Philippine Electricity Market Corporation

MINUTES OF THE 103rd MEETING OF THE RULES CHANGE COMMITTEE Regular Meeting No. 2015-08	
Meeting Date& Time:	05 August 2015
Meeting Venue:	9th Floor PEMC Training Rooms 2&3

Attendance List

In Attendance	Not In Attendance
Principal Members: Maila Lourdes G. de Castro, Chairperson-- Independent Francisco Leodegario R. Castro, Jr.-- Independent Concepcion I. Tanglao – Independent Allan C. Nerves,– Independent Joselyn D. Carabuena -- Generation (PSALM) Jose Ferlino P. Raymundo --Generation (SMC Global Power) Theo Cruz Sunico -- Generation (1590 EC) Ciprinilo C. Meneses --Distribution (MERALCO) Jose P. Santos–Distribution (INEC) Ludovico D. Lim– Distribution (ANTECO) Ambrocio R. Rosales --System Operator (NGCP) Isidro E. Cacho -- Market Operator (PEMC) **Alternate Member:** Ernesto Padillo, Jr.–Supply (TPEC) Errwil R. Bugaoisan –System Operator (NGCP)	Gilbert A. Pagobo – Distribution (MECO) Lorreto H. Rivera --Supply (TPEC)

PEMC
Chrysanthus S. Heruela – MAG (Secretariat
Geraldine A. Rodriguez – MAG (Secretariat)
Romellen C. Salazar – MAG (Secretariat)
Caryl Miriam Y. Lopez -- Legal
Edward I. Olmedo – TOD
Marcial J. Jimenez –TOD
Clares Jalocon – CPC
Jonathan dela Vina – CPC
Phillip Adviento –CPC

Others: (DOE/ ERC Observers/Other Resource Persons):
Ferdinand B. Binondo – DOE
Lorelei Moya –DOE
Nelson Canlas –ERC
Pablito Enriquez –Petron
Mark Tristan Caparas –Petron
Cheryll M. Valenzuela-Mendoza –Petron
Gerald Santayana – Petron
Michael Angelo Viray –Petron
Andrew San Juan- Petron

There being a quorum, Chairperson Atty. Maila Lourdes de Castrocalled the meeting to order at around 9:00 AM.

I. AGENDA:

The Proposed Agenda for the 103rd RCC Meeting was approved, as amended.

II. REVIEW, CORRECTION AND APPROVAL OF THE MINUTES OF THE 102nd RCC MEETING

The RCC reviewed the Minutes of the 102nd RCC Meeting held on 01 July2015 and approved the same as presented.

III. BUSINESS ARISING FROM THE PREVIOUS MEETING

1. Proposed Amendments to the Administered Price Determination Methodology Manual: Updates from PIPPA

Mr. Jose Ferlino Raymundo apprised the RCC of the latest updates, as indicated in PIPPA's letter to the RCC, regarding PIPPA's Proposed Amendments to the Administered Price Determination Methodology Manual (APDM) on the nominated price (NP). In said letter, PIPPA stated that equating NP with the ERC-approved Power Supply Agreement (PSA) rate, as previously suggested by the RCC, is inconsistent both with the WESM objectives as well as the ERC's guiding principles in establishing the APDM Manual. Thus, PIPPA proposed formula, as follows:

Administered Price = Average Nodal Price or AZRP

In cases where the AP is not sufficient to cover the costs incurred in complying with the dispatch instructions during market intervention or market suspension, PIPPA proposed to usethe following formula:

$$\frac{\text{ERC Rate x 100 Load Factor}}{\text{ERC Rate x Actual Capacity Factor}}$$

Mr. Raymundo informed the RCC, however, that errors were found in the above proposed formula as it did not conform to the intention as stated by PIPPA. In this regard, Mr. Raymundo stated that a new formula was submitted to PIPPA for consideration. While awaiting PIPPA's response to his proposal, Mr. Raymundo requested that further discussions on the matter be deferred.

Atty. de Castro thanked Mr. Raymundo for the updates on the proposal and stated that the RCC will defer the discussions on the matter until a revised proposal, with the correct formula, is formally submitted by PIPPA to the RCC.

Meanwhile, the RCC agreed to write a letter to PIPPA acknowledging receipt of PIPPA's letter and informing PIPPAthat the letter was discussed by the RCC during its meeting. Atty. de Castro further instructed that the letter indicate that given the updates provided and the request from Mr. Raymundo, the RCC has deferred further discussions on the matter until a revised proposal is resubmitted by PIPPA.

2. Proposed Amendments to the WESM Rules on the Submission of Standing Offers: Updates During the Board Review Committee/PEM Board

Mr. Isidro Cacho provided updates on the result of the presentation of the RCC's Proposed Amendments to the WESM Rules on the Submission of Standing Offers during the Board Review Committee (BRC) meeting held on 20 July 2015. Mr. Cacho informed the RCC that the proposal was remanded to the RCC, with instructions to ensure that the proposal is consistent with the DOE Circular on the guidelines for the implementation of preferential dispatch, and likewise, for the RCC to incorporate in its proposal the on-going proposal being deliberated upon by the RCC regarding the Amendments to the WESM Rules on the implementation of preferential dispatch and fit-all collection implementation, which was submitted to the RCC by PEMC.

For the benefit of the newly-appointed RCC members, Mr. Cacho explained that in essence, the RCC's proposal is for standing offers to apply until updated or revised by the Participant, to ensure that there will always be standing offers in the market, which is important particularly for the System Operator's planning for reserve requirements. Mr. Cacho explained that given the limitations of the current facility of the Market Management System (MMS), participants are required to set an expiry date when submitting their standing offers. Thus, to facilitate the implementation of the changes, the RCC agreed that once the rules amendments are approved, as a transitory mechanism, the Market Operator shall issue an advisory to participants to set their standing offers sometime in December 2018, as the commercial operations of the new MMS is expected to commence in 2017.

The RCC noted the information from Mr. Cacho. Since there were no changes instructed by the BRC in relation to the Proposal, Atty. de Castro requested the Secretariat to include the same in the submission of the RCC on thepProposal relating to preferential dispatch, once this gets approved by the Committee.

Atty. de Castro thanked Mr. Cacho for providing the BRC updates.

3. Proposed Amendments to the WESM Rules on Preferential Dispatch and Fit-All Collection Implementation: Comments of DOE, WESM Technical Committee, PIPPA, APC, Northwind, and SACASOL

Mr. Jonathan dela Vina of PEMC-Corporate Planning and Communications (CPC) presented the comments received relative to the above proposal, and the PEMC's response to all these comments. (Please refer to Annex A for the RCC's discussions for the documentation of the approved proposal).

After due deliberations and in consideration of the comments gathered and discussed by the RCC, the RCC approved the Proposed Amendments to the WESM Rules on Preferential Dispatch and Fit-All Collection Implementation, with the incorporation of the RCC's Proposal in relation to standing offers, and likewise agreed on its endorsement to the PEM Board.

Atty. de Castro thanked Mr. dela Vina for providing PEMC's inputs in the course of the RCC's deliberations on the matter.

4. Proposed Amendments to the Dispatch Protocol Manual: Presentation of the revised proposal based on RCC discussions and instructions to MO

Mr. Edward Olmedo presented the revised Proposal for Amendments to the Dispatch Protocol Manual based on the RCC's instructions to the Market Operator in the meeting held on 08 April 2015.

As a background, Mr. Olmedo stated that the proposal was first submitted by PEMC in December 2014 and waspresented for approval for publication in the succeeding RCC meeting. The RCC agreed to incorporate in the proposal the provision that plants on commissioning and testing shall be settled as price takers. The proposal was approved for posting to solicit comments from participants. In response to the call for comments, written submissions were received from several parties. In the course of the RCC's deliberations and given the various concerns raised regarding the proposal, the MO was instructed to revise the proposal accordingly, based on the RCC's discussions in its meeting of April 2015. Among the revisions to be made were as follows: a) to reflect in the proposal the current manual version, Issue 11; and b) to include a section/provision detailing the use of the WESM merit order table (MOT). Mr. Olmedo explained that while PEMC was crafting the Proposal in 2014based on theprevailing issue of the Manual at that time which was then Issue 9, it was overtaken by several approvals on amendments to the Manual, including those relating to the reserve market (urgent and general amendments) and the MRU-related amendments.

Based on the RCC's instructions above, the proposal was revised by the MO as the proposed Dispatch Protocol Manual Issue 12. Since major revisions were made on the original proposal, and the Manual was revised in terms of structure to conform to the new format of market manuals being implemented by PEMC, it was deemed appropriate to have another round of publications for transparency. Moreover, instead of the usual RCC matrix detailing the "from - to" provisions of the proposal and given the many changes and the difficulty of reflecting these changes into a matrix form, the entire Proposed Issue 12 of the Dispatch Protocol Manual should be published instead.

The revised proposal reflects, among others, the following:

a) new formatfor the market manual;
b) deletion of appendices and incorporation of the same as major sections in the manual;
c) provision of references in the WESM rules for the obligations stated in the manual;
d) a new section for the WESM timetable;
e)new market operations procedures;
f) omission of references to the bilateral contract quantity (BCQ);
g) reports on the cancellation of bids and offers;
h) a section for all the System Operator's inputs, including the overriding constraints;
i) other procedures such as SO review of the RTD; and
j)MO publication requirements.

Moreover, the proposal already incorporates the provisions regarding the dispatch implementation on MRU and MSU, as well as the clarification on the regional MOT. Finally, the proposal incorporates the procedure for start-up and shut-down generating units, which is currently reflected in a separate manual. Once the proposal is approved, the MO will propose the deletion of the the existing Manual on Start-up and Shut-down Generating units.

Atty. de Castro thanked Mr. Olmedo for the presentation and stated that since the matter was already previously discussed, the RCC will no longer request Mr. Olmedo to explain the proposal/proposed provisions line by line.

For the purpose of reviewing the entire document, the RCC requested to be furnished a copy of theproposed Dispatch Protocol Manual Issue 12, which will be published by the RCC.

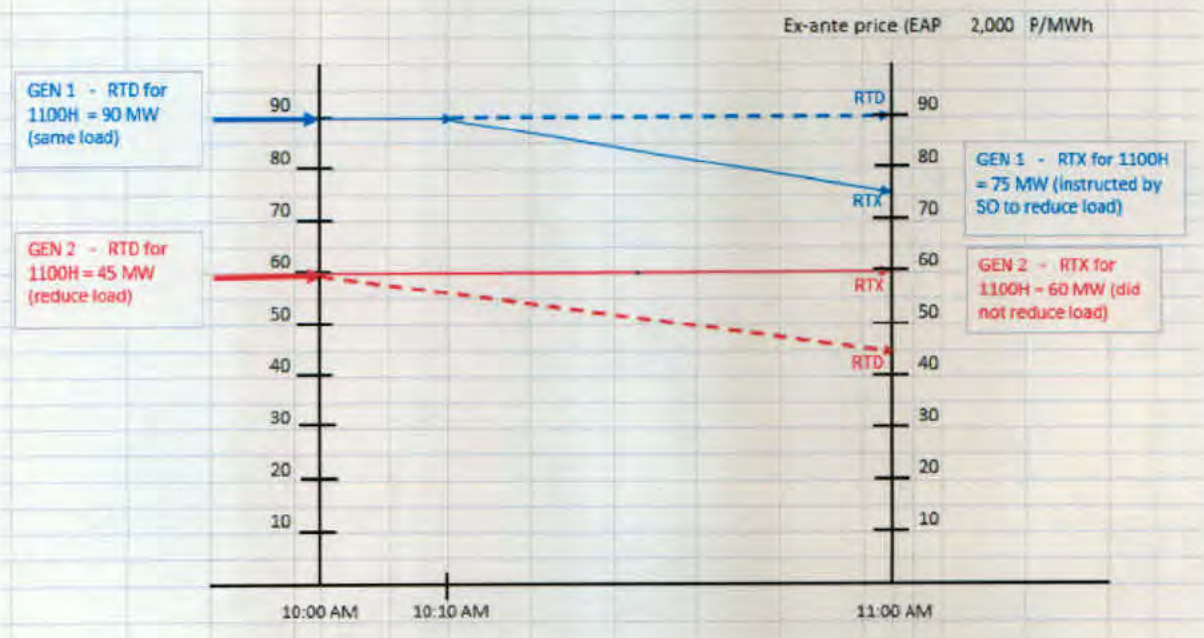
On motion duly made and seconded, the proposed Dispatch Protocol Manual Issue 12 was approved for posting to solicit comments of participants.

5. Proposed Amendments to the MRU-MSU Manual on the Settlement by MSUs of Displaced Generators: Presentation by MERALCO of an alternative formula to consider the injection of variable renewable energy (RE) sources

Mr. Ciprinilo Meneses started off by presenting the visual concept of the MSU and the Displaced Generator, with the MSU being the generator injecting the "unwanted" energy and not following the SO instructions, the effect of which is the curtailment of some energy that the Displaced Generator should have been capable of delivering.

Below are the highlights of the alternative Proposal that Mr. Meneses presented.

Case 1: No RE Generators Involved



I. Differential Energy Computation

		EAQ for interval 1100H (MWh)	MQ for interval 1100H (MWh)	Differential Energy (MWh)	
DG	GEN 1	90.00	83.00	(7.00)	<== energy to be compensated
MSU	GEN 2	52.50	60.00	7.50	<== energy to be penalized
	Subtotal	142.50	143.00	0.50	(energy deloaded by regulating plant)

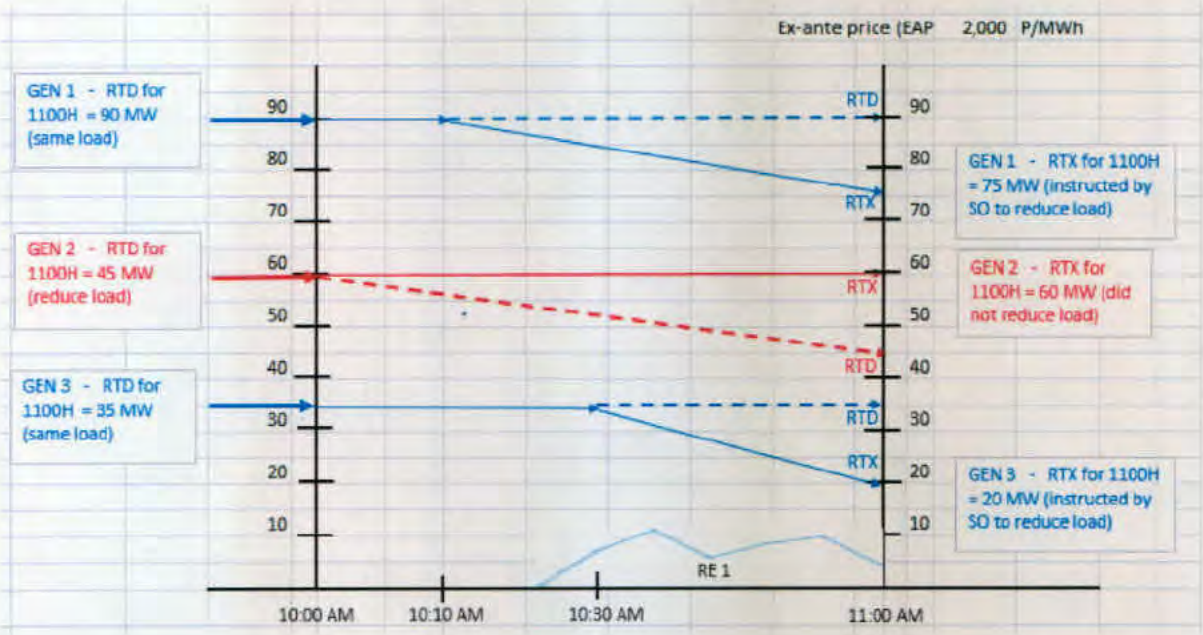
Note: the "pasaway" energy of 7.50 MWh roughly matches the "pasunod" energy of 7.00 MWh.

II. Compensation/Penalty Computation

DG	GEN 1	(-1) x (Differential Energy) x EAP =	7.00	x	2,000	=	14,000.00 Pesos	(Compesation to be given to GEN 1)
MSU	GEN 2	(-1) x (Differential Energy) x EAP =	(7.50)	x	2,000	=	(15,000.00) Pesos	(Penalty to be collected from GEN 2)
	Net Amount						1,000.00 Pesos	(may be added to Settlement Surplus)

A minimal residual amount is expected.

Case 2: RE Generators are Involved



I. Differential Energy Computation

		EAQ for interval 1100H (MWh)	MQ for interval 1100H (MWh)	Differential Energy (MWh)	
DG	GEN 1	90.00	83.00	(7.00)	<== energy to be compensated
MSU	GEN 2	52.50	60.00	7.50	<== energy to be penalized
DG	GEN 3	35.00	29.00	(6.00)	<== energy to be compensated
	RE 1	-	5.25	5.25	
	Subtotal	177.50	177.25	(0.25)	(energy supplied by regulating plant)

Note: the "pasaway" energy of 7.50 MWh no longer matches the total "pasunod" energy of 13.00 MWh (7.00 + 6.00).

II. Compensation/Penalty Computation

DG	GEN 1	(-1) x (Differential Energy) x EAP =	7.00	x	2,000	=	14,000.00 Pesos	(Compesation to be given to GEN 1)
MSU	GEN 2	(-1) x (Differential Energy) x EAP =	(7.50)	x	2,000	=	(15,000.00) Pesos	(Penalty to be collected from GEN 2)
DG	GEN 3	(-1) x (Differential Energy) x EAP =	6.00	x	2,000	=	12,000.00 Pesos	(Compesation to be given GEN 3)
	Net Amount						(11,000.00) Pesos	(may be taken from Settlement Surplus)

A substantial residual amount is expected because of intermittent RE generators.

In the usual case where REs are not involved, the differential energy for both the MSU and Displaced Generatoris computed through the formula MQ-EAQ. To compute for the differential amount, this is multiplied with the ex-ante price (EPP). In the formula, the Displaced Generator amount is matched with the MSU amount, with a minimal residua

expected amount. Mr. Meneses stated that although his previous proposal is to add the net amount between the MSU and Displaced Generator amounts to the Net Settlement Surplus (NSS), he acknowledges PEMC's explanation that this may not be possible since the NSS is shared by the Generators and Customers.

Moving forward with Case 2 where REs are involved, calculating the differential amount will yield a huge, non-negligible differential amount due to the energy injected by the RE plant. As such, the MSU and Displaced Generator amount will no longer match. Mr. Meneses expressed that this situation can be aggravated in the future when more RE plants start participating in the market with uncontrollable injection of power in the grid. When that happens, the amount that can be collected from the MSU will not cover the injection of the RE plants. The question he posed to the RCC is how to account for the injection of the RE plants which cause the huge imbalance between the MSU and Displaced Generator amounts.

Following are the comments and discussions in relation to the presentation made by Mr. Meneses.

- Mr. Cacho stated that since the REs are covered by law and the DOE's policy, they cannot be penalized or cannot be required to compensate the Displaced Generators for the latter's lost opportunity due to RE's injection of power. Mr. Cacho emphasized that because REs are prioritized in the hierarchy for dispatch based on the law, then they should be taken as a given.

- Mr. Rosales commented that the primary objective for introducing the concept of MSU is to be able to identify the non-complying generators with the SO's instructions. He explained that there may be instances that there are MSUs but without corresponding Displaced Generators, simply because the reserves have absorbed the requirements of the grid during real time for small deviations of some plants, forecast errors, generator tripping, etc. Although no Displaced Generator amount is to be collected from the MSU, the MSU will be subject to the applicable rules on non-compliance to dispatch instructions. To be fair to the Displaced Generators when there are non-complying MSUs, the settlement mechanism was introduced.

  In terms of the REs, Mr. Rosales explained that they are allowed to inject their maximum available capacity in the grid, provided that the grid security will not be jeopardized. Because REs generate power based on acts of nature, they cannot be tagged as MSUs .

  Mr. Rosales emphasized that what the proposal tries to address is how to penalize the non-complying generators or the MSUs. The compensation mechanism was introduced in cases where there are Displaced Generators due to non-compliance. He stressed that the amount to be paid to said Displaced Generators shall only be based on the MSU amount or quantity, without taking into account the RE injection.

- Mr. Raymundo agreed on the principle that was explained by Mr. Rosales. However, Mr. Raymundo was concerned of the difficulty of computing the settlement amounts considering all the things that were discussed such as the REs, as the actual displaced in consideration of the RE injection may be larger than what can be computed as the Displaced Generator amount using the formula. He suggested that perhaps, to make the computation simpler, limitations on the settlement amount

should be set such that the amount due to the Displaced Generator should not be greater than the amount displaced by the MSU.

- Mr. Theo Sunico likewise agreed that the MSU mechanism was introduced primarily to penalize the non-complying generatorsand to protect the system. He likewise agreed that there is an opportunity cost that needs to be compensated on the part of the Displaced Generators. However, given how the law was crafted, the REs may not be penalized even if it causes some generators to be displaced, unless the REs fail to follow the SO's instructions when the Grid is not in the normal state.

  On the issue of settlement, Mr. Sunicowas interested in knowing how the amount to be collected from the MSUs will be divided amongst the Displaced Generators, when there is imbalance between the amounts computed for the MSU and Displaced Generators.

  In response, Mr. Marcial Jimenez explained that based on MQ, the Displaced Generator will be settled first, based on calculation of the opportunity loss by the Displaced Generator, and pro-rated against the total quantity that was displaced by the MSU. For example, if the displaced quantity is 2MW, this quantity will be multiplied withthe e-postprice and pro-rated against the MSU quantity. If it happens that there are Displaced Generators and the price is zero, then there will be no amount that will be pro-rated to the MSU. If the Displaced Generator amount is larger than the MSU quantity, the same concept of pro-rating still applies, where the entire amount due to the Displaced Generator will be shouldered by the MSU.

- Mr. Rosales expressed that with this mechanism, generators shall be compelled to follow their dispatch instructions, otherwise, all the amount due to the Displaced Generator will be shouldered by the MSU, including the quantity which is a result of RE injection. The RCCagreed that indeed Generators should abide by their dispatch instructions.

  Ms. Joselyn Carabuena, for her part, was concerned about the situation of one of their plants, where said plant is frequently being called to constrain-ff simply because it has relatively fast ramp down rate as compared with other Generators. Since there is opportunity loss every time that the plant is being asked to constrain-off, Ms. Carabuena inquired if the problem of being frequently asked to shutdown can be addressed in the Proposal's settlement mechanism.

  In response to the above concern, Atty. Caryl Lopez-Mateo expressed her opinion that perhaps, there will be no lost opportunity if there is proper hedging and better contractual arrangements between Generators and Distributors. Atty. Mateo explained that when a Generator is asked to back down, it means that technically, the system did not need that Generator. On the other hand, if the Generator needed to deliver on contract, and the VRE comes in, with VREs as price takers, this would have the effect of a lower marginal cost, and will encourage buying from the market and selling that through delivery on the Generator's contacts with its Distribution Utility. In such case, if that is the type of financial arrangement between the parties, the Generator would have had no opportunity cost that will be lost.

  Ms. Carabuena acknowledged the point raised by Atty. Mateo. However, she expressed that her concern is more on clarifying when and how a Generator will be classified as a Displaced Generator, and at the same time, who will determine that i

is indeed displaced, because admittedly, there will be lost opportunity on the part of the Displaced Generator.

To address the concern of Ms. Carabuena, Mr. Rosales stated that the System Operator is allowed to constrain off Generators in the MOT to address system security. In such a situation, the SO's consideration is how fast a Generator can respond to address over-frequency. However, in most instances, once over-frequency and system security is addressed, the SO immediately restores the output of the constrained-off Generator. On another aspect, Generators should also consider that perhaps, the Generator that is frequently asked to constrain-ff may be the most expensive generator in the merit order that sets the price. Mr. Rosales explained that a marginal plant will almost always be the first plant that will be asked to reduce its output, especially when the issue that the SO is trying to address for constraining-off a plant is over-frequency.

- Mr. Ferdinand Binondo clarified that based on the definitions in the Manual, when there is an MSU, and correspondingly, a Displaced Generator, a Generator will be classified as a Displaced Generator only if the System Operator asked that Generator to constrain-off out of merit. However, if the constrain-off plant is based on the MOT, it will not be considered as a Displaced Generator. Relatedly, on the concern of Ms. Carabuena in the earlier discussions, Mr. Binondo inquired from the SO on the amount or percentage that a particular generator should be asked to reduce when it is asked by the SO to constrain-off due to an MSU.

  In response, Mr. Rosales stated that the amount to be reduced by a particular Generator would depend on the requirements of the Grid—it may reduce its output partially relative to its schedule based on MOT, or shutdown totally.

- Ms. Carabuena inquired from SO on how a generator will be called to reduce itsoutput when the REs come in injecting power in the grid, whether the reduction of output will be shouldered by the marginal plant or the total energy that needs to be reduced will be divided equally among all generators in the MOT. Mr. Rosales responded that the SO's instruction to reduce output will still be based on the ranking in the MOT.

At this point, Atty. de Castro reminded the body that the matter at hand is for the RCC's decision on whether the proposal by Mr. Meneses or, the previous settlement mechanism proposed by the RCC, which was presented by Mr. Marcial Jimenez, will be adopted.

She summarized that based on discussions, the presentation by Mr. Meneses centers on lookingto be able to balance the situation in terms of penalty and compensation for the MSU and Displaced Generator, respectively, when the RE comes in. The position of the SO and the MO is that since the REs are covered by the law and DOE's policy, it accepted as expressly included in the market operations and should not be made liable for the opportunity loss on the part of the Displaced Generator. The position of the Generators is that they should be properly compensated when they are displaced due to the MSU, through the appropriate settlement mechanism of pro-rating the MSU amount to the Displaced Generators. The position of PEMC Legal as expressed by Atty. Mateo is that the opportunity loss can be addressed through proper hedging and better financial contracts between Generators and DUs.

Following the discussions, upon motion duly moved and seconded, the RCC agreed to retain the original settlement mechanism previously discussed by the RCC over theproposed settlement mechanism presented by Mr. Meneses.

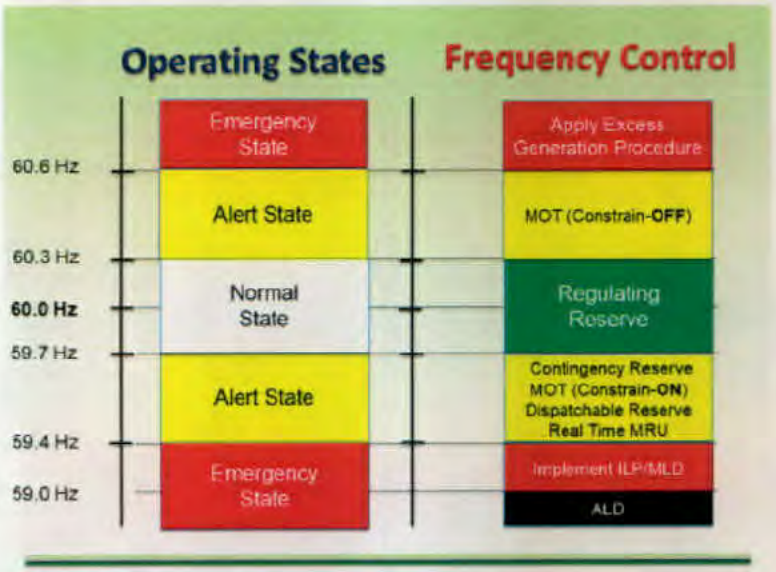
The RCC thereby approved the proposed amendment to the MRU-MSU Manual on the Settlement by MSUS of Displaced Generators, and agreed on its endorsement to the PEM Board.

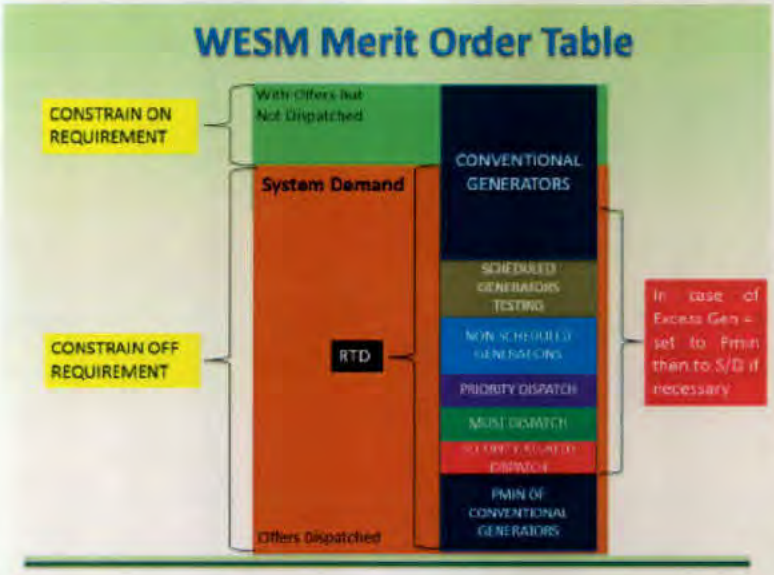
Atty. de Castro thanked Mr. Meneses for his presentation.

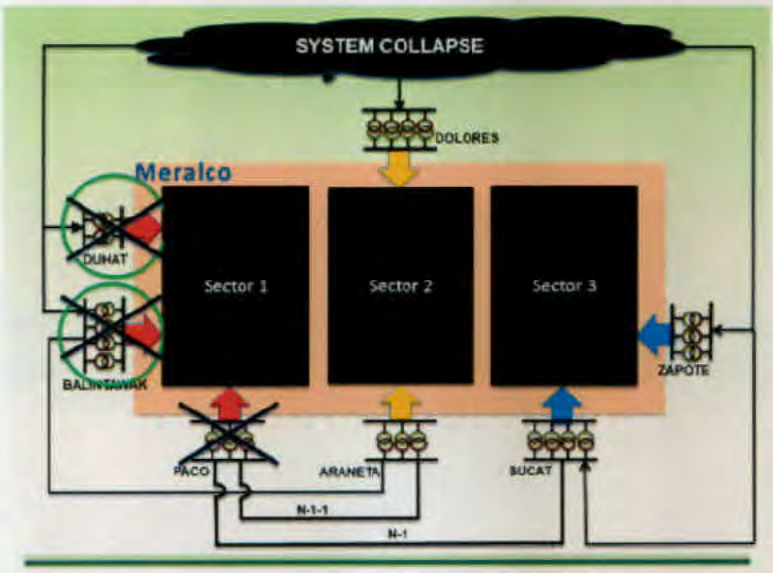
IV. NEW BUSINESS

1. NGCP's Proposed Amendment to WESM Rules and Market Manuals

Prior to his presentation ofNGCP's proposal, Mr. Rosales made a short presentation in relation to the current practice of the SO regarding dispatch protocol and frequency control, with the following highlights:







Below are some of the discussions which followed:

- The N-1 is based on the sub-station and not on the line that trips.
- There is currently no downward regulation, but this will be put in place once the reserve market is implemented.
- When one sector of the Luzon grid trips, it can lead to a cascadingeffectbecause frequency can go up to its highest, and at the same time, overloading can occur due to the large loads of the other sectors, which can further lead to instability of the generators.
- Since the Visayas grid is a single circuit system, it is not compliant with the N-1 single outage contingency based on the current requirements of the Philippine Grid Code

(PGC). However in the proposed PGC amendments, Visayas is exempted from compliance with the N-1 since it is not considered as a credible N-1.

Mr. Rosales' introductory presentation was followed by a discussion of NGCP's 1st of 3 proposals—the Proposed Amendment to the Manual on System Security and Reliability Guidelines.

Below are the comments and discussions relative to the presentation of the Proposal:

- Upon inquiry from Atty. De Castro, Mr. Rosales clarified that the operating margin refers to the available capacity of generators, less the forecasted demand.

- The term "sufficient" as used in Section 5.1 b means that the loss of a generating unit can be replaced immediately at any time, not necessarily the loss of the largest unit or the reserve provider. The loss pertains to the loss of any unit synchronized to the grid.

- Under Section 5.2, the RCC revised item b, as follows: "b. The operating margin is not sufficient to replenish sudden loss of a generating unit. The System Operator will issue a Yellow Alert Noticein such case."

- Under Section 5.2 e, Atty. De Castro inquired on how the term credible in "credible N-1" is defined. Mr. Rosales stated that this term is defined in the PGC. But to clarify, the contingency cannot be predicted in contrast with a disturbance. Thus, if a line is considered to trip, this can already be considered as a credible N-1.

- Mr. Meneses inquired if the SO will propose a definition for a white alert which seems to be an oxymoron. Mr. Rosales expressed that they do not use white alert because in the first place, alert is issued when the grid is not normal, thus, if it is normal, there is no alert to be issued. He added that even in the PGC, white alert was not used or defined.

- Under Section 5.3, the beginning sentence was revised, as follows for consistency with the other Sections, as suggested by Mr. Raymundo: **"The grid shall be considered in the Emergency State when any one of the following conditions exists:"**

- In relation to the discussion on alert state, Mr. Rosales emphasized that based on ERC Resolution No. 21, after a credible N-1 is determined, it means that there is already a threat to the security of the grid. In which case, if the SO will not intervene or take any action, the tripping can cascade and cause a blackout. He clarified, however, that the same does not apply to Visayas since the Visayas grid is a single circuit system. He explained further that during normal condition, the consideration of the Visayas is still as a single circuit that has no N-1. The market, thus, always provides the schedule for Visayas since there is no market intervention to be declared.

- The RCC recommended inserting the phrase **"as defined in the PGC"** for the terms used in the relevant sections in the Manual Manual/Proposal that are not currently defined in the Manual, such as Red Alert Notice, credible N-1 contigency, etc.

- Under Section 5.2 d, the RCC agreed on the following revisions: "The voltages at all transmission substations are outside the limits of ~~0.95pu~~**+/-5%** but still within the thresholds of~~0.90pu and 1.10pu~~**+/-10%."** The RCC likewise agreed to change other relevant provisions which defines the values of "pu".

- Under Section 5.2 e, the following revisions were also agreed upon: "~~There is~~ Critical loading or imminent overloading of transmission lines or substation equipment exists at any given time should ~~or~~a credible N-1 contingency ~~should~~ occur. ~~Thus, the System Operator shall make the necessary manual interventions to restore back the grid operating condition to Normal state.~~"For the last sentence that was deleted, the RCC agreed to include in the relevant clause/s in the Chapter 6 of the WESM Rules pertaining to intervention and suspension.

- For consistency, the RCC agreed to use N-1 instead of n-1 for all relevant provisions.

- Dr. Allan Nerves inquired on how critical loading is defined, and whether or not it isquantifiable. Mr. Rosales responded that it is a value between 90% and 100% of the capacity.

- Under Section 5.3 b, the RCC agreed to delete the same. "~~b. Single Outage Contigency (N-1) Criterion is not met~~ ."

- For purposes of making the proposal consistent with the PGC, Mr. Binondo reminded the proponent that the basis for such consistency should be onthe prevailing ERC-approved PGC and not the amendedversion which has not yet been approved. For instance, Mr. Binondo cited that under the criteria for alert state in the SO's proposal, "peace and order" was omitted. Mr. Rosales responded that the proposal in general was made consistent with the currentlyamended PGC, with additional revisions on those provisions that are no longer applicable, and which are proposed to be deleted/replaced in the amendments to the PGC on system security and reliability.

- In relation to the discussion, Atty. de Castro inquired from the ERC representative on what the estimated timeframe is for the approval of the amendments to the PGC. Mr. Nelson Canlas expressed that he will inquire on the information from the responsible department within the ERC and provide any updates to the RCC.As to the comments of Mr. Binondo, Atty. De Castro agreed that indeed, the SO should consider the prevailing ERC-approved PGC in its proposal for the WESM Rules and market manuals.

- Dr. Nerves inquired from Mr. Rosales if the term "significant threat" is already defined, and who decides whether or not there is a significant threat in the system.

  Mr. Rosales responded that it is the SO who determines if there is a significant threat in the system, which the SO bases on a simulation it undertakes. He shared that the SO is capable of conducting an online load flow by getting actual snapshots in real time, which the SO uses for offline simulation. Mr. Rosales further explained that the term significant, for purposes of Section 5.4, pertains to the overloading of any equipment and does not pertain to frequency. He clarified that the SO has no capability of determining the probability of when a line would trip. However, the SO would know the impact of a tripping of a line in the grid's security. Thus, the SO treats such tripping as a threat to security, and if the SO will not act on such threat, once

the line actually trips this results in essentially another N-1 and, the entire system could collapse.

- Dr. Nerves further inquired if the SO has a record of credible contingencies that are already classified or identified, to make the SO's judgment more or less justifiable. Mr. Rosales responded that the SO has a list of N-1 contingencies, which the SO is capable of ranking according to severity, using the SO's contingency analysis application. However, as defined in the PGC, he reiterated that the credible N-1 pertains to the tripping of a single line or equipment.

- Mr. Binondo commented on the confusion brought about by the use of the terms related to reserve (contingency, secondary, frequency regulation, primary, etc.). He suggested that perhaps, the SO should provide in its proposal a matrix showing the terms used in the original PGC, the changes based on reserve market, and the terms used in the proposed amended PGC, for better appreciation of the body.

- Under Section 5.5 a, Ms. Carabuena inquired on the reason for deleting the provision "Adequate frequency regulating reserve and contingency reserve shall be available to stabilize the system and facilitate the restoration to the normal state following a multiple outage contingency."She commented that her appreciation of said provision is to mandate the SO to ensure adequate regulation reserve.

  Mr. Rosales responded that the same is not related to reserve requirement, explaining that during or following a multiple outage contingency, the SO can no longer assure that there will still be adequate contingency and regulation reserve, thus the deletion. He explained further that the deleted provision is anyway captured in the proposed revision that "**The grid is operating in the Normal state in terms of reserve requirement when the operating margin is sufficient to replace the loss of load of the largest synchronized Generating unit.**"

Following the discussions, and noting the numerous concerns raised by the body, Atty. de Castro expressed that the SO may consider revising the proposal to incorporate the inputs provided by the RCC. In which case, it was also agreed by the RCC to defer further discussions on the SO proposal in the next RCC meeting, to resume once the SO has revised its proposal.

The RCC thanked Mr. Rosales for his presentation and the explanations he had provided during discussions on the matter.

2. Petron's Proposed Amendment to the WESM Rules on Cogeneration

Atty. de Castro acknowledged the presence of representatives from Petron. Mr. Michael Viray made the presentation relative to Petron's Proposal.

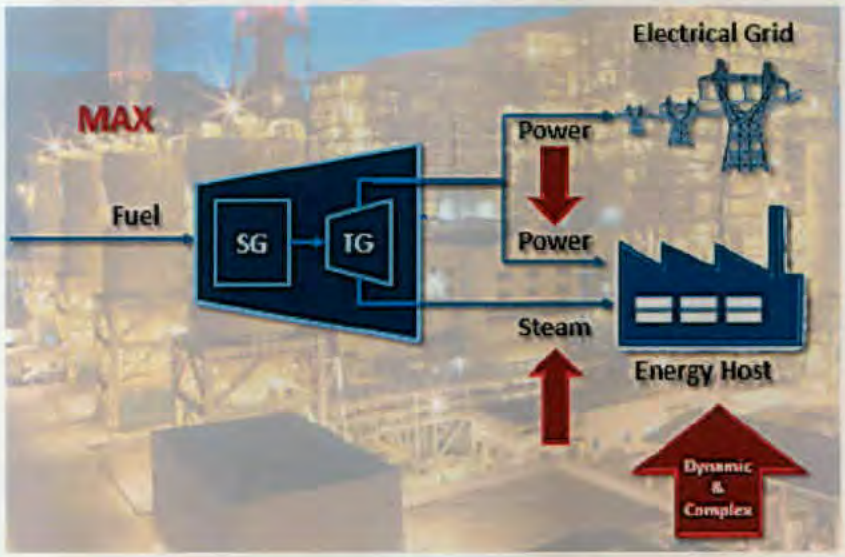
Mr. Viray's presentation focused on Petron's current cogeneration situationand in connection therewith isalleged non-compliance to the Must Offer Rules (MOR) requiring generation units to offer their maximum available capacity.

- Mr. Viray explained that based on the current definitions in the WESM Rules and Market Manuals, the peculiarities of acogeneration facility is not captured.Moreover

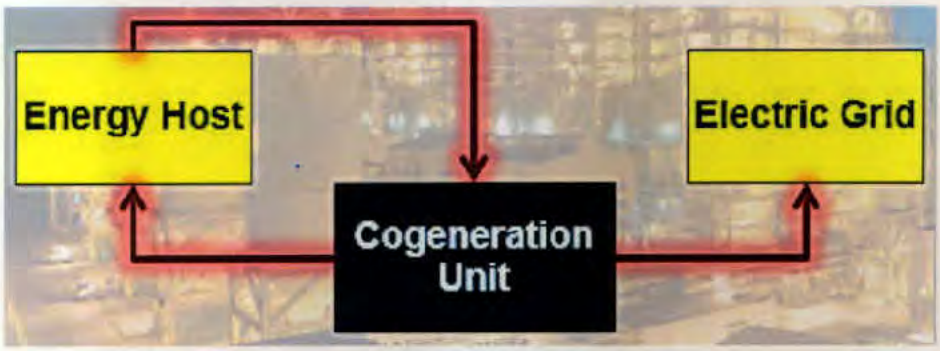
said peculiarity cannot be placed anywhere in the currently acceptable constraints in computing for the maximum available capacity.

Constraints	Remarks
Technical	Equipment-related failure; ambient temperature
Hydro	Limitation on the water elevation/turbine discharge
Geothermal	Steam quality (chemical composition, condensible and non-condensible gases) Steam pressure and temperature variation Well blockage; and Limitation on steam and brine collection and disposal system

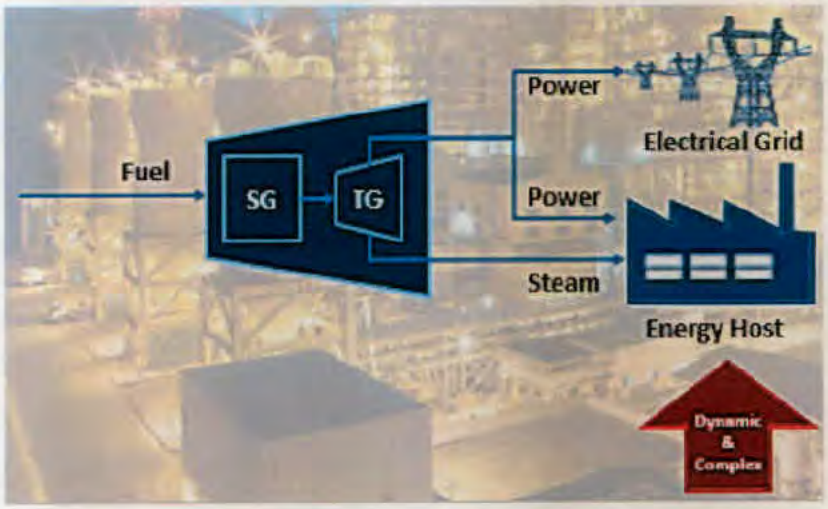
- He further explained that the energy host's steam and power load occur at the end of the process, which by itself is not considered as technical constraints

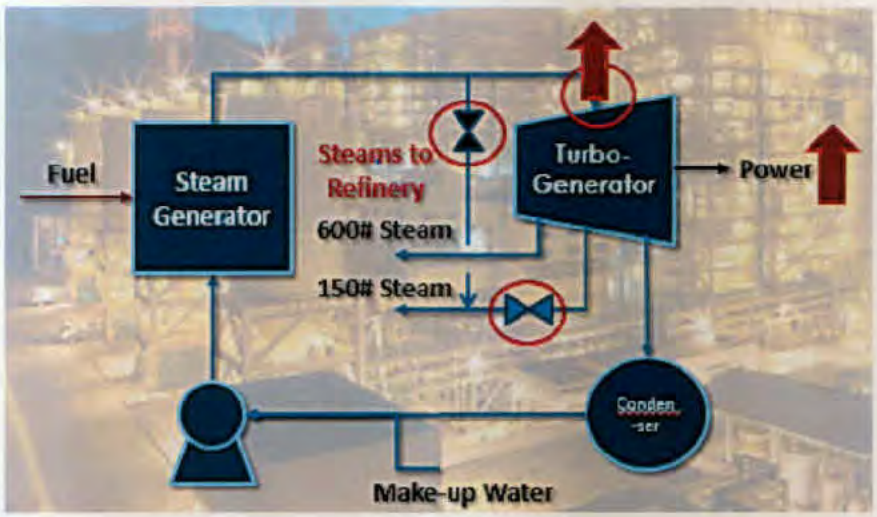


- The cogeneration unit and energy host are interdependent. The only time at which the energy host can affect the maximization of the cogeneration unit is when steam demand is significantly low, usually occurring when the energy host is on shutdown.

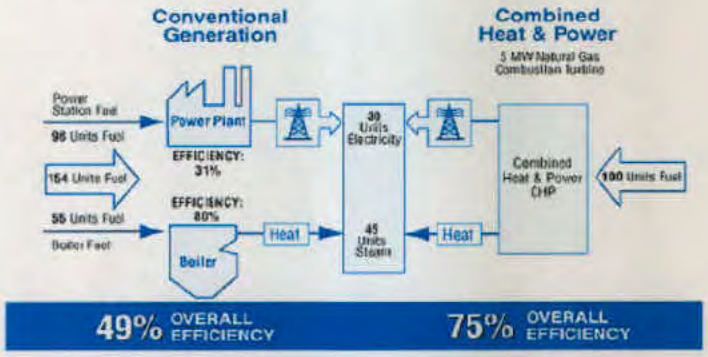


- Excess power fed to the grid is only a by-product of the need to generate steam and power for the energy host and is an operational necessity. The main purpose of the cogeneration facility is to supply energy and steam to the energy host. Only excess energy will be offered in the grid. Although the registered capacity of the two (2) units of the cogeneration facility is 70MW (or 35MW each unit), most of the time, it can only offer up to 15MW, while there are times that it can offer 0MW, particularly when the energy host is on shutdown. There are even times that the facility imports power that it will supply to its energy host.





- Other characteristics of a cogeneration is that it is a highly efficient and environmentally-friendly energy technology.



- Cogeneration likewise promotes competition as it displaces inefficient technologies in the market.

- Petron's Proposal, therefore,was as follows:

- **Cogeneration Units/System has a peculiar nature difficult to cover in WESM Rules**
  - *Designed to supply heat and power to its energy host*
- **Proposed Rules Changes:**
  - *Need to create a new classification*
  - *Need to exempt from the "Must Offer Rule" (MOR)*
- **Exemption from MOR because:**
  - *Excess power is a by product and operational necessity*
  - *Excess power not intended for profit maximization*
  - *It promotes energy efficiency, energy self-sufficiency and renewables*
  - *It promotes competition in the market*
  - *It helps government towards goal for sustainable development*

The following comments and suggestions were given by the RCC:

- Mr. Cacho suggested that instead of proposing an additional classification of generating units, Petron may consider either proposing a revision on the definition of the maximum available capacity, or revisiting and revising, as appropriate, its registration in the WESM. Mr. Rosales similarly opined that amending the current classification of generation plants in the Rules is not necessary. He suggested that Petron can instead get a new COC and register in the market what it can offer in the market as its maximum available capacity.

- Mr. Meneses suggested looking into the definition of the non-scheduled generation, which is based only on the size and not the type of Generation facility. Mr. Meneses expressed that by making appropriate revisions to the definition of the non-scheduled generation unit, Petron's cogeneration facility can perhaps get exemption from the Must-Offer rule.

- Mr. Chrysanthus Heruela expressed that the proposal emanated from the MSC's recommendation for Petron to propose the appropriate changes to the Rules that would capture the peculiarity of the cogeneration facility, having recognized that it is a separate energy subsector that the market should encourage to grow. Mr. Heruela stated that such facility is beneficial both in the supply and demand side, and that the proposal for it to be a new type of generator is to really encourage the development of cogeneration. However, Mr. Heruela opined that perhaps, Petron should consider revising other applicable rules that their proposal will affect, and likewise include as part of their proposal more details in terms of obligations and accountabilities of the cogeneration facility, if it will be considered as a new plant category.

In response to the suggestions above, Atty. Cheryll Mendoza stated that when Petron was drafting the Proposal, it also considered proposing to change the definition of the maximum available capacity. However, she expressed that by doing so, Petron felt it will not capture what they are trying to achieve, which is to highlight the peculiarity of a cogeneration facility. She further expressed that should the WESM or the RCC require Petron to submit a report or any additional documents that would support their position, Petron would be very much willing to discussing that as well, as to what type of reports will be required from their end.

Following the discussions and having heard Petron's position, the RCC approved the publication of the proposal, to solicit comments of participants and interested parties.

Atty. de Castro thanked the representatives from Petron.

V. OTHER MATTERS

1. PEM Board Updates

Ms. Geraldine Rodriguez informed the RCC that the RCC-endorsed proposal fo
amendments to the WESM Rules and the Manuals on MRU-MSU and Dispute Resolution in

relation to the verification of MRU data, was approved by the PEM Board in its meeting held on 24 July. The information was duly noted by the RCC.

2. Schedule of BRC and PEM Board for August 2015

Ms. Rodriguez informed the RCC of the schedule of the next BRC and PEM Board meetings on August 2 and 24, respectively. Ms. Rodriguez thus requested for confirmation for presenters in both meetings for the presentation of Proposals that were approved and will be endorsed by the RCC to the PEM Board.

3. DOE's letter to PIPPA regarding MRU

Ms. Rodriguez discussed briefly the contents of the DOE's letter to PIPPA, in response to the issues raised by PIPPA in relation to MRU.

In summary, the DOE indicated in the letter, the agreements reached between the DOE and PIPPA during their discussions, as follows:

a) Considering that the issue emanated from the use of almost similar terms, ie. "constrained on" vs. "constrain on," it was agreed for PIPPA to file with the RCC the corresponding rules change proposal for the adoption of terms other than constrain-on and constrain-off;

b) DOE to consider PIPPA's concerns on the responsibilities and accountabilities of the SO in terms of calling power plants as MRUs, automation of SO instructions specifically during intra-hour and monitoring of ramp-up/ramp-down, among others; and

c) PIPPA to proactively participate in the ERC hearing on the petition that will be filed by PEMC relative to MRU.

The information was duly noted by the RCC. Atty. de Castro thanked Ms. Rodriguez for sharing the updates with the RCC.

4. DOE's Letter to PEMC regarding Approval of Amendments to the WESM Rules on Rules Change Process

Ms. Rodriguez informed the RCC that the DOE already issued its approval on the amendments to Chapter 8 of the WESM Rules on the Rules Change Process previously endorsed by the RCC. However, since major revisions were made by the DOE on the original endorsement by the RCC, the DOE in its letter directed PEMC and the RCC to coordinate for the necessary manual revisions to harmonize the manual with the approved WESM Rules amendments.

Ms. Rodriguez expressed that PEMC will review the manual and revert to the RCC once the revised proposal has been crafted.

The information was duly noted by the RCC. Atty. de Castro once again thanked Ms. Rodriguez for the update she provided, and expressed that the RCC will await PEMC's submission of the revised proposal on the relevant market manual.

VI. NEXT MEETING

The RCC was reminded of the previous agreement to meet on the following dates in the succeeding months of 2015:

- 104th RCC Meeting – 02 September
- 105th RCC Meeting – 07 October
- 106th RCC Meeting – 04 November
- 107th RCC Meeting – 02 December

VII. ADJOURNMENT

There being no other matters at hand, the meeting was adjourned around 4:30 PM.

Prepared By:	Reviewed By:	Noted By:
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Analyst – Market Governance Administration Unit Market Assessment Group	**Assistant Manager** – Market Governance Administration Unit Market Assessment Group	**Manager** – Market Data and Analysis Division Market Assessment Group

Approved by:
RULES CHANGE COMMITTEE

[redacted]

Maila Lourdes G. de Castro
Chairperson
Independent

Members:

Concepcion I. Tanglao Independent	[redacted] **Francisco L.R. Castro, Jr.** Independent

[redacted]

Philippine Electricity Market Corporation

[redacted] **Allan C. Nerves** Independent	[redacted] **Isidro E. Cacho, Jr.** Market Operator Philippine Electricity Market Corporation (PEMC)
[redacted] **Ambrocio R. Rosales** Transmission Sector National Grid Corporation of the Philippines (NGCP)	[redacted] **Joselyn D. Carabuena** Generation Sector Power Sector Assets and Liabilities Management Corporation (PSALM)
[redacted] **Jose Ferlino P. Raymundo** Generation Sector SMC Global	**Theo C. Sunico** Generation Sector Vivant Corporation
[redacted] **Ciprinilo C. Meneses** Distribution Sector (PDU) Manila Electric Company (MERALCO)	[redacted] **Jose P. Santos** Distribution Sector (EC) Ilocos Norte Electric Cooperative, Inc. (INEC)
Gilbert A. Pagobo Distribution Sector Mactan Electric Company (MECO)	**Ludovico D. Lim** Distribution Sector Antique Electric Cooperative, Inc. (ANTECO)
[redacted] **Lorreto H. Rivera** Supply Sector TeaM (Philippines) Energy Corporation (TPEC)	Certified True and Correct: [redacted] **Elaine D. Gonzales** RCC Secretary PEMC

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