

MINUTES OF THE 54th (SPECIAL) MEETING OF THE RULES CHANGE COMMITTEE

Date : 02 November 2011
Time : 9:00 A.M.
Venue : PEMC Board Room
9th Floor, Robinsons-Equitable Tower
Ortigas Center, Pasig City

MEMBERS PRESENT:

Rowena Cristina L. Guevara	-	Chairperson/Independent – UP
Epictetus E. Patalinghug	-	Acting Chairperson/Independent – UP
Francisco L.R. Castro Jr.	-	Independent – The Herma Group
Maila Lourdes G. de Castro	-	Independent – Unitel Productions, Inc.
Cherry Aquino-Javier	-	Generation Sector – AES
Cynthia R. Encarnacion	-	Generation Sector – NPC
Augusto D. Sarmiento	-	Distribution Sector – DECORP
Sulpicio C. Lagarde Jr.	-	Distribution Sector – CENECO
Conrado D. Pecjo	-	Supply Sector – Angeles Power, Inc.
Raul Joseph G. Seludo	-	System Operator – NGCP
Robinson P. Descanzo	-	Market Operator – PEMC

ALTERNATE MEMBERS PRESENT:

Ryan S. Morales	-	Distribution Sector – MERALCO
Isidro E. Cacho	-	Market Operator – PEMC

MEMBERS NOT PRESENT:

Ciprinilo C. Meneses	-	Distribution Sector – MERALCO
Jose P. Santos	-	Distribution Sector – INEC
Liberty Z. Dumlao	-	Generation Sector – PSALM
Ralph T. Crisologo	-	Generation Sector – SNAP

OBSERVERS PRESENT:

Debora T. Layugan	-	ERC
Ferdinand S. Binondo	-	DOE (<i>Alternate</i>)

OTHERS PRESENT:

Ambrocio R. Rosales	-	NGCP – SO
Ermelindo R. Bugaoisan	-	NGCP – SO
Michael L. Pascual	-	NGCP – SO
Edward I. Olmedo	-	PEMC – TOD
Caryl Miriam Y. Lopez	-	PEMC – Legal
Phillip C. Adviento	-	PEMC – Legal
Rienzi Zano	-	SN Aboitiz Power
Dennis dela Serna	-	Aboitiz Power Corporation
Jess Garcia	-	1590 Energy Corporation
Michael I. Magamit	-	Team Energy

SECRETARIAT

Chrysanthus S. Heruela	-	PEMC – MAG
Elaine D. Gonzales	-	PEMC – MAG
Geraldine A. Rodriguez	-	PEMC – MAG
Rheinhardt O. Banogon	-	PEMC – MAG

After determining the presence of a quorum, the 54th RCC meeting was called to order by Chairperson Dr. Rowena Guevara, at about 9:30 A.M.

1. Adoption of the Proposed Agenda

The Proposed Agenda for the 54th RCC Meeting was presented and approved.

2. Review, Correction and Approval of the Minutes of the 53rd RCC Meeting

The Minutes of the 53rd RCC Meeting was approved, with minor revisions. The revisions are clerical in nature.

3. Matters Arising from the Previous Meeting

- a. Ms. Geraldine Rodriguez informed the body that the Secretariat already received on that day from the WESM Dispute Resolution Administrator (DRA) the corresponding general amendments of the PEM Board-approved urgent amendments to the WESM Rules on Dispute Resolution Provisions. While it was previously agreed that the proposed amendments be included in the agenda of the 54th meeting, the RCC agreed to move the discussion of the same to the next meeting considering that the DRA is not available to present. Further, the RCC agreed that the publication be decided after the proposal has been presented to and discussed with the RCC.

In this connection, Dr. Guevara instructed the Secretariat to forward to the RCC the copy of the DRA's proposed amendments within the day.

- b. On the document on Reserve Dispatch Implementation Procedure submitted by NGCP-SO to the RCC, Ms. Cherry Javier commented that it does not cover the various specific scenarios for the designation of Must Run Units (MRUs) which the RCC requested a copy for. Mr. Ambrocio Rosales disclosed that the NGCP-SO does not have written procedures on the MRU scenarios, however, the Reserve Dispatch Implementation Procedure already covers and captures the actions taken by SO during grid frequency deviations.

4. Main Business

a. Proposed Amendments to the WESM Manual on Management of Must Run Units (MRU)

The RCC discussed the comments and proposed recommendations submitted by PEMC, Merchant Generators (composed of 1590EC, AES, API, SMEC and SNAP), TAPGC, Technical Committee and NGCP-SO. Highlights of the discussion are as follows:

- The RCC adopted the Merchant Generators' proposed revisions to Section 3-Scope, which aims to clarify that MRU is implemented in grids with WESM, as follows:

*"The procedures set out in this document shall be enforced in the preparation of the Dispatch Schedules for **Grids with WESM operations Luzon, Visayas and Mindanao Power Systems**, and in the settlement of generation units designated as MRUs following the criteria and procedures in this manual."*

- **On the definition of Must Run Unit (under the section on Definition of Terms)**

Dr. Guevara noted that the NGCP-SO and Merchant Generators have submitted different proposed definitions of MRU.

Mr. Rosales remarked that the SO's proposed revision only serves to emphasize that the SO can still make use of generators as MRUs even if they are not still synchronized with the grid or not yet on line. On the other hand, Ms. Javier expounded that the Merchant Generators propose for a more specific definition which is not actually in conflict with that of SO's, where MRUs refer to generating units outside of the Merit Order Table (MOT) instructed by SO to: come on line; to provide additional energy; and to reduce their target loading schedule. She likewise clarified that the term "outside of the MOT" could either mean not following the order of generators as listed under the column "offers not dispatched" in the MOT or off-line generators which the SO instructed to come on line.

From Mr. Rosales' point of view, however, the term "outside of MOT" refers to generators that are neither in the list of "offers dispatched" nor in the "offers not dispatched". He thus suggested using the term "out of merit dispatch" to clarify that this refers to generators which the SO instructed to run without following the order of MOT. He clarified that the term (out of merit dispatch) does not yet capture those generators that are not on-line. He also suggested replacing "energy" with "power" in the phrase "to provide additional energy", citing that what is being dispatched by SO is power (MW) and not energy.

Mr. Rosales expressed his reservations on the proposal of the Merchant Generators to categorize those generating units which are instructed by SO to ramp down out of merit or constrained-off generators as MRUs. The very fact that they are instructed to run at a decreased level than their original RTD schedule is already at odds with the term "Must Run Unit". Mr. Robinson Descanzo agreed that constrained-off generators should not fall under the classification of MRU and thus suggested drafting a separate manual for such in order to define the manner by which it should be reported and its corresponding payment mechanism.

Ms. Javier clarified that contrary to what SO believes, the generators are not taking away the authority of the SO to constraint-off generators in order to address system security concerns (such as overloading). What they hope to achieve through their proposal is to define such action by the SO in order for these generators to be properly compensated.

Atty. Maila de Castro remarked that while she understood Ms. Javier's position, she agreed that constrained-off generators should be defined separately but not necessarily in a separate manual.

Following the above discussion, the RCC agreed to revise the definition of MRU as follows:

*"Must-Run Unit – a generating unit identified **and instructed** by the System Operator **out of merit dispatch** to **either (a) come be** on-line, **(b) provide additional power in an interval** on a particular Trading Interval to address System Security requirements and other considerations as provided in this manual."*

It was clarified that generators in the “offers not dispatched list” that are called to run in accordance with the MOT will not be classified as MRUs.

Further, the RCC agreed to classify those generating units which are instructed to ramp down out of merit as Must Stop Unit (MSU), and define the same under a separate section as follows:

“Must Stop Unit (MSU) – a generating unit identified and instructed by the SO out of merit dispatch to reduce the provision of relevant powers specified in its RTD instruction.”

It was clarified that generators that are instructed to ramp down consistent with the MOT are not classified as MSUs. Likewise, it was clarified that constrained-off/on generators which the Market Dispatch Optimization Model (MDOM) produces as a result of its optimization process shall not be classified as either MRU/MSU.

- The RCC agreed to adopt the proposal of NGCP-SO to revise Section 5.1 as follows:

*“The Market Operator shall prepare hour-ahead, day-ahead and week-ahead Dispatch Schedule **and Merit Order Table. The Dispatch Schedule shall be based on net load forecast, current system condition, scheduled plant/unit for MRU, accepted plant/unit bid nomination for MRU/s** and either/both Ancillary Services and Energy (as applicable), and required spinning and contingency reserve level.”*

The inclusion of Merit Order Table is in line with the proposal to define the MOT in the Dispatch Protocol Manual. Also, the above revisions aim to clarify that the MO does not accept plant/unit bid nomination for MRUs.

- **On the proposed revisions to Section 5.2**

Ms. Javier explained that the Merchant Generators’ proposed revisions to Section 5.2 aim to make more specific the responsibilities of SO in relation to MRU designation. Similarly, Mr. Dennis de la Serna clarified that the revisions are made consistent with a specific ERC decision which states that the MRUs should not be made the end solution to system security and reliability concerns that are supposed to be addressed by the ancillary services.

Mr. Rosales expressed his disagreement, however, with the proposal to make the MRUs a last resort solution to address system security concerns, clarifying that there are problems in the system (such as transmission line overloading) that could not be addressed or relieved by ancillary services. He added that the last resort solution that the SO implements to address system concerns is manual load dropping (MLD).

Dr. Guevara surmised that the SO is concerned that adding the phrase “last resort solution” will limit their ability to solve system security problems, to which Mr. Rienzi Zano replied that the SO is fully covered by the Philippine Grid Code which states that SO can invoke its mandated power to maintain the security and reliability of the grid. Given that, Atty. de Castro suggested to incorporate such provision in Section 5.2, citing that it might make the SO feel more assured of its flexibility for deciding on what is necessary when there is a security issue.

Atty. Debora Layugan explained that what the ERC wanted to point out in its decision was that the manner or discretion by the SO involving MRUs should be used sparingly. She added that if SO wanted flexibility, it should be put into writing.

Following the above discussion, the RCC agreed to adopt the proposed revisions of the Merchant Generators, as amended:

*"The System Operator shall ~~dispatch~~ **schedule** MRU/s based on the submitted hour-ahead ~~generation schedule~~ **Dispatch Schedule and MOT** by the Market Operator. **The SO shall determine the amount and locations of must-run service and shall notify the MO of these requirements so the MO can publish these prior to the release of the RTD schedules. The MRUs shall be scheduled and dispatched as last resort solution prior to manual load dropping subject to the provisions of Philippine Grid Code on SO's authority to address system security and reliability concerns.**"*

- **On the proposed revisions to Section 5.3**

On the Merchant Generators proposed provision (second sentence in Section 5.3) as follows: "The SO shall direct the generators to submit to the MO when it is called by the SO to operate as MRU in this mode for the revision of the RTD information", Ms. Javier explained that its intention is to require these generators to submit offers in the next interval for inclusion in the next optimization process of the MDOM so that they will no longer be required to run as MRUs in the next trading interval.

On the other hand, Mr. Descanzo suggested rewording the provision, the essence of which would be to require the SO to submit the MRU information to the MO, citing that there is no guarantee that the presence of such provision, as proposed by the Merchant Generators, will compel the generators to offer their capacity in the next trading interval. He added that there is also no guarantee that one of these generators will be cleared as the marginal plant.

In view of the foregoing and given that the SO posed no objection to the proposed first part of Section 5.3, the RCC agreed to adopt the Merchant Generators' proposed revisions to Section 5.3, as amended, to read as follows:

"When the System Operator deviates from the MOT due to system security and reliability concerns, generating units dispatched outside of MOT and/or out of merit dispatch shall be considered MRUs and shall fall under one of the MRU criteria identified in this Manual. The SO shall submit to the MO the list of MRUs to be considered in the next interval/s."

- The RCC agreed with the proposed deletion of Section 5.4 which reads as follows: "The System Operator shall officially notify Market Operation the reason for re-dispatch instruction."
- **On the proposed changes to Section 5.5 which is renumbered to 5.4 following the deletion of Section 5.4**

Mr. Descanzo commented that the proposed changes to Section 5.5 need to be harmonized with the ERC order on MRU, citing that the ERC has specified a formula and conditions in the determination of MRU quantity. He likewise stressed the need to specify the frequency of reporting in the said Section. Accordingly, the RCC agreed to adopt the Merchant Generators' proposed revisions, as amended, to read as follows:

"The System Operator shall ~~be monitor and submit responsible for monitoring and submitting the~~ necessary information to ~~the Market Operator for the determination of determine~~ the settlement amounts for MRUs and MSUs at the end of the billing month consistent with the provisions of ERC, which includes the list of all generating units designated as MRU/ MSU, MRU/MSU scheduled energy dispatch, MRU/MSU actual dispatch, reason for MRU/MSU event.

- On the Merchant Generators proposed new Section 5.6 which reads as: *"The Market Operator shall determine if the SO has properly used the MRU in accordance with this Manual and shall make a report if the SO had directed any generator for MRU service other than for reliability and localized problems."*

The RCC viewed that the responsibility in determining whether the SO has utilized the MRU appropriately is within the scope of the Market Surveillance Committee's (MSC) functions given its mandate to monitor and report on activities in the spot market. In this regard, the RCC agreed to request the comments/views of the MSC on the above-cited provision and further agreed to defer rendering a decision on the same pending the MSC's response.

- Upon the suggestion of Ms. Javier, the RCC agreed to include additional section (Section 5.7) on the requirement for SO to submit the list of MRUs and MSUs on a regular basis and the requirement to publish the same in the website. Thus, Section 5.7 was crafted to read as follows:

"The System Operator shall submit to the Market Operator the list of MRUs and MSUs on an hourly basis. The Market Operator shall publish the same in the market information website."

Mr. Seludo expressed uncertainty, however, that the SO can comply with the requirement on an hourly basis, citing that the fact that SO has called for MRUs implies something is wrong in the system. He added that the SO would rather keep the system secure than make a report in order to appease the request of other entities. Likewise, he stressed the need for, coupled with the implementation of the above revised provisions, strict enforcement of the Must-Offer Rule and the corresponding penalty to those generators which has violated the said rule.

- The RCC agree to revise the title of Section 6 as "Must-Run Unit/Must Stop Unit Criteria".
- The RCC agreed to retain the title "System Security" in Section 6.1 instead of adopting the Merchant Generators' proposed "SO Initiated", explaining that as it is the responsibility of the SO to maintain system security, any action by the SO as regards to this is already understood to be SO-initiated.
- ***On the proposed deletion of Insufficient offers and Inadequate levels of reserve as two of the criteria for MRU designation***

Atty. Layugan stated that in one of its hearings, the ERC has expressed concern over the inclusion of insufficient offers and inadequate levels of reserve, saying that these should not be considered as MRU criteria because these events are more concerned about the insufficiency in supply and not the system security. Mr. Seludo responded

that the criterion on insufficient offer should not have been included if only all generators were compliant to the Must Offer Rule.

On the proposal of NGCP-SO to replace the language of Section 6.1.4 to read as follows: *"Under generation due to insufficient supply capacity offers from generators to meet the demands for the real-time dispatch of energy"*, Mr. Zano noted that it offers the same concept as that of insufficient offers criterion and thus defeats the purpose of the proposed deletion of Section 6.1.4. Ms. Javier for her part noted that adopting such provision will provide incentive for the generators not to offer.

Mr. Augusto Sarmiento opined that clipping the SO's flexibility (by deleting the two criteria) in looking for power to maintain system security and reliability might result in high electricity prices as well as give the SO excuses to implement MLD.

Mr. Rosales explained that the proposed rewording of Section 6.1.4 by NGCP-SO intends to give the SO leeway to designate as MRUs those generators which are not able to submit offers prior to the gate closure. He went on to explain that as long the SO sees that there are still available capacities to spare, the SO will stop at nothing to compel these generators to run to avoid load dropping and will leave it to the authority of the MSC to determine the reasons for these generators' non-compliance to the must offer rule. On the other hand, Atty. Layugan opined that one of the objectives of the market is to have resulting prices based on the offers of the generators and other market-related circumstances and not on the discretion of SO. While she acceded that there may be instances where these generators (those which were not able to offer and those that did not offer) are required to run, she commented that the duration by which they are called to run should be limited, citing that the must offer rule should not be disregarded. She likewise stated that she's not discounting the possibility that the reason why these generators do not offer is they are expecting that they will be called as MRUs.

Giving due consideration to the concerns of Atty. Layugan, the SO and the Generators, Mr. Descanzo suggested that generators called to run based on the criterion proposed by the NGCP-SO shall only run for an hour or two, after which they should be required to offer their capacity in the market already, to which the RCC agreed. As to the number of hours by which the generators should run, Ms. Javier suggested two hours considering that the gate closure period is one hour before RTD execution which may not be sufficient. Accordingly, the RCC agreed to adopt the proposed revision by NGCP-SO with the colatilla.

Mr. Seludo suggested applying the same colatilla for the inadequate levels of reserve criterion. Mr. de la Serna argued however that the issue on inadequate levels of reserve could be addressed by contracting reserves, to which Atty. Layugan acknowledged that as it is now, there is not enough contracts to cover for the required level of reserves. Mr. Francisco Castro for his part commented that by retaining the provision, nothing will stop the SO from invoking it anytime until the implementation of reserve market.

Noting the different positions expressed by the body, Dr. Guevara moved for the conduct of votation on whether to retain Section 6.1.5. With a vote of 7-3-1 in which Messrs. Morales, Seludo and Sarmiento voted for its retention and Prof. Patalinghug opted to abstain, the RCC agreed to delete/remove inadequate levels of reserve as one of the criteria for the designation of MRUs.

- ***On the proposal to include fast ramp up/down requirement as MRU criteria***

Ms. Javier explained that the main reason for the Merchant Generators' proposal to include the fast ramp up/down capability of the generators as criteria in MRU nomination is that the same reason is provided by SO for some of the deviations from the MOT.

While Mr. Rosales agreed with the proposal to specify ramp rates, he's unsure whether it is appropriate to make it as one of the major criteria. He went on to say that ramp rates could be cited as one of the reasons why certain dispatch instructions are out of merit dispatch. Following this concern, Atty. Layugan suggested specifying the fast ramp up rate under Section 6.1.4 on undergeneration.

Accordingly and incorporating the agreements in the preceding item, Section 6.1.4 was revised to read as follows:

"Under generation due to insufficient supply capacity offers from generators to meet the demands for the real-time dispatch of energy

- a. For a maximum of two hours in a trading day.***
- b. Fast Ramp-up Requirement – this refers to events when the ramp-up rate of the next generating units in the MOT are insufficient to meet the sudden spike in demand.***

The RCC likewise agreed to include a criterion for MSU. Thus, Section 6.1.5 was formulated as follows:

"Excess generation capacity in the system

- a. Fast Ramp-down Requirement – this refers to events when the next generating unit in the MOT cannot be ramped-down and instead another generating unit was directed by SO to do so. This event shall only be due to system reliability issues that shall be identified by SO***

It was clarified that those generators which will be able to reach their target loading level first due to their fast ramp up/down capability will not be classified as MRU/MSU as long as they are dispatched based on the order of MOT.

- The RCC agreed to retain original provision of Section 6.2.3, following RCC's agreement not to adopt the proposal of Merchant Generators' on SO Initiated.
- The RCC approved the proposed revisions to Section 7.1, noting that the SO and Merchant Generators proposed for the same.
- ***On the proposed revisions to Section 8.1***

On the proposal of the Merchant Generators to include provision on MOT for MRU in Section 8.1 and its subsections, the RCC agreed to remove the provision on MOT following Mr. Descanzo's comment that MOT for MRU could not be imposed considering that MRUs are called depending on the needs of the system. The RCC likewise does not see the need to publish the generating units' price offers for MRU designation, agreeing with Atty. Layugan's view that the SO's mandate is to maintain system security and knowledge of the prices will have no bearing on the decision of the SO.

Mr. Descanzo remarked that the publication of MRU data will be in accordance with the WESM Manual on Information Disclosure and Confidentiality Manual.

Following the preceding discussion as regards the publication of price offers, Section 8.1 is revised to read as follows:

"Submission of Generator MRU Default Offers

8.1.1 All generating units shall nominate to MO one (1) capacity price and one (1) variable price for MRU designation.

8.1.2 These MRU capacities shall be used for SO designated MRUs."

- Following the agreement not to adopt the proposal of Merchant Generators on SO Initiated, the RCC agreed to adopt the original provision of Section 8.2. The RCC agreed, however, with the proposal to include the following subsections to include procedures to be followed by SO in designating MRUs.

8.2.1 For MRUs designated by SO before the trading interval, SO shall first assess the system security and reliability requirement from the RTD-1. After assessing that system security and reliability will be compromised even with the available ancillary services, then SO shall schedule the MRU by reporting it to MO and MO shall report it to all Trading Participants.

8.2.2 For MRUs designated by SO during real-time, the SO shall inform the Trading Participant that their generating unit will run as MRU. After the trading interval, SO shall inform MO of the generating units dispatched as MRU, as well as the reason for such, when available. Moreover, MO shall within fifteen minutes inform all the Trading Participants of the generating units dispatched as MRU and the reasons for such, when available.

On the original proposal to use the latest DAP as the basis upon which the SO assesses the system security and reliability requirement, Mr. Descanzo commented that the DAP run is sometimes not accurate because most generators do not maintain their offers. Thus, the RCC agreed to use the data from RTD-1 as the basis of SO's assessment in Section 8.2.1.

On the proposed 15 minutes as indicated in Section 8.2.2, Mr. Isidro Cacho stated that the same will have to be referred to the PEMC-TOD to confirm the feasible time period within which the MO shall inform all the Trading Participants of the generating units dispatched as MRU.

- ***On the proposed Section 9.2 on the Validation of MRU Data***

The RCC agreed not to adopt the Merchant Generators' proposed Section 9.2.2, citing that the provision involves determining SO's compliance with the MRU Manual which is already covered in the previous section.

Upon the suggestion of Mr. Cacho, the RCC requested the Merchant Generators' to propose a more detailed process by which MRU data are validated.

- The RCC agreed to defer discussion on Settlement of MRUs, subject to the conduct of simulation by Merchant Generators on their proposed settlement mechanism, as well as on the provision of details on variable and capacity price offers.

There being no further comments, the RCC agreed to continue its deliberation on the proposed amendments to the MRU Manual in the December meeting of the RCC.

b. Proposed Amendments to the WESM Dispatch Protocol on the Inclusion of Merit Order Table (MOT)

- Upon the suggestion of Dr. Guevara, SO, MO and Generators will hold a meeting on 10 November 2011, 9AM at NPC office, to discuss and come to an agreement on the Merit Order Table. In this regard, they are given until 16 November 2011 to submit their finalized proposal.
- Mr. Cacho shared the PEMC-TOD's plan to enhance the procedure on the preparation and generation of MOT, to include ramp rates and security limit, with the end in view of making the MOT more accurate.
- The RCC agreed to continue its deliberation on the proposed amendments to the MRU Manual in the December meeting of the RCC.

5. Next Meeting

The RCC agreed to hold its 55th Regular Meeting on 09 November 2011, 9AM.

6. Adjournment

There being no other matter to be discussed, the meeting was adjourned at 4:00 P.M.

Prepared by:

Rheinhart O. Banogon

Rheinhart O. Banogon

Reviewed by:

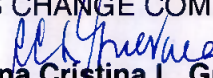
Geraldine A. Rodriguez
Geraldine A. Rodriguez

Noted by:

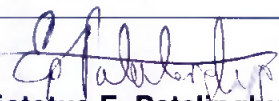
Elaine D. Gonzales
Elaine D. Gonzales


[Signature]


Approved by:
RULES CHANGE COMMITTEE



Rowena Cristina L. Guevara
Chairperson
Independent
University of the Philippines
(UP)


Members:


Epictetus E. Patalinghug
Independent
University of the Philippines
(UP)


Francisco L.R. Castro, Jr.
Independent
The Herma Group

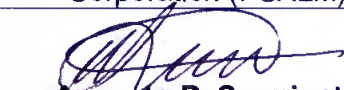

Maila Lourdes G. de Castro
Independent
Unitel Productions, Inc.


Cherry Aquino-Javier
Generation Sector
AES Philippines
(AES)


Cynthia R. Encarnacion
Generation Sector
National Power Corporation
(NAPOCOR)

Liberty Z. Dumlaog
Generation Sector
Power Sector Assets and Liabilities Management
Corporation (PSALM)


Ralph T. Crisologo
Generation Sector
SN Aboitiz Power
(SNAP)

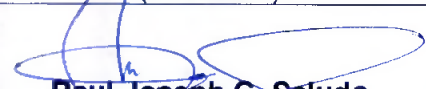

Augusto D. Sarmiento
Distribution Sector (PDU)
Dagupan Electric Corporation
(DECORP)


Ciprinilo C. Meneses
Distribution Sector (PDU)
Manila Electric Company
(MERALCO)

Jose P. Santos
Distribution Sector (EC)
Ilocos Norte Electric Cooperative, Inc.
(INEC)


Sulpicio C. Lagarde Jr.
Distribution Sector (EC)
Central Negros Electric Cooperative, Inc.
(CENECO)


Conrado D. Pecjo
Supply Sector
Angeles Power, Inc.


Raul Joseph G. Seludo
Transmission Sector
National Grid Corporation of the Philippines
(NGCP)


Robinson P. Descanzo
Market Operator
Philippine Electricity Market Corporation
(PEMC)