MINUTES OF THE 75th MEETING OF THE RULES CHANGE COMMITTEE

Date	:	05 June 2013
Time	:	9:00 AM
Venue	:	PEMC Training Rooms 2 and 3 9th Floor, PEM Board Room, Robinsons-Equitable Tower Ortigas Center, Pasig City

MEMBERS PRESENT:

Rowena Cristina L. Guevara	-	Chairperson/Independent – UP
Epictetus E. Patalinghug	-	Independent – UP
Francisco L.R. Castro Jr.	-	Independent – Tensaiken Consulting
Maila Lourdes G. de Castro	-	Independent –
Liberty Z. Dumlao	-	Generation Sector – PSALM
Ciprinilo C. Meneses	-	Distribution Sector – MERALCO
Augusto D. Sarmiento	-	Distribution Sector – DECORP
Jose P. Santos	-	Distribution Sector – INEC
Sulpicio C. Lagarde Jr.	-	Distribution Sector – CENECO
Conrado D. Pecjo	-	Supply Sector – Angeles Power, Inc.

MEMBERS NOT PRESENT:

Raul Joseph G. Seludo	-	System Operator – NGCP
Robinson P. Descanzo	-	Market Operator – PEMC

ALTERNATE MEMBER PRESENT:

Isidro E. Cacho	-	Market Operator – PEMC

OBSERVERS PRESENT:

Ferdinand B. Binondo	-	DOE

SECRETARIAT

Geraldine A. Rodriguez	-	PEMC – MAG
Shalom Grace A. Tomas-Llamzon	-	PEMC – MAG
Romellen C. Salazar	-	PEMC – MAG

OTHERS PRESENT:

Ma. Lourdes S. San Andres	-	PEMC – Legal
Marissa P. Gandia	-	PEMC–Finance
Ariston P. Martinez	-	PEMC–Finance
Marcial Brummel J. Jimenez	-	PEMC–TOD
Edward I. Olmedo	-	PEMC–TOD
Cynthia R. Encarnacion	-	Former RCC Member

After determining the presence of a quorum, the 75th RCC meeting was called to order by Chairperson Dr. Rowena Cristina L. Guevara at about 9:15 A.M.

1. **Adoption of the Proposed Agenda**

   The Proposed Agenda for the 75th RCC Meeting was approved, as presented.

2. **Review, Correction and Approval of the Minutes of the 74th RCC Meeting**

The Minutes of the 74th RCC Meeting was approved, as amended. Corrections made are as follows:

- On line 52, page 10:

  "Mr. Meneses clarified that the reduced amount will be **~~flowed back~~ returned** to the WESM trading participants in the form of Net Settlement Surplus (NSS)."

- On line 54, page 10:

  "Mr. Meneses however requested PEMC to validate the said findings and determine if there will be other financial impacts aside from the NSS **~~flow-back~~ return**..."

- On second bullet, page 18:

  "Mr. Meneses concurred with the suggestion of Ms. Javier, stating that it is more realistic to assume N-1 for all of the 5 delivery points of MERALCO instead of allocating 1 **~~transmission line~~ transformer** to be out of service for each of the said 5 delivery points."

Dr. Guevara in the course of the RCC's discussion, raised the issue on quorum, considering that the RCC conducts its business with only 12 remaining members.

The RCC then reviewed the *Guidelines Governing the Constitution of the PEM Board Committees Issue 2.0* and the *RCC Internal Rules* and discussed the interpretation on the counting of quorum, which per the Guidelines, would constitute the "presence of majority of all members". Dr. Guevara inquired whether on the basis of the said provision, quorum is determined by the counting of the total number of committee members at 15 or of the total number of active RCC members, which is 12. Atty. de Castro suggested to seek the legal opinion of PEMC in this regard. The Secretariat was thereafter requested to prepare the draft letter to PEMC-Legal, requesting clarification on the matter.

Dr. Guevara likewise raised that it is a concern that 3 out of the 4 generator sector-seats have been vacated with the resignation of Mr. Ralph T. Crisologo, Ms. Cherry Aquino-Javier, respectively, and the information that Ms. Cynthia R. Encarnacion is no longer connected with the NPC and would thus no longer qualify to continue with her RCC membership.

Ms. Geraldine A. Rodriguez responded that the Secretariat has yet to receive any documentation from Ms. Encarnacion on her resignation from NPC and the RCC. Dr. Guevara clarified that even without any official document, the RCC has personal knowledge of her status with the NPC.

3. Business Arising from the Previous Meeting

A. Proposed Amendments to the WESM Rules and the Billing and Settlements Manual (BSM) on Prudential Requirements (PR)

Atty. Maila Lourdes G. de Castro presented the proposed amendments, in behalf of the RCC Subcommittee on PR which reviewed the provisions, following the PEM Board

directive on the same. She informed the body that before finalizing the matrices of the proposed amendments, the RCC Subcommittee met with the PEMC-Finance Division to discuss in detail the direction of the PEM Board and the recommendations of PEMC.

Below are the highlights of the discussion on the RCC Subcommittee's proposed amendments to the WESM Rules:

- On Section 3.15.3 on the Form of Security, Atty. de Castro stated that the revisions were made following PEMC's expressed preference for cash as mode of security. She added that in cases when the customer cannot provide the cash required, the provision listed the acceptable forms of security in order of preference and that additional paragraphs were inserted as a safeguard for PEMC.

  The entire section as proposed, would then read as follows:

  "The security provided by the *WESM member* under this clause 3.15 shall be **either in accordance with the following hierarchy of preferred forms of security:**

  a) **Cash ~~A bank *guarantee* in a form and from a bank acceptable to the *Market Operator*~~; or,**
  b) Another immediate, irrevocable, and unconditional commitment in a form and from a bank or other institution acceptable to the *Market Operator*; or,
  c) Surety **Bb**ond issued by a surety or insurance company duly accredited by the Office of the Insurance Commissioner of the Philippines;
  d) Such other forms of security or guarantee **as may be** acceptable **and allowed by to** the *Market Operator* (Added as per DOE DC No.2006-07-0010 dated 20 July 2006);

  Provided however that in all cases where the security deposit provided is other than in the form of Cash, the following conditions shall apply in determining whether or not the *Market Operator* will allow such alternative form of security:

  a) A security deposit other than Cash may be allowed by the *Market Operator* only in the event it is determined that the amount of default can be immediately drawn on due date from such form of security; and,
  b) Said *WESM member* proposing to post a security deposit in a form other than Cash has no record of default in payment for the immediately preceding six (6) billing periods."

- On Section 3.15.4.1 on the computation of Maximum Exposure (ME), Mr. Augusto D. Sarmiento opined that the proposed wording "over the last 6 billing periods prior to the end of financial year" will not be able to include the peak months of April and May. Ms. Marissa Gandia explained that the intention for the amendment is to make the computation reflective of the current transaction, considering that the computation of PR based on the ME covering 12 months no longer reflects the current level of exposure.

Dr. Guevara inquired whether the ME as worded in the Rules, is computed as a moving average or a one-shot computation being done at year-end. Ms. Gandia replied that the computation is only being made once.

Mr. Sarmiento suggested to fix the 6-month-ME computation from April to September to include 3 dry and 3 wet months.

Mr. Sulpicio C. Lagarde for his part raised the issue on the inclusion of disputed bills. He cited as example CENECO's case when its bill amounted to PhP76M, when the same should have been only PhP18M, had it not been for the 6-day congestion "created by NGCP". He stated the position that outlier data should be excluded from the computation of ME. He further suggested to replace the excluded data with a billing month comprising of the same number of calendar days.

Mr. Ariston P. Martinez clarified whether the RCC intends to include all outlier data, even those which are not disputed and which became such only because the customer was exposed to the market by reason, for example, of change in its BCQ. Ms. Gandia expounded that attached to the PEM Board approval of the ME computation based on the "last 6 months" is to also take into account price spikes and changes in BCQ.

Dr. Guevara responded by inquiring on the significant level of price spike that should be considered. Mr. Ciprinilo C. Meneses explained that price spikes are just momentary up-shoots that might not make a big difference because it will still be the monthly average of the WESM price which is material to the customer.

In response to Mr. Lagarde's statement on instances when a customer does not buy from the market, Mr. Martinez inquired whether a customer's positive bills should be included in the computation, on account of instances when a customer does not buy but sells its excess in BCQ in the WESM. He requested the RCC to clearly define the exemptions being contemplated considering that some trading participants (customers) would have positive bills all throughout the year because of the excess in their BCQs.

Ms. Gandia supported the statement by explaining that some customers become net sellers for an entire year. However, she also stated that at any time, the same customers could revert to becoming buyers without posting the required PR. Mr. Meneses countered that the same holds true for generators which are normally net sellers but will be net buyers for an entire month if they are on outage, for example. Ms. Gandia clarified that generators do not also have the required PR in those instances. She explained that PEMC's proposal is to require generators to make pre-payments in instances when they would become net buyers without any security deposit. In addition, she explained that for customers who at times become net sellers, the proposal is to set the minimum PR.

The RCC agreed to take-up the proposal on minimum PR and the instances of exemption in the proposal on the BSM.

Section 3.15.4.1 was then agreed to be worded as follows:

"Subject to clause 3.15.2.2, prior to the end of each *financial year*, the *Market Operator* shall determine and provide written confirmation to each *WESM*

member of its ~~**m**~~**M**aximum **eE**xposure **(ME)** to the *Market Operator* in respect of a billing period in the following financial year.

The ME of a *WESM member* shall be computed as the Average Monthly Settlement Amount (AmSA) of the billing periods covering 26 March through 25 September prior to the end of the financial year. The amount of security to be provided by each *WESM Member* pursuant to clauses 3.15.2.1 and 3.15.2.2 shall be equivalent to the ME multiplied by the factor (35/30).

If there is a disputed bill or change in BCQ during the months covered in the computation of the ME, a *WESM member* may request a replacement month, within the 26th March to 25th September billing periods, having the same number of calendar days."

- Noting that the terms "market participant" and "WESM member" were used interchangeably in the Rules, Mr. Sarmiento suggested to use "WESM member" instead, for consistency. The RCC agreed with the suggestion.

- On Section 3.15.4.4, the proposal of the RCC Subcommittee is to delete "may in its absolute discretion" and replace the same with the requirement that additional PR is to be provided if it is not in the form of cash and this should require the approval of PEMC. The Section was then agreed to be phrased as follows:

  "To diminish the possibility of incurring a margin call under clause 3.15.10, a *WESM member* may ~~**in its absolute discretion**~~ provide ~~**to the *Market Operator***~~ a security or securities in accordance with clause 3.15.3 for an aggregate amount that exceeds its ~~**maximum exposure**~~ **ME**.

  If said additional security or securities is not in the form of Cash, the *WESM member* shall secure the prior written determination and approval of the *Market Operator*."

- On Section 3.15.8.3 on trading limit, the RCC agreed on the proposed amendments as follows:

  "The trading limit for a *WESM member*, at any time, **shall** ~~**not be greater than 95% be equal to of the**~~ total value of the security, **including interest rate, if any,** provided by the *WESM Member* to the *Market Operator* under clauses 3.15.3 (a) to (c), (As amended by DOE DC No. 2006-07-0010 dated 20 July 2006)."

- On Section 3.15.9.1 on actual exposure, Atty. de Castro discussed that "each day" as it currently appears in the Rules is not practicable. Ms. Gandia explained that the proposal is to compute for the same "regularly" since the proposed process is to arrive at the computation on actual exposure at the end of each billing period, making-use of the preliminary bill issued every 3rd of the month. Atty. de Castro stated that the term "regularly" should be further defined. Dr. Guevara stated that "monthly" can capture the description given by Ms. Gandia.

  The RCC then agreed to phrase the Section as follows:

"~~Each day, t~~The *Market Operator* shall review, **on a monthly basis**, its actual exposure to each *WESM member* in respect of previous billing periods ~~**under the**~~ **in accordance with the** WESM Rules."

- On Section 3.15.10.3, it was explained that the current window for complying with a margin call is too narrow, hence the suggestion to increase it to one day from PEMC Finance. The Section was then agreed to read:

  "A margin call under clause 3.15.10.2 must be satisfied within three (3) working days from receipt of the Margin Call Notice."

- On the issue relative to suspension, Mr. Lagarde raised the issue on the rules applicable to suspension and disconnection. He stated that suspension is merely on paper and that in reality, a customer will not be deprived of supply by reason only of suspension. Also, he inquired whether a customer's PR is forfeited immediately upon suspension.

  On the first issue, Mr. Martinez explained that the reason for disconnection is mainly default, either on the PR or energy amount. He stated that suspension should be rectified by the customer in default, but qualified that what is lacking in the Rules is the timeline within which the Disconnection Notice shall be issued after the suspension. On the second issue, Ms. Gandia discussed that the disconnection policy is embodied in a DOE Circular which provides that PEMC will issue the Disconnection Notice.

  Ms. Encarnacion stated that a customer will only be temporarily suspended as a direct member, once the PR is forfeited but may register anytime as an indirect member.

  Mr. Sarmiento recalled that timelines on the registration, suspension and deregistration of WESM members have been discussed relative to the approval of the WESM Registration Manual in year 2012.

  On Section 3.15.10.5, the RCC agreed on the following proposed wording:

  "If a *WESM member* fails to satisfy a margin call by providing additional security or making a prepayment under clause 3.15.10.2 **in relation to clause 3.15.10.3**, then the *Market Operator* shall ~~**give**~~ **issue** the *WESM member* a suspension notice **in writing**.

  In the event of suspension, all the settlement statements issued to such *WESM member* shall become immediately due and demandable."

- On the Glossary, the RCC discussed the proposed definition of *Interest Rate/Default Interest Rate*. Dr. Guevara inquired on the reason behind the proposed interest rate (which shall not be less than 12% per annum) which is higher than the published lending rate of the Bangko Sentral ng Pilipinas (BSP). Ms. Gandia replied that the objective is to discourage trading participants to be in default.

  Dr. Epictetus E. Patalinghug expressed that the proposal imposes a much too high interest rate. He stated that if the intention is to make-use of market-determined rates, then, the same should be used without inserting discretion in the Rules. Ms. Gandia explained that based on experience, trading participants

would opt not to pay PEMC having considered that the interest rate at 2.17% per annum is too minimal.

Atty. Ma. Lourdes S. San Andres opined that if the interest is on an unpaid amount, the nature of the interest is penal and on this basis, it could be higher. She however explained that if the interest is on the security deposit, the rate applied should be the prevailing market rate since the same is considered opportunity lost on the part of the WESM member which could have otherwise invested its funds elsewhere.

The following definitions were then agreed to be incorporated in the Glossary:

"Interest Rate. In relation to any period for which an interest rate is to be determined hereunder, a rate per annum equal to the ~~**prevailing 91-day Treasury Bill rate published by the Bureau of Treasury lending rate published by the Bangko Sentral ng Pilipinas.**~~

Default interest. ~~**An interest rate of 2% per annum above the interest rate.**~~ **An interest rate of three percent (3%) per annum above the interest rate or the approved default interest by the PEM Board.**

Maximum Exposure. The maximum exposure of a *WESM member* shall mean the computed Average Monthly Settlement Amount (AmSA) of the billing periods covering 26 March through 25 September prior to the end of the financial year and shall set the level of security deposit that a *WESM member* is required to maintain.

Actual Exposure. The total amount of obligation that a *WESM member* is required to pay on due date."

- Other revisions incorporated were minor and were made with the objective to clarify and/or simplify sentence construction, and also, to qualify that Notice/s given in relation to PR should be made in writing.

Atty. de Castro went-on to discuss the Subcommittee's proposed amendments to the BSM, which she indicated to merely mirror the proposed amendments in the WESM Rules. She stated that the Subcommittee has adopted the recommendation of PEMC-Finance to insert a table on response time and penalty. The RCC agreed to incorporate the said table as follows:

Particulars	**Response Time**	**Penalty**
Replacement of PR	**Within 3 working days from receipt of written notification**	**Suspension**
Margin Call	**Within 3 working days from receipt of written notification**	**Suspension and all settlement statements shall become immediately due and demandable on the date of Invoice**
Default	**Within three (3) working days from receipt of notification of default in**	**Suspension**

	PR	
	Within twenty four (24) hours from receipt of notification of default in payment of settlement statements	**Suspension**
Suspension	**Within three (3) working days from notification**	**Disconnection**

Also, Mr. Sarmiento similarly suggested to make-use of "trading participant" instead of "market participant", the former being a defined term in the WESM Rules.

The RCC likewise agreed to include provisions on the setting of a minimum amount of security deposit on its refund. The proposed amendments, inserted into Section 4.2. on Responsibility, were crafted as follows:

"xxx

Setting of a minimum amount of security deposit to be maintained by a Trading Participant if the settlement amount of a load customer consistently becomes positive over a six (6) months consecutive billing period, where the term "load customer" is understood to mean an entity that consumes energy within a defined period via a node;

Allowing for a refund if the security deposit of a WESM member consistently exceeds the ME in a six (6) consecutive months billing period, provided that the WESM member has no record of default during the same period;

xxx"

At this juncture, Dr. Guevara enumerated the PEM Board directives one by one and counter-checked whether the RCC was able to incorporate all of the directives in the WESM Rules.

Upon confirming that the RCC completely addressed the PEM Board directives and the additional request for review by PEMC-Finance, the RCC then approved the proposed amendments as crafted by the RCC Subcommittee and revised by the RCC, for posting in the market information website. Atty. de Castro indicated that she will finalize the matrices in coordination with the Secretariat, before these are published.

B. Update on the RCC Way Forward on the Segregation of Line Rental

The RCC noted that the draft Memorandum to PEMC, requesting its assistance on the RCC's review of line rental segregation, is not yet issued, pending the submission of Mr. Lagarde of the DU Sector's justification for the request for simulation on the SSLA computation in terms of the cost of energy loss and not KWH. The same was consistent with what was agreed upon by the RCC in its 15 May 2013 Meeting.

Mr. Lagarde indicated that he will submit the justification within the day.

C. Update on the RCC Action Plan re: DOE Directives re Proposed Amendments to the PEN Manual

- **Justification on the merits of the proposal considering the criteria for effecting the WESM rules change**

Dr. Guevara discussed that the RCC's proposal on the PEN Manual was deferred by the Board Review Committee in year 2012 to have the same reviewed by the DOE. Dr. Guevara stated that the result of the DOE review stated that the RCC proposal will not solve the problem on pricing errors but rather, as stressed in the DOE's letter to PEMC dated 16 May 2013, the solution is "to upgrade the infrastructure which the NGCP has to address this concern".

She also discussed that an attached letter from the NGCP stated that it has "implemented the necessary contingency measures to ensure the continued security and reliability of the Luzon grid." Dr. Guevara then raised the issue on the way forward with the pricing error issue in the WESM. She inquired whether the proposal on localized PEN as worded, will result to bigger profit for the generators and further, whether the better way forward is to reconcile the Meralco system with the market network model (MNM) rather than work around a PEN solution which could only address the issue in the short term. Dr. Guevara also invited the body's attention to the justification submitted by Ms. Cherry Aquino Javier on the proposal on localized PEN.

Mr. Ferdinand B. Binondo explained that it is clear in the WESM Rules that when a pricing error occurs in the ex-ante, the same will be substituted by the result of the ex-post run. However, in the RCC proposal, the price will be immediately substituted using the five nearest nodal prices, without making reference to the ex-post price. He explained that with the amendment of the rules in February 2011, the contingency constraint have been already relaxed in the ex-post. It was explained that the DOE reviewed the RCC proposal by taking a close look in the manner by which market re-runs are being done. He further stated that while PENs may still occur in the ex-post, these happen for reasons other than contingency.

Mr. Binondo also clarified that the second letter from the DOE, as cited by Dr. Guevara, was meant to update the RCC on the NGCP's response to the DOE, since as expounded in the DOE discussion paper attached to the 04 April 2013 directive, that the relaxation of the constraint in the MDOM will merely hide the real problem in the grid and will not provide the long term solution to the market's problem on pricing error.

At this juncture, having noted that the DOE directed the RCC to "provide further justifications on the merits of the proposal considering the criteria for effecting a WESM rules change", the RCC agreed to request Ms. Javier to prepare a revised paper which follows the "criteria for effecting a WESM rules change", as found in Clause 8.4.1 of the WESM Rules which sets-out the RCC's consideration of proposed rules change, as follows:

- consistent with the WESM objectives;
- feasible;
- not unreasonably costly to implement; and
- a more appropriate or better means of achieving the criteria set out in clauses 8.4.1 (a) to (c), where the effect of the change to the WESM Rules will be to replace an existing rule.

The revised justification will be discussed in the next RCC Meeting.

- **Proposal on possible alternative methodology to resolve issues on pricing errors**

Mr. Meneses presented the proposal on a possible alternative methodology to resolve issues on pricing errors. He explained that while he does not exactly propose an alternative methodology, his presentation will cover an overview of the problem to allow the RCC to review possible alternative solutions.

Mr. Meneses presented Meralco's single line diagram and pointed out that Meralco has 5 interchange points (presently increased to 6 with the addition of the Paco interchange) which are modeled in the Market Network Model (MNM) as delivery points following N-1 contingency criterion. It was explained that the modeling was done such that one delivery point with 4-300MVA transformers will not allow loading to exceed 900 MW, on account of the assumption that 1 of the 4 transformers is on outage, consistent with N-1 criterion. The modeling, he explained, causes pricing errors because the Meralco system, in actual scenario, has the capability of switching energy flow.

Mr. Binondo explained that the N-1 contingency modeling of the Meralco system is not on account of PEMC, but rather, of the NGCP-SO, since the same constitutes a part of its compliance reporting with the ERC. He stated that the N-1 contingency is part of the requirements in the PGC, which set the loading limit at 75%. Mr. Binondo clarified that PEMC could have reflected the relaxed N-1 Meralco model in the MNM, had NGCP relaxed its N-1 application on the Meralco system.

Mr. Meneses suggested that to address the problem on pricing errors, the simplest solution is a change in the software, by not modeling N-1 at every major delivery point but only on the biggest, the Balintawak interchange, since historically, Meralco has no record of two simultaneous transformer failures, and, in instances of transformer tripping, the Meralco system will merely switch or re-route its power flow without resorting to any interruption or load-dropping. He stated the position that the simultaneous application of N-1 in all major delivery points has the effect of preventing power from flowing into Meralco's major delivery points, when in actual, as shown in the ex-post run, there is actually no problem in the power flow.

Mr. Binondo replied that the application being suggested would impact on the NGCP's N-1 compliance with the PGC. Mr. Meneses countered that his understanding with N-1 is that the system can do away with 1 major component and the system will still maintain its normal parameters-voltage, frequency, among others. He explained that with this definition, the suggestion to apply N-1 in the model only at the biggest delivery point will hold true.

Mr. Sarmiento for his part informed the body that NGCP's CAPEX program is based on its N-1 capability. Mr. Binondo clarified that every CAPEX approval of ERC translates as a pass-through cost to the end-consumers and as such, the ERC would usually limit the project considering that the same will have impact on the rates.

Mr. Meneses suggested another possible solution, to simply add 1 back-up power transformer at every delivery point. By doing so, he stated that even with the N-1 assumption in the model, the actual loading level can be properly reflected.

Mr. Meneses at this juncture continued with his presentation by explaining the Constraint Violation Coefficients (CVCs) and possible solutions.

Priority	CVC Name	Price (P/MW)	Definition	Logical Solutions	Addressable by Rules change?
10	Deficit Interruptible Load Reserve	100,000	Insufficient interruptible demand to meet reserve requirement	1. NGCP to contract more contingency reserve capacity 2.. Private sector to build additional power plants	No
9	Deficit Dispatchable Reserve	200,000	Insufficient capacity to meet reserve requirements (n-2)	1. NGCP to contract more dispatchable reserve capacity 2. Private sector to build additional power plants	No
8	Over-generation	(800,000)	The total maximum generation in the system exceeds the total demand	PEMC to allow cancellation of generator offers	Yes
7	Deficit Regulating Reserve	400,000	Insufficient capacity to meet reserve requirements	1. NGCP to contract more regulating reserve capacity 2.. Private sector to build additional power plants	No
6	Deficit Contingency Reserve	500,000	Insufficient capacity to meet reserve requirements (n-1)	1. NGCP to contract more contingency reserve capacity 2.. Private sector to build additional power plants	No
5	Contingency	600,000	Violation in pre-defined contingency limits during single-outage conditions (n-1)	1. PEMC to relax the contingency criteria in the MDOM 2. NGCP to uprate capacity of affected grid components	1. Yes 2. No
4	Under-generation	800,000	The demand exceeds the total maximum generation in the system	1. Private sector to build more power plants 2. NGCP to drop loads 3. WESM to adopt demand bidding	1. No 2. Yes 3. Yes
3	Base Case Constraint	900,000	Thermal loading limit violations of lines or transformers	NGCP to uprate the capacity of affected lines or transformers	No
2	Transmission Constraint Group (TCG) Constraint	1,000,000	Import/export constraints between areas	NGCP to uprate the capacity of affected lines and/or transformers	No
1	Nodal Value of Lost Load	1,100,000	Localized deficiency in supply due to line or transfomer loading limitations	NGCP to uprate the capacity of the affected lines or substations	No

Dr. Guevara stated that it is her understanding based on the presentation that Meralco operations have high reliability. She explained that the same should have been properly discussed with the NGCP-SO and PEMC. She also stated that the solution being recommended by Mr. Meneses will only entail re-modeling, at no cost and that the same is feasible, only that, it is not a rules change solution.

Dr. Guevara summed-up the recommendation to either: (1) re-model the MERALCO system in the MNM such that only the biggest node of MERALCO is put on constraint, or (2) re-define the "N-1" contingency criterion as it is currently interpreted/implemented by the NGCP and the WESM.

Dr. Guevara suggested to apply the "lump theory" into the several nodes of MERALCO and to model these nodes as a "super-node" in the MNM. She further suggested that to support such change in the model, the definition of N-1 should also be changed. She stated that with the advances in technology, it is possible to re-define what "N" means in the N-1 criterion.

Mr. Binondo reiterated that to relax the N-1 criterion in the model, NGCP should also relax the same in its implementation of the N-1 so that there won't be any deviation in the RTD schedule as issued by the Market Operator (MO) as against the NGCP-SO's actual implementation.

Mr. Isidro E, Cacho then explained that the MO's revisions in the MNM follow the WESM Manual on MNM Criteria and Procedures which prescribes that the model should reflect actual location in the system, consistent with the locational marginal pricing (LMP) design in the WESM pricing. Thus, it was explained that on this basis, the "lump theory" is not acceptable operationally in the WESM, following the current market design and requirements, even though the same can be theoretically applied in the MNM.

He also informed the RCC of the audit findings that the modeling done in the MNM is acceptable except that the MERALCO system should be based on its actual physical configuration.

Dr. Guevara raised the option if the RCC can present the matter to the ERC through the Grid Management Committee (GMC) since the proposal is merely a matter of interpreting how to model the Meralco system to prevent the recurrence of pricing error notices. She stated that the RCC can perhaps propose the definition of "N" in the N-1 contingency criterion as defined in the PGC.

- **Simulation to further assess the proposed methodology's impact on WESM prices**

Mr. Edward Olmedo of PEMC-Trading Operations Department presented the simulation on the application of local PEN. Highlights of his presentation are as follows:

- A localized non-congestion pricing error shall be issued to market trading nodes that are affected by the imposition of a contingency at a load-end equipment;
- The substituted price shall be based on the weighted significance of five (5) nearest nodes;
- The five nearest nodes, and its corresponding significance, shall be based on the Transmission Loss Factor (TLF);
- The Localized Non-Congestion Pricing Error shall only be applied if a contingency constraint violation manifests on a load-end transformer;
- If other types of pricing error occur simultaneously with a localized non-congestion pricing error in the same region, the current Regional Application of the PEN/MRR/PSM shall be applied;
- In the event that a localized non-congestion pricing error is issued to market trading nodes, its price shall be substituted by the weighted average of five market trading nodes (MTN) defined as loads in the same region that are not affected by a localized Contingency CVC;
- The five nearest nodes, and its corresponding significance, shall be based on the Transmission Loss Factors;
- The TLF is not locational but is applied based on a customer's power flow behavior and its contribution to system loss.
- The weighted average of the five nearest nodes shall be based on the weighted significance of five (5) nearest nodes;
- Weighted significance is determined based on the inverse of the TLF given the formulation of the Locational Marginal Price. The node with the closest proximity to the affected node, based on TLF, shall have greater weighted significance.

At this juncture, Dr. Guevara inquired whether Mr. Olmedo's presentation could be laymanized. Mr. Olmedo explained that the weighted significance of the five (5) nearest nodes is meant to be in reference to the 5 nearest nodes in terms of cost and not in terms of physical location.

Dr. Guevara also expressed that there should be more examples given to show the impact of the proposed local PEN methodology. She also inquired on the statement of Mr. Binondo to instead apply the ex-post prices rather than the proposed 5 nearest nodes. She suggested that the presentation should include comparative data on the difference in price with the application of the 5 nodes methodology as against the substitution of the ex-ante price with the ex-post price.

Mr. Olmedo replied that the ex-post price does not necessarily reflect/mirror the ex-ante price. As regards automatic re-run, he stated that the system is not yet capable of the same.

Dr. Guevara stated that the RCC would have to show that there is an immaterial difference in the results when applying the 5-nearest cost-node and the substitution of the ex-ante price with the ex-post price.

At this juncture, Mr. Olmedo continued with his presentation. He explained that for year 2012 (26 Dec 2011 until 25 Dec 2012), 3,382 ex-ante market runs out of the possible 8,769 trading intervals in Luzon fit the criteria for the Local PEN Price Substitution (with contingency constraint). Suppose that the Local PEN was applied for the year 2012:

- 35% of the 3382 ex-ante runs would have been cleared at higher prices; However, most of these intervals that comprise the 35% are of higher magnitude;
- The other 65% of the 3382 ex-ante runs would have had lower prices.

As an update, Mr. Olmedo stated that the Zapote substation is currently the only substation manifesting Contingency CVCs frequently but even so, PEN is still frequently issued in the Luzon grid. He also explained:

- That it is possible that the modelling of the Meralco network may have an impact in lessening the number of Contingency CVCs manifesting in its substations. However, the congestion will manifest itself through "binding constraints" at the major interchange. Possible congestions will then manifest within the MERALCO network, therefore affecting schedules in the grid;
- Said congestions serve as signals to upgrade the facilities at the affected substation/s. The planned upgrade of the Zapote substation with a 4th Transformer Bank will alleviate the N-1 Contingency CVCs in WESM.

Mr. Cacho for his part informed the RCC that the Grid Management Committee (GMC) is currently reviewing the N-1 definition as used in the Philippine Grid Code.

Dr. Guevera inquired on the average number of days before a market-re-run is completed. Mr. Cacho stated that the worst case would take 1 to 3 days but normal contingency constraints would be completed immediately.

Mr. Binondo clarified that CVCs on contingency constraint should no longer be subject to market re-runs considering that the contingency constraint in the ex-post run had been relaxed in year 2011. He stated that the substituted price should already be issued after the ex-post run. However, he noted that the generators may claim that the ex-post price is possibly lower than the ex-ante price, and the RCC should be able to justify on the same or prove otherwise.

Mr. Cacho replied that the ex-post price is not necessarily lower than the ex-ante price. Dr. Guevara stated that the simulation must be able to show the same.

It was then agreed to request for another simulation on the implementation of the proposed local PEN using market results for year 2012 in order to show the impact of the local PEN in terms of price increase/decrease.

- **Corresponding proposed changes to the WESM Rules and PEN Manual**

The RCC noted the recommendation of Mr. Castro that any change in the WESM Rules and correspondingly, in the PEN-MRR Manual should be pursued only:

- After the completion of further simulations and the revised justifications;
- If the results of the required simulations demonstrate that Rule 3.10.5 should be modified, scrapped or replaced entirely; and,
- If, during the course of conducting the further studies DOE has directed it to do, that RCC/PEMC is able to find other possible solutions/methodologies to address the PEN issue.

D. Update on the RCC Action Plan re: DOE Directives re Proposed Amendments to the MRU Manual

- **Incorporation of DOE Proposed Changes to the MRU Manual**

Mr. Castro, being assigned to lead the RCC in the process of identifying the pertinent provisions to be reviewed, presented his proposed amendments.

At the onset of the review of the Rules, Dr. Guevara stated that the EPIRA prescribes the NGCP-SO to acquire ancillary service (AS) and in this regard, discussed the possibility that the NGCP-SO could raise that since the MRU is moved from the market to be treated as an AS, the same should also be paid according to the AS pricing. She inquired whether there are rules being violated when there is not enough ancillary to cover actual requirements.

Mr. Binondo expressed that consistent with the EPIRA intent to require the SO to procure ancillary service and ensure its availability, the MRU, its objective being to address system security requirements, should not be an added cost to the WESM price but instead form part of the NGCP-SO cost on ancillary services. Mr. Binondo clarified that the MRU pricing will still be based on the proposed MRU formula, only that, the same will no longer add to the spot market price but on the cost of ancillary. Dr. Guevara inquired whether the same will be passed-through to the end-consumers. Mr. Meneses replied affirmatively, noting that ancillary services are pass-on costs.

Mr. Sarmiento for his part raised that the NGCP could justify that the MRUs are being called to address the issue of insufficient offers and on this basis, question the RCC's proposal on the cancellation of offers. Atty. Liberty Z. Dumlao countered that the immediate reason for the existence of MRUs, is the lack of reserves.

Dr. Guevara reiterated that it is unclear to her how the change could be beneficial to the end-consumers. Mr. Meneses clarified that the same is neutral to the consumers since the same pricing formula will be used. He however pointed-out that once done, this will help bring down the WESM price and further, will respond to the transparency objective of the EPIRA to reflect true cost, MRU, not being an energy but an ancillary cost. Mr. Binondo added that this will help account for the NGCP-SO's performance on the procurement of ancillary services.

Dr. Guevara inquired whether there is another venue through which the issue on the MRU could be addressed other than the WESM Rules and Manuals. She further inquired whether the ERC could be a recourse. Mr. Binondo answered that MRU and MSU were not mentioned in the PGC. He also stated that at present, NGCP-SO could also not make-use MRU as reserves since it is also not mentioned in the WESM Rules.

Mr. Lagarde then explained that there is a long-term chance that the MRU price will be lowered if moved to the account of NGCP-SO since the latter will have the MRU form part of its ERC-approved CAPEX recovery mechanism, the recovery of which will be through amortization to be completed within a specified number of years, as against the current set-up where the MRU is a monthly recurring cost in the spot market.

Dr. Guevara opined otherwise and stated that the effect of the DOE directive is only that the attribution of payment will move from the market to NGCP-SO. She stated that this will not help lower the price for the end-consumer. Mr. Meneses stated the opinion that lowering the price is not the intention of the directive but rather, to remove the distortion in the WESM price. Mr. Binondo however explained that since the AS is a contracted service, the possibility of lowering the MRU cost cannot also be discounted.

Dr. Guevara expressed that if MRUs will be bought as an ancillary service in its real sense and definition, the cost would not be as high as the current MRU cost and electricity cost could be lower.

The RCC then agreed to incorporate the following revisions in the WESM Rules and the MRU Manual, consistent with the DOE directive, and following the RCC's discussion:

- WESM Rules

"6.6.5 Intervention Due to System Security Threat

6.6.5.1 If, in the best judgment of the *System operator*, insufficient time exists for the *spot market* to address a threat to system security, the *System operator* shall take any measures it considers to be reasonable and necessary to overcome the threat to *system security*, including without limitation:

(a) Increase the *generation or supply* capability such as ~~**requesting**~~ **designating** available but not committed *generating units* to start-up, or recall *transmission* equipment *outages;*

As needed, the System Operator may designate certain generating units as "Must-Run Units."

A Must-Run Unit or MRU is defined as a generating unit identified and instructed, on real-time or scheduled basis, by the System Operator to either (a) come on-line or (b) provide additional energy on a particular Trading Interval but the dispatch is said to be Out of Merit to address System Security requirements and other considerations as provided for in the WESM Rules.

(b) Disconnect one or more connection points as considered by the *System operator* to be necessary;

(c) Direct, in accordance with clause 6.5.1, a *Customer* to take such steps as is reasonable to immediately reduce its load;

(d) Constrain-on or constrain-off a *Generation Company*;

Constrain-on: As indicated in 6.6.5.1(a) above, the System Operator may designate Must-Run Units during certain Trading Intervals.

Constrain-off: As needed, the System Operator may designate certain generating units as "Must-Stop Units."

A Must-Stop Unit or MSU is defined as a generating unit identified and instructed by the System Operator in an Out of Merit Dispatch to reduce the provision of energy specified in its Real-Time Dispatch instruction exclusively caused by excess generation due to non-compliance of generators to dispatch instructions and use of reactive support service.

And,

(e) Require *WESM Participants* to do any reasonable act or thing, which the *System Operator* believes necessary in the circumstances.

6.6.5.2 Thereafter, the System operator shall report in detail to the PEM Board in detail regarding the actions and circumstances under which the intervention was made."

- MRU Manual

"4.5 Must-Run Unit (MRU) – a generating unit identified and instructed, on real-time or scheduled basis, by the System Operator to either be (a) come on-line or (b) provide additional energy on a particular Trading Interval but the dispatch is said to be Out of Merit to address System Security requirements and other considerations as provided in this manual. Real-time MRU shall be used only after SO has exhausted all available AS. A non-exhaustive list of possible market scenarios is in Appendix A.

a. Scheduled MRU – MRU designated by the System Operator before the trading interval and included in the RTD schedule through the imposition of Security Limit as defined in the WESM Dispatch Protocol Manual.

b. Real Time MRU – MRU designated by the System Operator during the trading interval.

4.6. Must-Stop Unit (MSU) – a generating unit identified and instructed by the System Operator in an Out of Merit Dispatch to reduce the provision of energy specified in its RTD instruction, exclusively caused by excess generation due to non-compliance of generators to dispatch instructions and use of reactive support reserve. A non-exhaustive list of possible market scenarios is in Appendix A.

xxx"

"6. Must-Run Unit/Must-Stop Unit Criteria

xxx

6.1.5 Excess generation capacity in the system due to non-compliance of generators to dispatch instructions and use of reactive support reserve.

6.1.6 Inadequate levels of reserve to meet the security and reliability requirements of the Grid."

" 9. SETTLEMENT OF MUST RUN UNITS

Generating units which are designated by the System Operator as Must-Run Units shall be compensated based on the **subsequent subsections. The cost of MRU/MSU should be allocated/accounted under the Ancillary Service of the System Operator and not the WESM inasmuch as the WESM was used by SO to provide AS through MRU. The System Operator will pay directly to the generator at MRU/MSU price.**

xxx"

Dr. Guevara then ruled to include in the RCC's response to the DOE that while the directive addresses the removal of the distortion in the market price, the same will not ensure that the cost of electricity will be lower for the end-consumers. She also added that an additional recommendation to the DOE is the inclusion of the MRU-MSU concepts in the PGC.

- **Incorporation of DOE proposed changes to the PGC for possible submission to GMC**

Consistent with the RCC committed timeline to Honorable Secretary Petilla of completing the DOE's directives by 31 July 2013, the RCC agreed to request Mr. Raul Seludo to submit the proposed changes to the PGC by email, in compliance with the DOE directive *to incorporate the RCC proposed amendments in the PGC for consistency, for possible submission of the same to GMC.*

4. New Business

Issues/ Topics Discussed	Remarks	Agreement/ Action Item
A. Proposed Amendments to the WESM Rules and Dispatch Protocol Manual on: • **Submission of Bids and Offers based on "Reasonable Estimate"**	• Mr. Marcial Jimenez presented the proposed amendments to the WESM Rules and Dispatch Protocol Manual on the submission of bids and offers based on reasonable estimate. He explained as follows: – One of the issues raised by the auditor as a result of its Process and Compliance Review is that the MO has failed to publish "reasonable estimate" which should be the criteria in the trading participant's revision of bids and offers as provided for under WESM Rules Clause 3.5.11.5. – WESM Rule Clause 3.5.11.5 provides that "The *Market Operator*, in consultation with the *System operator* and *WESM member*s,	• The RCC approved the posting/ publication in the market information website of the proposed amendments to the WESM Rules and the Dispatch Protocol Manual on the submission of bids and offers based on "reasonable estimate", as revised.

Issues/ Topics Discussed	Remarks	Agreement/ Action Item
	and with the approval of the *PEM Board*, shall determine and *publish* criteria to determine the meaning of "reasonable estimate..." – WESM Rule Clause 3.5.11.4 further provides that "market bids or market offers for any trading interval shall be revised by Trading Participants if, at any time, they no longer represent a reasonable estimate of: (a) The expected availability of the relevant generating unit or scheduled load for that trading interval; or (b) The demand bids or offers likely to apply for the real time dispatch optimization of that trading interval". – On the publication requirement cited by the auditor as having been violated, it was explained that the definition of the "reasonable estimate" is provided in the Dispatch Protocol (Section 4.6, Appendix A.1) which was developed in coordination with the System Operator and approved by the PEM Board and RCC. The same is already uploaded in the WESM public website. Thus, the publication requirement is actually satisfied. – However, the provision to "revise bids or offers at anytime" is not consistent with the gate closure provision in the Price Determination Methodology (PDM) as well as the WESM Timetable which provides that upon gate closure, revision of bids and offers is no longer allowed. The WESM Timetable reduced the gate closure from four hours to two hours to one hour prior to the start of the relevant trading interval. – The reasonable estimate provision under clause 3.5.11.4, was set in the WESM Rules to facilitate transparency and accountability when market participants revise their bids "at any time." – Considering the provision of gate closure and the reduction of gate closure to one hour prior to start of trading interval, it is recommended that Clause 3.5.11.4 be revised to remove the provision "at any time" and replace it with provisions on gate closure. Further, Defining "reasonable estimate" becomes no longer relevant given	

Issues/ Topics Discussed	Remarks	Agreement/ Action Item
	that the gate closure is now reduced to one hour prior to the start of the trading interval. Thus, relevant provision as reflected in Clause 3.5.11 on reasonable estimate is proposed to be deleted. – In addition, the Market Surveillance Committee submitted its comment to include in the proposed amendments a bid/offer validation requirement when trading participants submit their bid/offer. To support this proposal, WESM Rules clause 3.5.11.5 (d) is revised to incorporate provisions in the WESM Rules. • The RCC agreed to the re-wording of the proposed amendments to Clause 3.5.11, as follows: *Market bids* or *market offers* for any *trading interval* **may** ~~**shall**~~ be revised by *Trading Participants* **prior to gate closure if** ~~**, at any time**~~, they no longer represent a reasonable estimate of: (a) The expected availability of the relevant *generating unit* or *scheduled load* for that *trading interval*; or (b) The *demand bids* or *offers* likely to apply for the real time *dispatch optimization* of that *trading interval*.	
• **Market Dispatch Optimization Model (MDOM) Performance Standards**	• Mr. Jimenez presented PEMC's proposal on the MDOM Performance Standards. One of the issues raised by the auditor as a result of its Process and Compliance Review is that the MO has failed to publish "MDOM Performance Standards" that as provided for under WESM Rules Clause 3.6.1.2. He explained as follows: – WESM Clause 3.6.1.2 provides "The *Market Operator* shall maintain and ***publish*** the formulation of the *market dispatch optimization model,* and ***the performance standards***, in accordance with the *WESM* objectives. – Justifications on the proposal to delete the publication requirement of the MDOM performance standard are as follows: (a) The MDOM is an algorithm set and documented under the WESM Price Determination Methodology which has been approved by the ERC; (b) Given that the MDOM is an	• On the proposed amendments to the WESM Rules on the MDOM Performance Standards, the RCC concluded that PEMC should instead develop the MDOM performance standards rather than altogether delete the WESM Rules provision prescribing the formulation and publication of the same. PEMC may also opt to subsume the MDOM performance as part of the MO Performance Standards (MOPS). • Pursuant to Clause 8.4.3 of the WESM

Issues/ Topics Discussed	Remarks	Agreement/ Action Item
	algorithm and is subject to regular Market Software audit, it is deemed that the requirement for the MDOM performance standard is no longer relevant; and (c) In terms of availability of the Market Management System (MMS) as a whole and the availability of market prices and schedule for the real-time and market projection timelines, MMS and MO performance measures are incorporated in the Market Operator Performance Standard (MOPS). • When asked as to whether or not there is a performance standards being applied to the MDOM, Mr. Jimenez replied that its performance is monitored through the MOPS and that additionally, the same is part of the regular market audit. • Dr. Guevara responded by emphasizing on the centrality of the MDOM in the function of the Market Operator and its significance to the generation of dispatch schedules. This being so, she stated that PEMC should be able to develop a standard which can measure the MDOM's performance. Dr. Patalinghug for his part explained that if the formulation of the standard proved to be difficult considering that benchmarking cannot be done because the MDOM is unique to the Philippine WESM and therefore incomparable with other jurisdictions, PEMC can make use of the MDOM's historical performance to develop its own benchmarks and standards. Dr. Guevara added that the other option is for PEMC to subsume the MDOM performance as part of the MO Performance Standards, with the inclusion of measures on the MDOM's reliability, accuracy and timeliness. On the justification pointing to the conduct of audit on the MDOM, Dr. Guevara stated that the conduct of audit is discretionary. • The RCC supported the arguments raised by the Chair and agreed not to adopt the proposal but instead recommend for PEMC to develop the MDOM performance standard as a way forward.	Rules, the RCC agreed to formally inform the PEM Board and PEMC, being its proponent, of the Committee's non-adoption of the proposal.

5. Other Matters

A. Review of the 2013 RCC Work Plan

- **Inclusion of DOE and PEM Board Directives**

- **Update on Status/Progress of Proposals**

The RCC, upon review of the 2013 Work Plan, agreed to incorporate the following:

- DOE directives on the PEN and MRU Manuals;
- PEM Board directive on Prudential Requirement.

The RCC was also informed by the Secretariat that the PEMC deliverables targeted for Q2 and Q3, as indicated in the Work Plan are to be submitted to the RCC by the end of Q3, through the PEMC TWG which is currently working on the review of WESM manuals. The RCC has noted the information and expressed that it may not be able to complete the deliberation for the subject PEMC proposals within the year, given the volume of proposals expected to be received by Q3.

B. PEMC Clarification on the Proposed Amendments to the WESM Rules and Information Disclosure and Confidentiality Manual

Atty. Andres clarified that while PEMC's comments on the proposed amendments of Aboitiz Power Corporation (APC) to extend the permitted exceptions on confidential information was adopted by the RCC, the declaration of transparency from the DOE Secretary was merely mentioned in passing when PEMC's comments were presented during the RCC 74th Meeting held on 15 May 2013. For this reason, Atty. San Andres inquired on the RCC's sentiment on the said declaration from the DOE Secretary and whether PEMC can proceed with the crafting of the proposed language, following the RCC process.

Dr. Guevara stated that the mentioned "Declaration of Transparency" from the DOE Secretary is actually a directive to the RCC. In this regard, Dr. Guevara emphasized that the RCC will abide with the said directive. She however requested Atty. San Andres to submit the proposal and have it go through the rules change process, including the requirement on publication, to ensure that WESM members are properly informed and given the opportunity to comment on the same.

Mr. Cacho added that the only remaining confidential information pertains to settlement provisions. He recalled in the RCC's previous discussions the generator sector's reservation to make transparent all items covered in the Confidentiality Manual.

Dr. Guevara responded that given that there is only one remaining representative from the generator sector in the RCC, the Committee must ensure that all sectors are properly informed of the RCC's deliberation on ongoing rules changes proposals. Responding to an inquiry from Atty. Dumlao, Dr. Guevara clarified that Atty. Dumlao can best provide the RCC updates to her sector.

6. Next Meeting

The RCC was reminded of the schedule of the 76th RCC Meeting to be held on 03 July 2013, 9:00 AM.

7. Adjournment

There being no other matter to be discussed, the meeting was adjourned at around 3:15 P.M.

Prepared by:

[redacted]

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Reviewed by:

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Geraldine A. Rodriguez
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Noted by:

[redacted]

Elaine D. Gonzales
Manager
Market Data and Analysis

Approved by: RULES CHANGE COMMITTEE [redacted] **Rowena Cristina L. Guevara** Chairperson Independent University of the Philippines (UP)	
Members:	
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[redacted] **Maila Lourdes G. de Castro** Independent	[redacted] **Liberty Z. Dumlao** Generation Sector Power Sector Assets and Liabilities Management Corporation (PSALM)
Augusto D. Sarmiento Distribution Sector (PDU) Dagupan Electric Corporation (DECORP)	[redacted] **Ciprinilo C. Meneses** Distribution Sector (PDU) Manila Electric Company (MERALCO)
[redacted] **Sulpicio C. Lagarde Jr.** Distribution Sector (EC) Central Negros Electric Cooperative, Inc. (CENECO)	[redacted] **Jose P. Santos** Distribution Sector (EC) Ilocos Norte Electric Cooperative, Inc. (INEC)
Conrado D. Pecjo Supply Sector Angeles Power, Inc.	**Raul Joseph G. Seludo** Transmission Sector National Grid Corporation of the Philippines (NGCP)
[redacted] **Robinson P. Descanzo** Market Operator Philippine Electricity Market Corporation (PEMC)	

Attachments:

1) PEMC Presentation on the Impact of Local PEN
2) Generator-Merchants Justification on PEN-MRR Proposal
3) Proposal on Possible Alternative Methodology to Resolve Issues on Pricing Errors
4) PEMC Proposal on Reasonable Estimate and MDOM Performance Standards
5) Updated 2013 RCC Work Plan as of 05 June 2013

Wholesale Electricity Spot Market

Impact of Local PEN

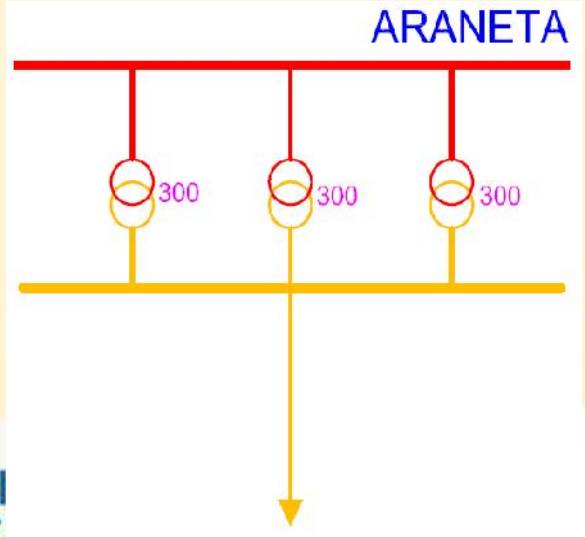
05 June 2013

Local PEN Concept

- A localized non-congestion pricing error shall be issued to market trading nodes that are affected by the imposition of a contingency at a load-end equipment
- The substituted price shall be based on the weighted significance of five (5) nearest nodes
- The five nearest nodes, and its corresponding significance, shall be based on the Transmission Loss Factors

When is the Proposed Localized Non-Congestion Pricing Error Applied?

- The Localized Non-Congestion Pricing Error shall only be applied if a contingency constraint violation manifests on a load-end transformer
- If other types of pricing error occur simultaneously with a localized non-congestion pricing error in the same region, the current Regional Application of the PEN/MRR/PSM shall be applied



A “load-end transformer” is a transformer connected directly to a load, as represented in the network model, and constitute a radial (unidirectional) connection or power flow

How is the Proposed Local PEN Price Substitution Mechanism Applied?

1. In the event that a localized non-congestion pricing error is issued to market trading nodes, its price shall be substituted by the weighted average of five market trading nodes (MTN) defined as loads in the same region that are not affected by a localized Contingency CVC
2. The five nearest nodes, and its corresponding significance, shall be based on the Transmission Loss Factors
3. The weighted average of the five nearest nodes shall be based on the weighted significance of five (5) nearest nodes*

Wholesale Electricity Spot Market

* 5 nearest nodes were considered as per RCC

How are the 5 nearest nodes selected?

- The criteria is based on the inverse of the TLF based on the formulation of the LMP

$$\text{Diff}_{i,A} = \text{ABS}\left[\frac{1}{\text{TLF}_i} - \frac{1}{\text{TLF}_A}\right]$$

Where

A – affected node

i – other nodes not affected by CVC

- All MTN defined as loads in the same region shall be evaluated
- Loads with a nodal price beyond PhP 100,000/MWh shall be ignored (assumed to be affected by a CVC)
- After which, the 5 trading nodes with the lowest absolute difference shall be considered

Rationale for the basis of using TLF

- The criteria for determining the nearest nodes is based on the inverse of the TLF given the formulation of the Locational Marginal Price (LMP)
- Barring the cost of congestion, prices differ from each other based on the cost of losses

$$LMP_i = \lambda + \lambda \cdot \left(\frac{1}{TLF_i} - 1 \right) + \sum \left(\mu_{i,j} \cdot a_{i,j} \right)$$

LMP	=	System Price	+	Cost of Losses	+	Cost of Congestion

Rationale for the basis of using TLF

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- Barring the cost of congestion, prices differ from each other based on the cost of losses

$$LMP_i = \lambda + \lambda \cdot \left(\frac{1}{TLF_i} - 1 \right) + \sum \left(\mu_{i,j} \cdot a_{i,j} \right)$$

$$LMP_i = \frac{\lambda}{TLF_i} + \left(\mu_{i,j} \cdot a_{i,j} \right)$$ Upon simplification

$$LMP_i = \frac{\lambda}{TLF_i}$$ Ignoring the cost of congestion

Wholesale Electricity Spot Market

Why select only “5” for the nearest nodes?

- This was arbitrarily set by the RCC
- However, selecting less (4 or less) or more (6 or more) nodes is not largely significant since the price substitution would have to depend on the weighted significance of the LMP
- The percentage weight shall be based on the concept that a node with the closest proximity to the affected node, based on TLF, shall have a greater significance to that affected node

$$\%\text{Weight}_i = \frac{\dfrac{1}{\text{ABS}\left(\dfrac{1}{\text{TLF}_i} - \dfrac{1}{\text{TLF}_A}\right)}}{\displaystyle\sum_{i=1}^{5}\left[\dfrac{1}{\text{ABS}\left(\dfrac{1}{\text{TLF}_i} - \dfrac{1}{\text{TLF}_A}\right)}\right]}$$

$$\%\text{Weight}_i = \frac{\dfrac{1}{\text{Diff}_{i,A}}}{\displaystyle\sum_{i=1}^{5}\left[\dfrac{1}{\text{Diff}_{i,A}}\right]}$$

Wholesale Electricity Spot Market

Weighted Significance Sample

Nearest Nodes

10 Nearest Nodes			
RESOURCE_ID	TLF	Weighted Significance	Nodal Price
3MAKBA_T3L1	0.9660	23.1%	30,861.76
1SNJOS_T1L1	0.9661	17.3%	30,858.86
3MKBNB_SS	0.9662	13.8%	30,854.64
3MKBNC_SS	0.9663	11.5%	30,852.69
1MALOL_T1L1	0.9664	9.9%	30,848.19
3BINAN_T1L1	0.9665	8.7%	30,847.36
3STROS_T1L1	0.9668	6.3%	30,835.14
1BNTAY_T1L1	0.9673	4.3%	30,820.61
1T_ASI_T3L1	0.9680	3.0%	30,797.49
1EHVSJ_SS	0.9690	2.1%	30,767.61
		Price Substituted	30,849.27

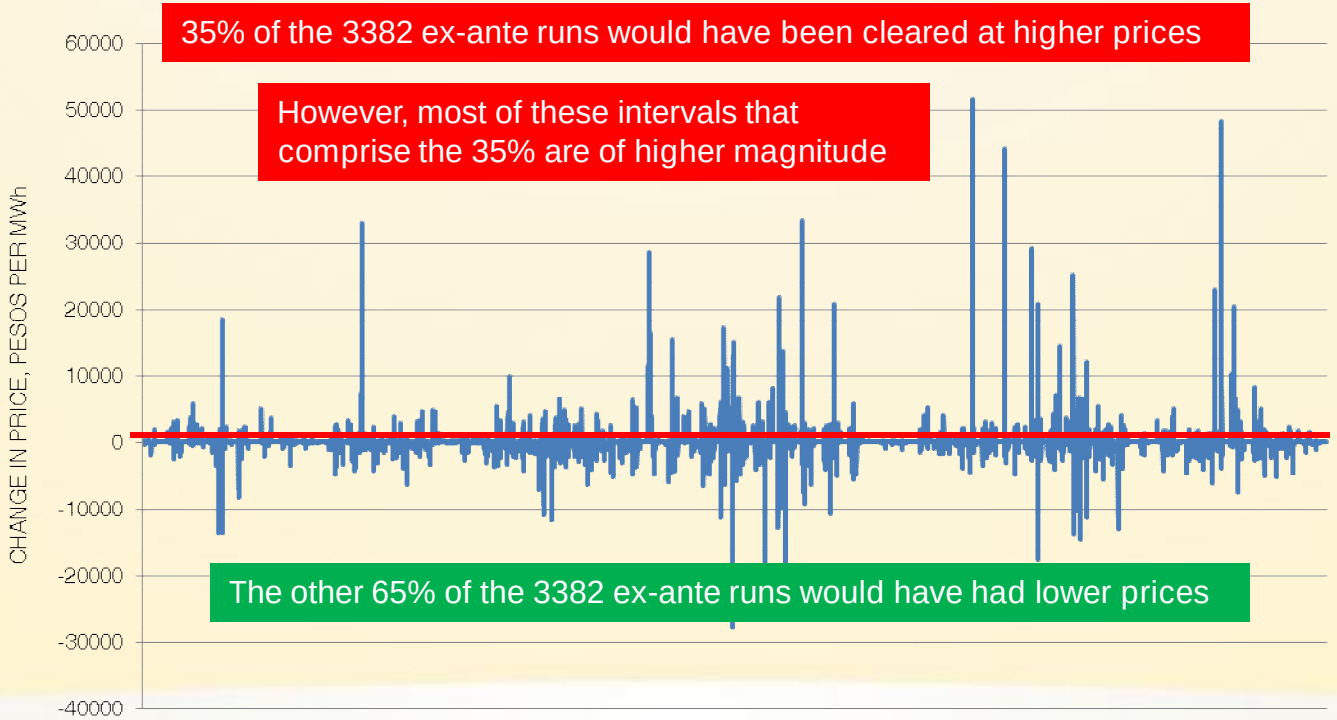
5 Nearest Nodes			
RESOURCE_ID	TLF	Weighted Significance	Nodal Price
3MAKBA_T3L1	0.9660	30.5%	30,861.76
1SNJOS_T1L1	0.9661	22.9%	30,858.86
3MKBNB_SS	0.9662	18.3%	30,854.64
3MKBNC_SS	0.9663	15.3%	30,852.69
1MALOL_T1L1	0.9664	13.1%	30,848.19
		Price Substituted	30,856.64

Zapote Computed Price	Based on 10 Nodes	Based on 5 Nodes
30,871.76	30,849.27	30,856.64

Wholesale Electricity Spot Market

Simulation of Local PEN for Entire 2012

- For the entire 2012 (26 Dec 2011 until 25 Dec 2012), 3,382 ex-ante market runs out of the possible 8,769* trading intervals in Luzon fit the criteria for the Local PEN Price Substitution
- Suppose that the Local PEN was applied for the 2012 billing period

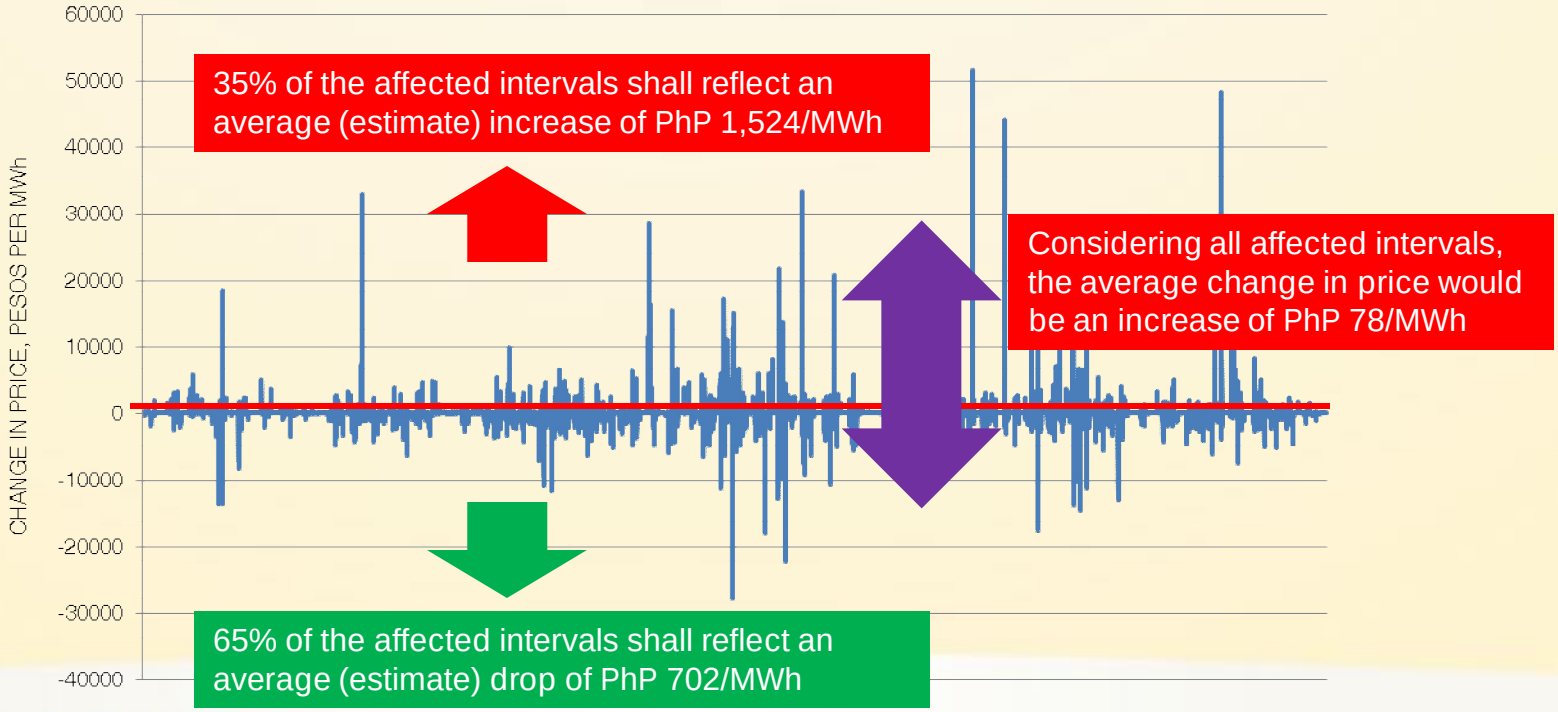


Wholesale Electricity Spot Market

* Note: 15 of the 8784 intervals of Luzon were under Market Intervention

Simulation of Local PEN for Entire 2012

- For the entire 2012 (26 Dec 2011 until 25 Dec 2012), 3,382 ex-ante market runs out of the possible 8,769* trading intervals in Luzon fit the criteria for the Local PEN Price Substitution
- On an average, price would have been higher by PhP 78/MWh (or PhP 0.078/kWh) for the 2012 billing period



Wholesale Electricity Spot Market

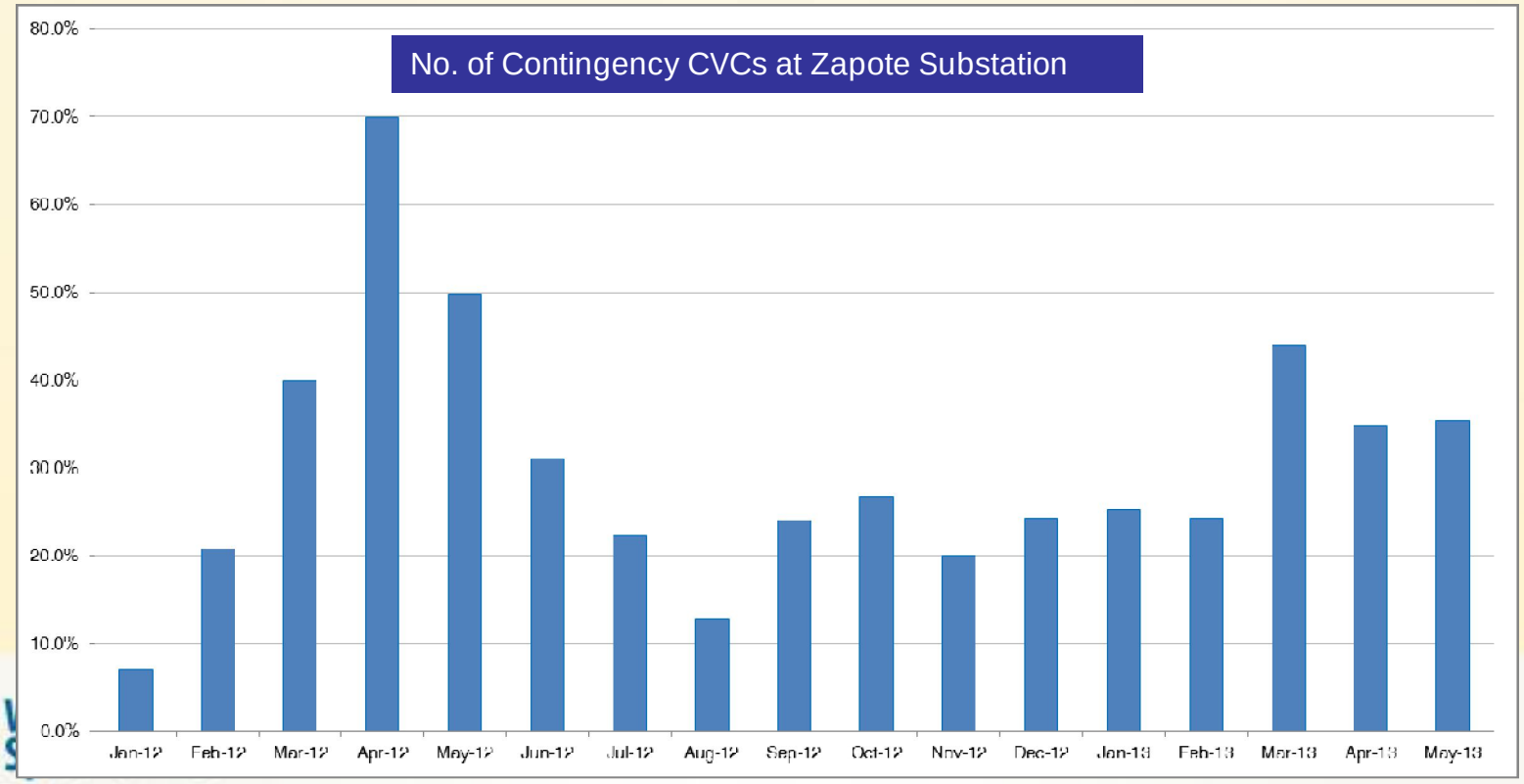
* Note: 15 of the 8784 intervals of Luzon were under Market Intervention

Simulation of Local PEN for Entire 2012

	Price Increase			Price Decrease			Price Increase/Decrease		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
Jan-12	1.40	18,474.84	1,493.12	-3.83	-13,624.25	-1,048.05	-13,624.25	18,474.84	56.79
Feb-12	0.30	5,006.17	726.65	-0.13	-4,784.15	-323.50	-0.13	-4,784.15	40.04
Mar-12	0.36	33,010.35	902.80	-0.15	-6,294.35	-405.23	-0.15	-6,294.35	-27.12
Apr-12	0.17	9,864.27	453.94	-0.13	-4,241.37	-346.91	-0.13	-4,241.37	-61.35
May-12	0.11	6,574.53	1,124.52	-1.72	-11,696.09	-730.43	-1.72	-11,696.09	-210.55
Jun-12	1.85	28,606.36	3,153.16	-4.09	-27,833.24	-989.59	-4.09	-27,833.24	450.99
Jul-12	10.32	33,383.15	2,497.33	-1.30	-22,194.56	-1,644.01	-1.30	-22,194.56	-144.37
Aug-12	1.03	20,829.89	1,229.72	-1.09	-5,472.85	-477.39	-1.09	-5,472.85	142.53
Sep-12	0.46	51,487.34	2,381.82	-0.11	-4,694.47	-605.10	-0.11	-4,694.47	570.07
Oct-12	0.54	25,297.77	2,059.08	-1.44	-17,695.78	-1,412.02	-1.44	-17,695.78	127.36
Nov-12	3.84	48,304.76	1,998.33	-5.89	-5,988.91	-766.65	-5.89	-5,988.91	244.20
Dec-12	0.15	20,408.25	1,728.80	-2.43	-7,513.54	-521.01	-2.43	-7,513.54	250.28
2012	0.11	51,487.34	1,524.29	-0.11	-27,833.24	-701.78	-13,624.25	18,474.84	78.39

Update on Contingency CVCs

- The Zapote substation is now the only substation manifesting Contingency CVCs *frequently*
- Even so, PEN is still frequently issued in the Luzon grid



Possible Solutions on Contingency CVCs

- It is possible that the modelling of the MERALCO network may have an impact on lessening the number of Contingency CVCs manifesting in its substations
- However, the congestion will now manifest itself through "binding constraints" at the major interchange, but possible congestions will manifest within the MERALCO network, therefore affecting schedules in the grid
- Even so, these are congestions that still serve as signals to upgrade the facilities at the affected substation(s)
- The planned upgrade of the Zapote substation with a 4th Transformer Bank will definitely alleviate the N-1 Contingency CVCs in WESM

Possible Solutions on Contingency CVCs

- The implementation of the Reserve Market, RPS, and Renewable Energy Market, among others, will have little effect in mitigating the frequency of Contingency CVCs at Zapote should the Substation's transfer capacity not be upgraded
- An alternative is for MERALCO to study the possibility of shifting loads to other substations in Metro Manila, which was actually already implemented from 29 Jan 2013 to 01 Feb 2013 during a maintenance period involving Zapote's buses

End of Presentation

JUSTIFICATIONS FOR THE PEN-RTD PROPOSAL

The RCC approved and recommended for the approval of the PEMC Board the inclusion of a ***Localized Non-Congestion Pricing Error Event to the Criteria and Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-Run.*** The RCC approved changes in the WESM Manual involves the definition of a Localized Non-Congestion Pricing Error Event and determination of a price substitute for affected WESM nodes (average of 5 nearest locational marginal prices). The result will be a correction to the Real Time Dispatch (RTD) result, instead of issuing a system-wide Pricing Error Notice (PEN).

The RCC approved the proposal based on the (i) identified problem from various audit reports on WESM; (ii) submitted facts and options of the proponents; and (iii) MO simulations.

As per the proponents of this WESM Manual change, the RTD run of MO was affected by numerous PENs since the inclusion of the load-end transformers contingency list in MDOM. The PENs were issued around 45% of all intervals, which corresponds to about 95% of all peak intervals from Monday to Saturday. The effect of PEN on ex-ante is that it calls for the use of ex-post prices and quantities. As per WESM Rules Clause 3.10.5.a. "*The Market Operator may, as soon as possible after the end of a trading interval, issue a pricing error notice, in which case, the ex-post quantities and ex-post prices determined according to clause 3.10.7 shall also serve as ex-ante quantities and ex-ante prices*". The ex-ante price is substituted by the ex-post price, if valid, and the ex-ante dispatch schedule is substituted by the metered quantities (MQ). Thus, for about 95% of the peak intervals, the scheduled ex-ante price and dispatch of generators are invalid and ex-post or rerun prices were used. Invalid ex-ante prices during 95% of peak intervals are operationally unacceptable for any market.

The proponents also identified two causes of the problem as follows:

1. The SO inputted an N-1 contingency at the load end transformers, which is violated most of the time; and
2. The WESM Manuals do not differentiate between a system and localized contingency violation.

Note that no combination of generation dispatch provided by the MDOM can result in a solution around the constraint violation in the case of a localized contingency event. Only load shedding will make a solution possible.

The RCC also looked into the PA consulting results of audit and found the following:

<u>Page 4 of Key Findings</u>

"PA Consulting Key Finding:

……

-The Procedures around pricing errors and market reruns should be reviewed:

- *The high number of pricing errors is due to the SO's requirement to use contingency constraints at the boundary between the market and Meralco. This overly constrains the interface and produces problems…."*

Page 52 of Main Content

" 3.2.2 Reviewing pricing error and market rerun Procedures
……..in fact 50% of RTD runs result in pricing errors, the majority of which are caused by contingency violations or ex-ante nodal prices reflecting constraint violation coefficients. We are told that there is one (n-1) contingency in particular that frequently binds because the system is simply not capable of meeting the contingency constraint. The SO continues to impose this contingency constraint because they are obligated to do so by the Grid Code…."

Page 53 of Main Content

"*PA Recommendations*
We recommend that the MO undertake a review of the policies and procedures on pricing errors and market reruns focusing, in particular on:

- *The root cause of the Pricing Errors….*
- *The relationship between RTX, RTD and offer prices….*
- *The appropriateness of current Rules and Procedures. For example:*
  -Imposing ex-post prices only on error nodes;
  -Accepting violation penalty prices rather than considering them to be "errors"…
  -Investigating options to mitigate the Pricing error risk…"

The RCC then considered the following options:

Option 1: Excluding as a contingency input by the System Operator (SO) the N-1 contingency for load end transformers, which is violated at least 40% of the time.

Option 2: Defining a Localized Non-Congestion Pricing Error event when the N-1 contingency of load end transformer is violated.

For Option 1, the SO insisted that it cannot exclude such contingency input in the MDOM as they will be violating the N-1 contingency provision in the Grid Code. Although it was thoroughly explained to SO that the physical N-1 contingency is different than the MDOM input, the RCC saw that the SO will not exclude such contingency input even with the WESM Manual change. Thus, the RCC moved to the other option wherein it will be implemented by the MO (Option 2). Option 1 should have been the easiest way to manage the pricing errors, however it may need a policy issuance from the DOE or a regulation from the ERC.

For Option 2, the RCC requested the MO to run various simulations to determine the best substitute price for such Localized PEN event. The substitute price (i) should have the least discrepancy from the true value it might have if it was not under a contingency violation, and (ii) should be simple price determination formula for the MO to implement. Based on the MO simulated price substitute, the RCC and MO determined that the weighted average LMP of 5 nearest customer nodes is the best substitute price.

The results of the simulation and discussion are provided in the various minutes of the meeting of the RCC.

Option 2 was adopted by the RCC as the best option and approved the said changes in the WESM Manual on the *Criteria and Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-Run.* The approval of a defined Localized Non-Congestion Pricing Error event will reduce the system-wide PENs on ex-ante runs. Correspondingly, the ex-ante prices and quantities will already be binding. This will allow the market to operate normally, in both the ex-ante and ex-post runs.

Presentation to the Rules Change Committee

by CCM

June 5, 2013

Assignment

Proposal on possible alternative methodology to resolve issues on pricing errors

Some Definition of Terms

12 Market Intervention – is a condition whereby the SO assumes the responsibility for giving directions and coordinating the actions to be undertaken by the Market Operator and trading participants, including the scheduling of generators for a particular trading interval.

13 N-1 Contingency Limitation – is a transmission line capacity limitation set by the SO on particular transmission lines to comply with the N-1 contingency requirements of the transmission system in order to maintain system reliability and security.

14 Nodal Price – is the other term used for Locational Marginal Price or LMP (in PhP/MWh) for each market trading node.

15 Pricing Error Notice (PEN) – is a notice issued by the Market when there are no ex-ante prices determined, or the calculated prices are believed to be in error as in cases when the ex-ante prices are reflective of constraint violation coefficients.

16 Price Estimate – is calculated based on the highest offer price of all generators that are dispatched for the relevant interval. This price is indicative only and is not the actual substitute price that will be used in the settlements of the transactions in the trading interval.

Disclaimer/Waiver: *All information in this document may still be subje transpired in the previous trading day in the WESM. As such, PEMC incurred by the reader arising from, or in relation to, any conclusions c*

WESM Rules on Pricing Error Notice

(1 of 7)

3.10.5 Pricing Error Notice

In the event where no *ex-ante prices* can be determined or communicated within the timeframe specified by the *timetable*, or the calculated prices are believed to be in error, as a result of *load shedding*, occurrence of *constraints violation coefficients*, or for any other reason; (As amended by DOE DC 2005-11-010 dated 11 November 2005)

(a) The *Market Operator* may, as soon as possible after the end of a *trading interval*, issue a *pricing error notice*, in which case, the *ex-post quantities* and the *ex post prices* determined according to clause 3.10.7 shall also serve as ex-ante quantities and ex-ante prices. If no ex-post prices can be determined or the calculated prices are believed to be in error as a result of the imposition or relaxation of constraints pursuant to clause 3.5.13.1, the *Market*

Operator shall re-run the *Market Dispatch Optimization Model*. (As amended by DOE DC No.2005-11-010 dated 11 November 2005 and further amended by DOE DC No. 2006-05-006 dated 5 May 2006)

The *Market Operator* shall develop and publish the procedures for the determination of the market re-run prices. Such procedures shall provide the criteria and conditions for the market re-run and the timetable for implementation. (As amended by DOE DC No.2010-03-0004 dated 21 March 2010)

(b) If no *pricing error notice* is issued within the time specified in theforegoing paragraph, the *ex-post prices* and quantities shall serve as ex-ante prices and quantities and shall stand irrespective of the outcome of any subsequent investigations or resolutions of any dispute.

(As amended by DOE DC No. 2005-11-010 November 2005)

(c) Should the pricing error also include *reserves*, the *reserve* quantity and price determined in the *ex-post* run shall serve as the *reserve* quantity and prices. (Added as per DOE DC No. 2005-11-010 November 2005)

3.10.6 Determination of Ex-Post Nodal Energy Price

The *ex-post nodal energy price* for each *market trading node* shall be determined as the *shadow price* on the *energy balance equation* or equivalent mathematical formulation for that *market trading node*, formed in accordance with clause 3.6.1.4 (c), in a *ex-post dispatch optimization* performed, in accordance with the *timetable*, to determine target *dispatch* levels for the end of that *trading interval*, assuming: (As amended by DOE DC No. 2005-11-010 dated 11 November 2005 and further amended by DOE DC No. 2006-01-0001 dated 10 January 2006)

(a) the *plant* status at the end of that *trading interval* as determined for the ex-post dispatch optimization or, if load shedding occurred in that *trading interval*, the *plant* status which would have pertained at the end of that *trading interval*, as indicated in the targets determined by the ex-post dispatch for that *trading*

interval;(As amended by DOE DC No. 2005-11-010 November 11, 2005)

(b) The *generation offers* which applied at the beginning of that *trading interval*. (As amended by DOE DC No. 2005-11-010 November 11, 2005)

(c) The *unrestrained load* determined from *metering data*, or estimated, at the end of that trading interval, to apply at each *market network node* for that *trading interval*. (As amended by DOE DC No. 2005-11-010 November 11, 2005)

(d) A market network configuration and network state which the Market Operator, in consultation with the *System operator*, in its reasonable opinion determines to best represent *network conditions* pertaining for the duration of the *trading interval*, as provided for by the procedures developed under clause 3.10.7; and

(e) Any relevant constraints recommended by the *System Operator* to represent *system security conditions* or actual generation performance over the *trading interval*, as provided for by the procedures developed under clause 3.10.7.

3.10.7 Procedures for Ex-Post Nodal Energy Price

The *Market Operator*, in consultation with *WESM participants*, and subject to approval by the *PEM Board*, shall develop and publish the procedures to be employed in clauses 3.10.6 (d) and (e) in establishing the network configuration and other constraints to be assumed for the determination of *ex-post nodal energy prices* for circumstances in which power system conditions materially change during the *trading interval*, with a view to ensuring that: (As amended by DOE DC No. 2005-11-010 dated 11 November 2005)

(a) Consistency is maintained between the market network configuration and state determined in accordance with clause 3.10.6 (d), any constraints determined in accordance with clause 3.10.6 (e) and the unrestrained net loads measured or estimated for each market network node in accordance with clause 3.10.6 (c); and

(b) The ex-post prices produced in accordance with clause 3.10.6, properly and fairly represent conditions at the end of the trading interval.

3.10.8 Determination of Ex-Post Zonal Energy Prices

The *ex-post zonal energy prices* for each *trading interval* shall be load weighted average of the *ex-post nodal energy prices* within a *customer pricing zone*.

3.10.9 Determination of Ex-Ante And Ex-Post Energy Settlement Prices

Subject to clause 3.10.5, the *ex-ante energy settlement prices and ex-post energy settlement prices* for each *market trading node* in each *trading interval* shall be:

(a) The *ex-ante zonal energy price and the ex-post zonal energy price* for that *trading interval* determined for that *customer pricing zone* in accordance with clauses 3.10.3 and 3.10.8, respectively, if that node is deemed to be a *customer node* and to lie in a defined *customer pricing zone;* and

(b) The *ex-ante nodal energy price and the ex-post nodal energy price* for that *node*, in that *trading interval*, determined in accordance with clauses 3.10.2 and 3.10.6, respectively, for all other nodes.

3.10.10Determination of Zonal Reserve Price

When applicable, the *zonal reserve price* for each *market reserve zone* in each *trading interval* shall be determined as the *shadow price* on the relevant *reserve requirement constraint*, defined in accordance with clause 3.6.1.4 (e), in the *dispatch optimization* for that *trading interval* and *published* by the *Market Operator* before the start of that *trading interval*.

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Some Relevant Statistics

May 2013 Billing Month Regional PEN-MRR-APDM-PSM Summary	Billing Period		
	26-Apr-13	-	25-May-13
LUZON	No.		%
No. of Intervals:	720		
TOTAL PEN issued (RTD and RTX):			
RTD	406		56.39%
PSM related	109		15.14%
Non-PSM	297		41.25%
RTX	43		5.97%
PSM related	2		0.28%
Non-PSM	41		5.69%
TOTAL No. of RERUNS:	41		5.69%
TOTAL No. of Market Intervention:	12		1.67%

VISAYAS	No.		%
No. of Intervals:	720		
TOTAL PEN issued (RTD and RTX):			
RTD	90		12.50%
PSM related	52		7.22%
Non-PSM	38		5.28%
RTX	40		5.56%
PSM related	3		0.42%
Non-PSM	37		5.14%
TOTAL No. of RERUNS:	37		5.14%
TOTAL No. of Market Intervention:	1		0.14%

Constraint Violation Coefficients (CVCs) and Solutions

Priority	CVC Name	Price (P/MW)	Definition	Logical Solutions	Addressable by Rules change?
10	Deficit Interruptible Load Reserve	100,000	Insufficient interruptible demand to meet reserve requirement	1. NGCP to contract more contingency reserve capacity 2.. Private sector to build additional power plants	No
9	Deficit Dispatchable Reserve	200,000	Insufficient capacity to meet reserve requirements (n-2)	1. NGCP to contract more dispatchable reserve capacity 2. Private sector to build additional power plants	No
8	Over-generation	(800,000)	The total maximum generation in the system exceeds the total demand	PEMC to allow cancellation of generator offers	Yes
7	Deficit Regulating Reserve	400,000	Insufficient capacity to meet reserve requirements	1. NGCP to contract more regulating reserve capacity 2.. Private sector to build additional power plants	No
6	Deficit Contingency Reserve	500,000	Insufficient capacity to meet reserve requirements (n-1)	1. NGCP to contract more contingency reserve capacity 2.. Private sector to build additional power plants	No
5	Contingency	600,000	Violation in pre-defined contingency limits during single-outage conditions (n-1)	1. PEMC to relax the contingency criteria in the MDOM 2. NGCP to uprate capacity of affected grid components	1. Yes 2. No
4	Under-generation	800,000	The demand exceeds the total maximum generation in the system	1. Private sector to build more power plants 2. NGCP to drop loads 3. WESM to adopt demand bidding	1. No 2. Yes 3. Yes
3	Base Case Constraint	900,000	Thermal loading limit violations of lines or transformers	NGCP to uprate the capacity of affected lines or transformers	No
2	Transmission Constraint Group (TCG) Constraint	1,000,000	Import/export constraints between areas	NGCP to uprate the capacity of affected lines and/or transformers	No
1	Nodal Value of Lost Load	1,100,000	Localized deficiency in supply due to line or transfomer loading limitations	NGCP to uprate the capacity of the affected lines or substations	No

Note: No Attachment

Republic of the Philippines
DEPARTMENT OF ENERGY

OP|PEMC-2013|661

OFFICE OF THE PRESIDENT
MAY 17 2013
PHILIPPINE ELECT [redacted] RPORATION

16 May 2013

HON. MELINDA L. OCAMPO
President
Philippine Electricity Market Corporation (PEMC)
9/F Robinsons Equitable Tower
ADB Avenue, Ortigas Center
Pasig City

ATTENTION: **Ms. Rowena Cristina L. Guevara**
Chairperson, Rules Change Committee (RCC)

SUBJECT: **Contingency Constraints Violation in the WESM**

Dear *President Ocampo*:

As a continuing activity on our efforts to address pricing error concerns in the WESM, the DOE requested National Grid Corporation of the Philippines (NGCP) to provide clarification on the numerous Contigency Constraints Violation Coefficient (CVC) occurrences as reflected in the PEMC's 2012 Monthly WESM Summary Report.

NGCP validated said report and, in its reply dated 17 April 2013, explained that the reasons for the CVCs during that period was the outage of the Zapote 300MVA T01 from 23 March 2012 to 30 April 2012 which resulted in the reduction of the substation capacity and affected the compliance to N-1 criterion. This was further clarified by NGCP on 7 May 2013, in a meeting called by DOE for this purpose, where NGCP's representatives provided a brief presentation of these incidents. NGCP likewise presented the contingency measures that they have implemented and their other courses of actions to ensure continued security and reliability of the Luzon grid. The DOE will further study this matter.

Meanwhile, we would like to transmit the attached NGCP's letter for your information and reference in relation to the directives by the Secretary to the PEMC-RCC on the revision of the Pricing Error Notice (PEN) Manual.

Relatedly, it is reiterated that amending the PEN Manual would not resolve the issues of pricing error caused by contingency constraints violation. The solution is to upgrade the infrastructure which NGCP has the capability to address this concern. Hence, NGCP's timetable to lessen if not to remove the congestions in the transmission network is material in view of the RCOA implementation, RPS Rules, Renewable Energy Market, Reserves Market, among others.

Thank you.

Very truly yours,

[redacted]

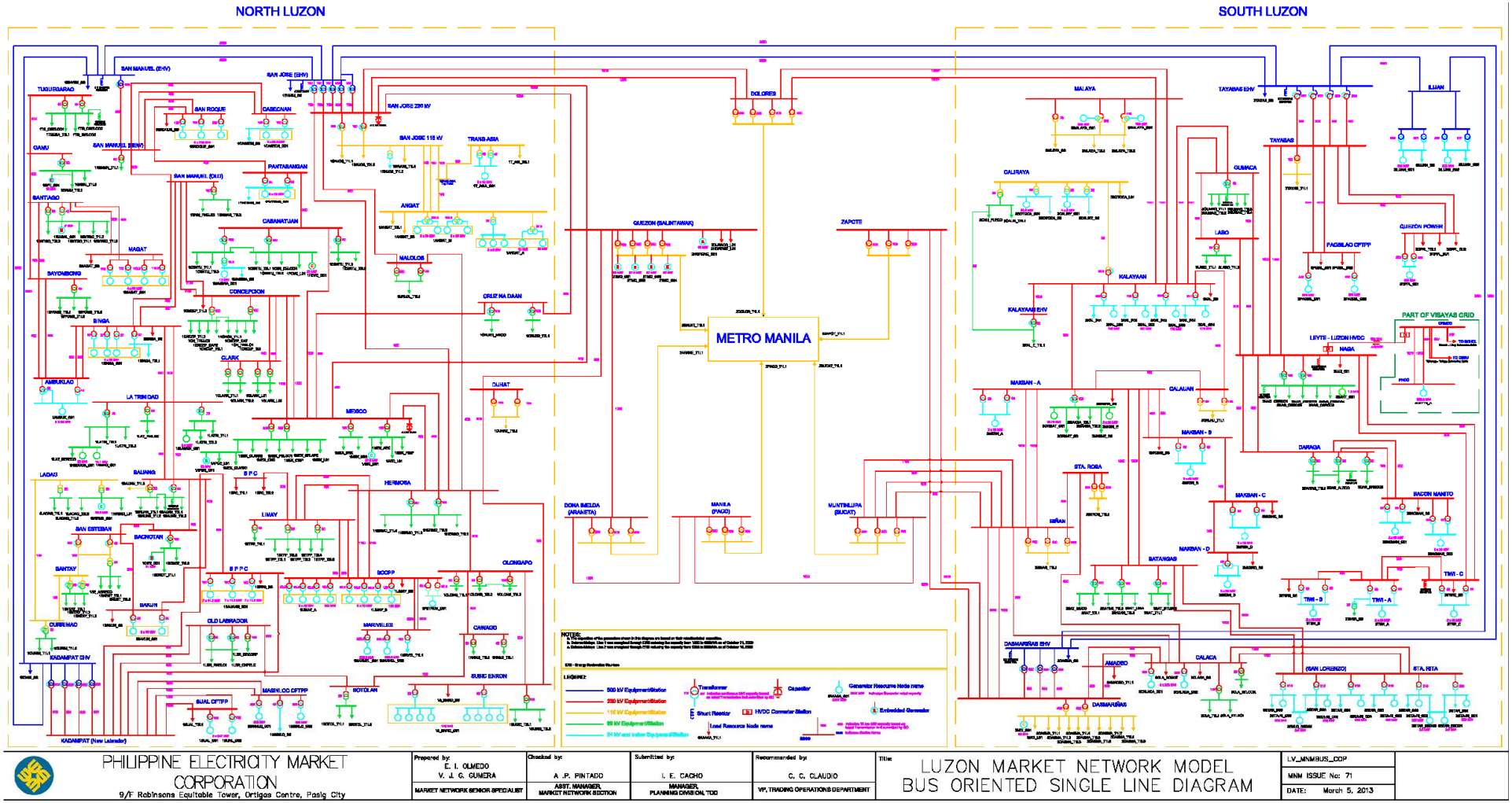
MYLENE C. CAPONGCOL
Director
Electric Power Industry Management Bureau (EPIMB)

Energy Center, Merritt Rd., Fort Bonifacio, Taguig, Metro Manila, Philippines
Fax # 812-61-94 Tel # 840-20-08 Fax # 840-22-38 Fax # 840-17-31 Tel # 817-86-03 Trunkline 479-29-00
Website: www.doe.gov.ph, E-mail: info@doe.gov.ph

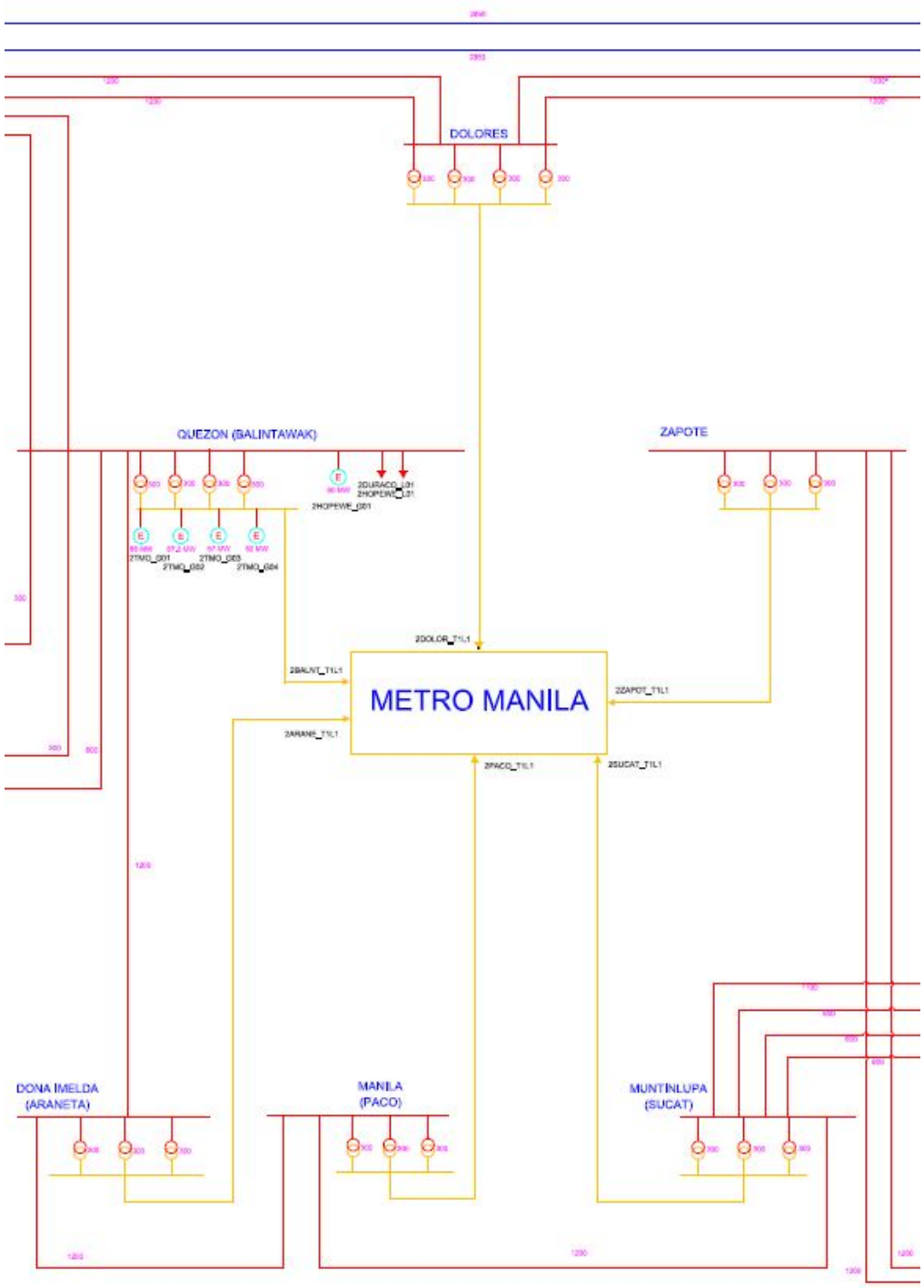
Thank you

Reference Slides

The WESM's Market Network Model



The Meralco subsystem in the Market Network Model



Wholesale Electricity Spot Market

MDOM Performance Standards & Reasonable Estimate

Rules Change Proposal

05 June 2013

Outline

- Reasonable Estimate
- MDOM Performance

  - Audit Issue
  - WESM Rules
  - Rationale for Change
  - Changes to the WESM Rules/Manuals

Reasonable Estimate

Background

- One of the immaterial issues raised by the auditor under the Process and Compliance Review is that the Market Operator (MO) has failed to publish "reasonable estimate" that participants must use to revise bids and offers as provided for under WESM Rules Clause 3.5.11.5.

Reasonable Estimate

Background

WESM Clause 3.5.11.5,

The *Market Operator*, in consultation with the *System operator* and *WESM member*s, and with the approval of the *PEM Board*, shall determine and ***publish*** **criteria to determine the meaning of "reasonable estimate"** under clause 3.5.11.4, taking account

of:

(a) The time remaining until the occurrence of the relevant *trading interval* involved,

(b) The impact on the *market* of any variations to offers or *demand bids,*

(c) The different categories of *WESM member*s, and

(d) The different circumstances which may have given rise to the need to make the relevant variation.

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Reasonable Estimate

Background

WESM Clause 3.5.11.4

Market bids or market offers for any trading interval shall be revised by Trading Participants if, at any time, they no longer represent a **reasonable estimate** of:

(a) The expected availability of the relevant generating unit or scheduled load for that trading interval; or

(b) The demand bids or offers likely to apply for the real time dispatch optimization of that trading interval.

.

Reasonable Estimate

Rationale

- The provision to ***revise bids or offers anytime is not consistent with the gate closure provision of the PDM*** and the WESM Timetable which adopts a gate closure for the submission of bids and offers for the real-time market.
- WESM Timetable reduced the gate closure ***from four hours to two hours to one hour prior*** to the start of the relevant trading interval.
- Reasonable estimate under clause 3.5.11.4, was set in the WESM Rules to facilitate transparency and accountability when market participants revise their bids “at any time.”

Reasonable Estimate

Rationale

- Considering the provision of gate closure and the reduction of ***gate closure to one hour prior to start of trading interval***, it is recommended that clause 3.5.11.4 be revised to remove the provision “at any time” and replace it with provisions on gate closure.
- Defining “reasonable estimate” becomes no longer relevant given that the gate closure is now reduced to one hour prior to the start of the trading interval.

Reasonable Estimate

Rationale

- The definition of the “reasonable estimate” is provided in the Dispatch Protocol (Section 4.6, Appendix A.1) which was developed in coordination with the System Operator and approved by the PEM Board and RCC.
- Since the Dispatch Protocol is already uploaded in the WESM public website, the publication requirement is actually satisfied.

.

Reasonable Estimate

Rationale

- The Market Surveillance Committee requested the following to PEMC to achieve a more efficient assessment of the trading participant's compliance to the relevant rules on the submission and cancellation of offers:
  - Sending a prompt notice to trading participant that offers less than their maximum available capacity without providing any valid reason will subject them to an investigation.
  - Sending a prompt notice to trading participant that cancellation of offers without providing any valid reason will subject them to an investigation
  - Sending a prompt notice to trading participant that non submission of offers will subject them to an investigation

Reasonable Estimate

Rationale

- The proposal essentially adds a bid/offer validation requirement when trading participants submit their bid/offer. To support this proposal, WESM Rules clause 3.5.11.5 (d) is revised to incorporate provisions in the WESM Rules.

.

Reasonable Estimate

Title	Section	Provision	Proposed Amendment
3.5.11 Revision of Market Offers/Bids	3.5.11.4	*Market bids* or *market offers* for any *trading interval* shall be revised by *Trading Participants* if, at any time, they no longer represent a reasonable estimate of: (a) The expected availability of the relevant *generating unit* or *scheduled load* for that *trading interval*; or (b) The *demand bids* or *offers* likely to apply for the real time *dispatch optimization* of that *trading interval*.	*Market bids* or *market offers* for any *trading interval* shall be revised by *Trading Participants* **prior to gate closure** if ~~, at any time,~~ they no longer represent a reasonable estimate of: (a) The expected availability of the relevant *generating unit* or *scheduled load* for that *trading interval*; or (b) The *demand bids* or *offers* likely to apply for the real time *dispatch optimization* of that *trading interval*.

Reasonable Estimate

Title	Section	Provision	Proposed Amendment
3.5.11 Revision of Market Offers/Bids	3.5.11.5	The *Market Operator*, in consultation with the *System operator* and *WESM member*s, and with the approval of the *PEM Board*, shall determine and *publish* criteria to determine the meaning of "reasonable estimate" under clause 3.5.11.4, taking account Of:	**In submitting or revising *Market bids* or *market offers* for any *trading interval*, *Trading Participants* shall also take into account the following**: ~~The *Market Operator*, in consultation with the *System operator* and *WESM member*s, and with the approval of the *PEM Board*, shall determine and *publish* criteria to determine the meaning of "reasonable estimate" under clause 3.5.11.4, taking account Of~~:

Reasonable Estimate

Title	Section	Provision	Proposed Amendment
3.5.11 Revision of Market Offers/Bids	3.5.11.5	(a) The time remaining until the occurrence of the relevant *trading interval* involved, (b) The impact on the *market* of any variations to offers or *demand bids,* (c) The different categories of *WESM member*s, and (d) The different circumstances which may have given rise to the need to make the relevant variation.	(a) The time remaining until the occurrence of the relevant *trading interval* involved, ~~(b) The impact on the *market* of any variations to offers or *demand bids,*~~ ~~(c) The different categories of *WESM member*s, and~~ ~~(d) The different circumstances which may have given rise to the need to make the relevant variation.~~ **(b)Provision of reasons or circumstances whenever the submitted *Market bids* or *market offers* is cancelled or is less than the registered capacity of its facility or generating unit.**

Reasonable Estimate

Title	Section	Provision	Proposed Amendment
Dispatch Protocol Issue 6.0	**Appendix A.1 4.6 Revisions of Bids and Offers Based on Reasonable Estimates**	WESM Rules clause 3.5.11.4 provides that Trading Participants shall revise their market bids and offers for any trading interval if, at any time, they no longer represent a reasonable estimate of – • the expected availability of the relevant generating unit or scheduled load for that trading interval; or • the demand bids or offers likely to apply for the real time dispatch optimization of that trading interval	WESM Rules clause 3.5.11.4 provides that Trading Participants shall revise their market bids and offers for any trading interval **prior to gate closure** if, ~~at any time~~, they no longer represent a reasonable estimate of – • the expected availability of the relevant generating unit or scheduled load for that trading interval; or • the demand bids or offers likely to apply for the real time dispatch optimization of that trading interval.

MDOM Performance

Background

- One of the immaterial issues raised by the auditor under the Process and Compliance Review is that the Market Operator (MO) has failed to publish “MDOM Performance Standards" that as provided for under WESM Rules Clause 3.6.1.2

MDOM Performance

Background

WESM Clause 3.6.1.2

The *Market Operator* shall maintain and ***publish*** the formulation of the *market dispatch optimization model,* and ***the performance standards***, in accordance with the *WESM* objectives..

MDOM Performance

Rationale

- The Market Dispatch Optimization Model (MDOM) is an algorithm that is set and documented under the WESM Price Determination Methodology which ***has been approved by the ERC.***
- The MDOM was also ***subject to independent audit*** as part of the ERC approval process to validate if it meets provisions of the WESM Rules. A regular audit of the MDOM software is also conducted as part of the Market Operational Audit.
- Given that the MDOM is an algorithm and is subject to regular Market Software audit, it is deemed that the requirement for the MDOM performance standard is no longer relevant.

MDOM Performance

Rationale

- On the other hand, in terms of ***availability of the MMS*** as a whole and the ***availability of market prices and schedule*** for the real-time and market projection timelines, MMS and MO performance measures are incorporated in the Market Operator Performance Standard (MOPS).

MDOM Performance

Title	Section	Provision	Proposed Amendment
3.6 MARKET DISPATCH OPTIMIZATION MODEL **3.6.1 Model Definition**	3.6.1.2	The *Market Operator* shall maintain and *publish* the formulation of the *market dispatch optimization model,* and the performance standards, in accordance with the *WESM* objectives.	The *Market Operator* shall maintain and *publish* the formulation of the *market dispatch optimization model,* ~~, and the performance standards,~~ in accordance with the *WESM* objectives.

MDOM Performance

Title	Section	Provision	Proposed Amendment
3.6 MARKET DISPATCH OPTIMIZATION MODEL 3.6.1 Model Definition	3.6.1.5	(c) XXX after accounting for other constraints which may affect that Trading Participant, and (d) It will perform its functions in accordance with the performance standards approved by the *PEM Board*.	(c) XXX after accounting for other constraints which may affect that Trading Participant, and ~~will~~ perform its functions ~~in accordance with the performance standards approved by the *PEM Board*.~~

End of Presentation
Thank You

2013 RCC Workplan

Updated as of 05 June 2013

Item	Topics/Proposed Rules Change	Target	Deliverables	Responsible Party	Status	Remarks
1	Minimum Bid Block	Q1	WESM Rules change	PEMC	Done	DOE approval through DC2013-03-0004 promulgated on 22 March 2013 published on 05 April 2013
2	Review on the Must Offer Rule (as per PEM Board directive dated 27 April 2012)	Q1	WESM Rules change	RCC	Ongoing	On 03 April 2013, the RCC agreed to await the MSC initiative which answers to the same issue on the uneconomic dispatch of oil-based plants at Pmin as well as the result of the WESM Design Study on Pmin to be completed by Intelligent Energy Systems (IES)
3	Proposed Amendments to the WESM Dispatch Protocol Manual regarding Re-Dispatch Procedures based on the WESM Merit Order Table	Q1	Revised Manual	RCC	Ongoing	On 15 May 2013, RCC agreed that the proposal is contingent upon the DOE's approval of the proposed Manual on the Management of Must Run Units (MRUs), having noted that the same makes reference to Must-Stop-Units (MSU) and the revised definition of MRU. Thus, even with the DOE's concurrence to the proposed amendments to the Dispatch Protocol Manual Issue 6.0, the RCC would still have to defer publication of the proposal.
4	Ramp rate registration	Q1	WESM Rules Change	PEMC	Done	Approved by the RCC on 03 April 2013 through RCC Resolution No. 2013-01. To be referred by the PEM Board Review Committee (BRC) to the Tripartite Body composed of the DOE, ERC and PEMC. Presented to the BRC Meeting held on 17 April 2013. Proposal was parked awaiting result of tripartite meeting.
5	Net Settlement Surplus (NSS)	Q1	Revised Manual	PEMC	Done	For deletion in the Workplan. PEMC to submit revised flowback mechanism on the NSS directly with the ERC, in compliance with ERC directive.
6	Proposed Changes to the WESM Rules on Trading Amount and Line Rental Computation (ECs in RCC to submit proposal)	Q1	WESM Rules change	EC Representatives in RCC	Ongoing	As of 05 June 2013, discussion on proposal within the RCC is still ongoing. Requested PEMC's assistance on the conduct of simulation/verification of findings/data re: issues associated with Line Rental segregation
7	Deletion/Revision of provisions on “MDOM Performance Standards”	Q1	WESM Rules Change	PEMC	Ongoing	Submitted by PEMC on 21 May 2013. RCC, during its 75th Meeting held on 06 June 2013, concluded that proponent should instead develop the MDOM performance standards rather than propose to altogether delete the WESM Rules provision prescribing the publication of the same
8	Amendment - Metering Manual Section 9.7	Q1	Revised Manual	PEMC	Done	Submitted by PEMC on 20 March 2013. Approved by the RCC on 15 May 2013 through RCC Resolution No. 2013-06. Endorsed for the PEM Board's approval on 17 May 2013
9	Amendment to WESM Rule 3.13.6 (a) and Additional Clause - WESM Rule 4.4.4 (Metering Provisions)	Q1	WESM Rules Change	PEMC	Done	Submitted by PEMC on 20 March 2013. Approved by the RCC on 15 May 2013 through RCC Resolution Nos. 2013-05 and 2013-07. Endorsed for the PEM Board's approval on 17 May 2013

2013 RCC Workplan

Updated as of 05 June 2013

Item	Topics/Proposed Rules Change	Target	Deliverables	Responsible Party	Status	Remarks
10	Definition of Financial Year	Q1	WESM Rules Change	PEMC	Done	Submitted by PEMC on 27 February 2013. Approved by the RCC on 03 April 2013 through RCC Resolution No. 2013-03. Approved during 81st PEM Board Meeting on 30 April 2013
11	Deletion/Revision of provision regarding the submission of bids and offers based on "reasonable estimate"	Q1	WESM Rules Change	PEMC	Ongoing	Submitted by PEMC on 21 May 2013. Posted in the market information website and solicited comments from interested parties on 06 June 2013
12	Line Rental (Segregation approved by PEM Board, awaiting ERC Decision/Issue on implementation)	Q1	WESM Rules Change	NPC	Ongoing	RCC discussion consolidated with item # 6
13	Revisit the rules change process(Amendments to Chapter 8, WESM Rules and Rules Change Manual)	Q1	Revised Manual	Mr. Meneses/ Mr. Sarmiento / Dus	Deferred	Put on hold to await result of PEMC TWG on the harmonization of rules and manuals (PEMC letter dated 11 March 2013)
14	Value of Load Loss (VoLL) Pricing	Q2	Study	PEMC		Carried-over from the 2012 RCC Workplan. Included in the IES Study on Pmin and Associated Issues. To be submitted to RCC once Study is completed.
15	Amendment - Metering Manual Section 7, 2, 6 and 5	Q2	Revised Manual	PEMC		Included in the ongoing review of the PEMC TWG, timeline of which is until 3Q of 2013.
16	Harmonization/Provision of Renewable Energy Market in the WESM Rules	Q2	WESM Rules Change	PEMC		Included in the ongoing review of the PEMC TWG, timeline of which is until 3Q of 2013.
17	Metering Audit Results (SSLA Computation, adjusted meter data, line loss etc)	Q2	Revised Manual	DOE/PEMC		Information will come from BSMD but directive from DOE
18	Methodology for Determining Pricing Errors and Price Substitution due to Congestion	Q2	Revised Manual	PEMC		Included in the ongoing review of the PEMC TWG, timeline of which is until 3Q of 2013.
19	Payment Default Procedure	Q2	WESM Rules Change	PEMC		
20	Provision for flexibility in RCC's workplan to address WESM metering review/audit findings	Q2	Revised Manual	NPC		Included in the ongoing review of the PEMC TWG, timeline of which is until 3Q of 2013.
21	RCOA	Q2	WESM Rules Change	RCC		RCC to review Rules
22	Review of Prudential Requirements	Q2	WESM Rules Change	PEMC	Ongoing	PEM Board issued directive on 21 March 2013 re: the reduction of the PR from 63 to 35 days
23	Amendment - Metering Manual Section 8	Q3	Revised Manual	PEMC		Included in the ongoing review of the PEMC TWG, timeline of which is until 3Q of 2013.
24	Demand-side bidding	Q3	WESM Rules Change	EC Representatives in RCC		

2013 RCC Workplan

Updated as of 05 June 2013

Item	Topics/Proposed Rules Change	Target	Deliverables	Responsible Party	Status	Remarks
25	Dispatch Protocol - Harmonization with Proposed Rules Changes on Market Intervention	Q3	Revised Manual	PEMC		Included in the ongoing review of the PEMC TWG, timeline of which is until 3Q of 2013.
26	Incorporate policies on the renewable energy in the WESM Rules	Q3	WESM Rules Change	DOE/PEMC		
27	Load Forecasting Manual	Q3	Revised Manual	PEMC		Included in the ongoing review of the PEMC TWG, timeline of which is until 3Q of 2013.
28	Rules Provision on Market Intervention	Q3	WESM Rules Change	PEMC		Included in the ongoing review of the PEMC TWG, timeline of which is until 3Q of 2013.
29	Incorporate policies on the reserves market in the WESM Rules	Q4	WESM Rules Change	DOE/PEMC		
30	Proposed Amendments to the WESM Manual on Criteria and Guidelines for the Issuance of Pricing Error Notices and Conduct of Market Re-Run	31-Jul-13	WESM Rules Change/ Revised Manual	DOE/RCC	Ongoing	Incorporate revisions based on DOE directive dated 04 April 2013, including identification of corresponding changes in the WESM Rules
31	Proposed Amendments to the WESM Manual the Management of Must Run Units	31-Jul-13	WESM Rules Change/ Revised Manual	DOE/RCC	Ongoing	Incorporate revisions based on DOE directive dated 04 April 2013, including identification of corresponding changes in the WESM Rules