall be equal to either of the following:

- a. UMCP for the generators other than those that were *PMSF Constrained-on*.
- b. Pay-as-Bid for *PMSF Constrained-On generators*. This price is based on the offer price of the generator corresponding to the re-dispatched MW in compliance with the instruction of the SO.

7.1.2 When the conditions for the application of pre-emptive mitigating measures occurred, the generator price determined in the foregoing shall be replaced in accordance with the methodology approved by the *ERC*.

7.2 Settlement Calculations

7.2.1 The Energy Trading Amount of a *Generator Trading Participant* shall be calculated as follows:

$$ETA_k = PMSF_k * GESQ_k - \sum_{b=1}^B (PMSF_k * BCQ_{k,b})$$

Where:

ETA_k	Refers to the Energy Trading Amount of generator k
$PMSF_k$	Refers to the PMSF Price of generator k as determined in Section 7.1.1 of this manual
$GESQ_k$	Refers to the Gross Energy Settlement Quantities of generator k , as determined under WESM Rules Clause 3.13.6
$BCQ_{k,b}$	Refers to the <i>bilateral sell quantities</i> of generator k to customer b , submitted in accordance with WESM Rules Clause 3.13.1.1
B	Refers to the total number of customers

7.2.2 The Customer Energy Trading Amount shall be determined by allocating the total generation payments based on the customers' actual energy metered quantities considering Bilateral Contract Quantities calculated as follows:

$$ETA_b = - \frac{\sum_{k=1}^K (PMSF_k * GESQ_k)}{\sum_{b=1}^B GESQ_b} * GESQ_b - \sum_{k=1}^K (PMSF_k * BCQ_{b,k})$$

Where:

ETA_b	Refers to the Energy Trading Amount of customer b
$GESQ_b$	Refers to the Gross Energy Settlement Quantities of customer b , as determined under WESM Rules Clause 3.13.6
$PMSF_k$	Refers to the PMSF Price of generator k as determined in Section 7.1.1 of this manual
$GESQ_k$	Refers to the Gross Energy Settlement Quantities of generator k , as determined under WESM Rules Clause 3.13.6
$BCQ_{b,k}$	Refers to the <i>bilateral buy quantities</i> of customer b from generator k , submitted in accordance with WESM Rules Clause 3.13.1.1
B	Refers to the total number of customers
K	Refers to the total number of generators

7.2.3 **Regional Application.** When the interconnection between Luzon and Visayas is on *outage*, the customer energy trading amount shall be calculated on a regional basis. That is, the formula set out in Section 7.2.2 of this *Market Manual* shall be applied per region.

7.3 Settlement of Scheduled Must Run Units

7.3.1 *Scheduled Must-Run Units* shall be compensated based on the prevailing Generation Price Index (GPI) as provided under Section 9.1 of the *Market Manual* on the Management of Must-Run and Must-Stop Units.

7.3.2 The *MRU* Volume shall be calculated in accordance with Section 9.3 of the *Market Manual* on the Management of Must-Run and Must-Stop Units.

7.3.3 Additional Compensation

- a. *Scheduled MRUs* that complied with dispatch instructions may be entitled to additional compensation as set out in Section 9.3.2 of the *Market Manual* on the Management of Must-Run and Must-Stop Units.
- b. *Real-Time MRUs* are not entitled to additional compensation.

7.3.4 The amount to be allocated to each *Customer* will be the Total Settlement Amounts in each grid, either Luzon or Visayas for all *Scheduled MRUs*, including the amount paid as additional compensation, pro-rated to the *Customers* either within Luzon grid or Visayas grid based on their metered quantities. Note that this is the same *Customer* allocation set out in the Section 9.4 of the *Market Manual* on the Management of Must-Run and Must-Stop Units.

7.3.5 Settlement of *Must-Stop Units* and *Displaced Generators* are not covered in this *Market Manual*.

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

- 8.1.1 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:
- details of and reasons for the PMSF;
 - the number of *trading intervals* affected;
 - the actions done to address the PMSF; and
 - supply and demand situation during affected *trading interval*
- 8.1.2 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*.

8.2 System Operator Report

- 8.2.1 The *SO* shall provide the *MO* with the necessary information for purposes of settlement such as a report on all the re-dispatch instructions contained in *Dispatch Deviation Report* and *MRU Report*. These reports should indicate the reasons for re-dispatch as follows:
- re-dispatched generators in accordance with the Section 6.3.3 of this *Market Manual*, hence an *PMSF Constrained-On generator*;
 - as an ancillary service provider, hence not a *PMSF Constrained-On generator*.
 - Scheduled Must Run Unit (MRU)*, hence not a *PMSF Constrained-On generator*.
- 8.2.2 The *MO* shall publish the same information in *the Market Information Website* upon receipt of the report.
- 8.2.3 Each *Generator Trading Participant* shall validate all the data contained in the report as published by the *MO* in the *Market Information Website*. Any concern in the report shall be reported by the *Generator Trading Participant* to the *MO* within two weeks after its publication. Failure by the *Generator Trading Participant* to report to the *MO* any discrepancy within the period defined herein shall render the data relative to the *Generator* final.
- 8.2.4 The *MO* shall compile all the discrepancy report from the *Generator Trading Participant* within two (2) days and submit this to the *SO* for their validation.
- 8.2.5 The *SO* shall validate all the discrepancy report from the *Generator Trading Participant* within two weeks and submit a report to the *MO* for purposes of settlement.

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*.

SECTION 10 AMENDMENT, PUBLICATION AND EFFECTIVITY**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*.