



Republic of the Philippines
DEPARTMENT OF ENERGY

DEPARTMENT CIRCULAR NO. _____

**ADOPTING FURTHER AMENDMENTS TO THE WHOLESALE ELECTRICITY SPOT
MARKET (WESM) RULES AND VARIOUS MARKET MANUALS**

(Provisions on Maximum Available Capacity)

WHEREAS, Sections 30 and 37(f) of the Electric Power Industry Reform Act (EPIRA) provides that the DOE, jointly with the electric power industry participants, shall establish the Wholesale Electricity Spot Market (WESM) and formulate the detailed rules governing the operations thereof;

WHEREAS, on 28 June 2002, the DOE, with the endorsement of the electric power industry participants, promulgated the WESM Rules through Department Circular (DC) No. DC2002-06-003;

WHEREAS, any changes, amendments, and modifications to the WESM Rules, including its Market Manuals, shall be undertaken in accordance with the provisions of Chapter 8 thereof;

WHEREAS, the WESM is a gross pool market whereby all energy to be delivered to the grid, whether covered by bilateral contracts or not, are offered to and scheduled through the market to ensure optimized and thus economic dispatch of electricity;

WHEREAS, in order to prevent withholding of capacity, Trading Participants in the WESM are obliged to observe the 'Must Offer Rule' (MOR) as provided under Clause 3.5.11.6 and Appendix A1.1 of the WESM Rules whereby they are required to submit offers equivalent to their maximum available capacity for all dispatch intervals, and submitting below it should have justifiable reasons;

WHEREAS, Clause 3.5.5 of the WESM Rules requires Trading Participants to submit market offers which must include (1) the quantity willing to be sold in the WESM, (2) the price at which the quantities are willing to be sold, and (3) the ramp rates that determine the capability of a plant to reach a target generation/schedule;

WHEREAS, the act of submitting offers implies that Trading Participants are willing and capable to run when dispatched at certain price levels;

WHEREAS, under the WESM Rules, the Market Surveillance Committee (MSC) is responsible to monitor the activities of Trading Participants, while the Compliance Committee (CC) is responsible to review reports of investigation of breaches to the WESM Rules and Market Manuals;

WHEREAS, on 24 October 2022, the Market Surveillance Committee (MSC) and the Compliance Committee (CC), jointly submitted to the Rules Change Committee

(RCC) proposed amendments to the WESM Rules and WESM Manual on Dispatch Protocol which seeks to:

1. Require Trading Participants to reflect more accurately the maximum available capacity of their generating units by considering other plant conditions in their market offers; and
2. Encourage Trading Participants to be more responsible in accounting for permissible limitations in their offers and to recommend a more stringent process in monitoring the MOR;

WHEREAS, on 06 July 2023, the PEM Board-approved amendments to the WESM Rules and various Manuals were submitted to the DOE for final approval, in compliance with Chapter 8 of the WESM Rules;

WHEREAS, the DOE, to ensure transparency and consistency with the objectives of the EPIRA and the WESM, conducted in-person public consultations on the said proposed amendments;

WHEREAS, the DOE reviewed and finalized the said PEM Board-approved proposals and made revisions thereto, taking into consideration the comments and recommendations received from the stakeholders;

NOW THEREFORE, after careful review of the PEM Board-approved proposal and the comments and recommendations received on the same, the DOE, pursuant to its authority under the EPIRA and the WESM Rules, hereby adopts, issues, and promulgates the following amendments to the Manual on Billing and Settlement.

Section 1. Amendments to the WESM Rules. The following provisions of the WESM Rules are hereby amended to read as:

3.5.5 Generation Offers and Data

3.5.5.1 Each *Generation Company* including *Generation Companies* with *bilateral contracts* shall submit a standing *market offer* equivalent to the *maximum stable load (Pmax)* or *available capacity*, for each of its *scheduled generating units, battery energy storage systems, and pumped-storage units* for each *dispatch interval* in each *trading day* of the week in accordance with the *timetable*. If the submitted offer reflects a capacity that is less than the *maximum stable load (Pmax)*, the *Generation Company* shall include the reason for such in its standing offer. The standing *market offer* shall apply until revised or updated by the *Generation Company*.

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3.5.11 Revision of Market Offers/Bids, Nomination of Loading Levels, and Projected Outputs

3.5.11.1 Each *Trading Participant* which has submitted standing *offers* or bids for each of its *scheduled generating unit, battery energy storage system, and*

pumped-storage unit may revise any of its *market offers* or *market bids* equivalent to the *available capacity* and shall take into account the conditions under Clause 3.5.11.5 and Clause 3.5.11.6, for any *dispatch interval* in any trading day of the current week-ahead *market horizon*. Each revised *market offer* or *market bid* shall be submitted in accordance with the *timetable* subject to Clause 3.5.11.4, and contain all the information set out in Appendix A1.

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3.5.11.5 *Market bids* or *market offers* for any *dispatch interval* shall be revised by *Trading Participants* prior to gate closure in accordance with the *timetable* if these offers no longer represent a reasonable estimate of:

- (a) the *status* of the relevant *generating unit* (e.g., generator circuit breaker status, *outage*) or *scheduled load* for that *dispatch interval*; or
- (b) the capacity that can be attained taking into account the *ramp rate* limitations of the *generating unit* during the relevant *dispatch interval*; or
- (c) the *demand bids* or *offers* likely to apply for the real-time *dispatch optimization* of that *dispatch interval*.

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Glossary

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Availability. The duration of time over a specified period that a plant unit is ready to be in service or operational.

Available capacity. Equal to the registered maximum capacity (Pmax) of the (aggregate) unit less forced unit *outages*, scheduled unit *outages*, derating, generator *technical constraints* and weather disturbance that cause damage to the unit or that would otherwise limit its ability to inject power to the *grid*.

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Generator Technical Constraint. Refers to plant equipment-related failure limitations encountered during *start-up/shutdown* procedure, effects of ambient temperature, and resource-related *constraints* due to the following:

- a) water elevation and diversion requirements for domestic or irrigation use for hydro plants;
- b) steam quality (chemical composition, condensable and non-condensable gases, steam pressure and temperature) for geothermal plants;
- c) unavailability of fuel resources that are not within the control of the *Generation Company* for biomass power plants; and

- d) steam flow limitations, station *load*, and electricity demand of its *energy* host, in the case of the co-generation systems.

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Projected Output. The *loading level* nominated by a *Generation Company* for its *must dispatch generating units* or *priority dispatch generating units* indicating the forecasted output of its *must dispatch generating unit* or *priority dispatch generating unit* at the end of a *dispatch interval*. In the case of geothermal or impounding hydro plant which is classified as *priority dispatch generating unit*, *projected output* shall refer to its *available capacity*, as defined in *WESM Rules* or *Market Manual*.

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Appendices

Appendix A1. Information to be Supplied with Offers to Supply and to Buy Electricity

A1.1 Generation Offers

- a) May include up to ten (10) *generation* offer blocks per (aggregate) unit, and the maximum combined capacity of *generation* and *reserve offers* must not be less than the *available capacity* of the generator;

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A1.4 Battery Energy Storage System Offer

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- c) May include up to ten (10) *energy offer* blocks per (aggregate) unit. The maximum combined capacity of *generation* and *reserve offers* must not be less than the *available capacity* of the generator;

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Section 2. Amendments to the WESM Manual on Dispatch Protocol. The following provisions of the WESM Manual on Dispatch Protocol are hereby amended:

Section 2 Definitions, References and Interpretation

2.1. Definitions

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- 2.1.2. The following words and phrases as used in this *Market Manual* shall have the following meaning:

- a. Ancillary Service Procurement Agreement. xxx xxx xxx
- b. Automatic Generation Control (AGC). xxx xxx xxx
- c. Automatic Load Dropping (ALD). xxx xxx xxx
- d. Bid. xxx xxx xxx
- e. Capability. xxx xxx xxx
- f. Cascading Outages. xxx xxx xxx
- g. Contingency. xxx xxx xxx
- h. Contingency Reserve. xxx xxx xxx
- i. Demand Control. xxx xxx xxx
- j. Demand Control Imminent Warning. xxx xxx xxx
- k. Dispatchable Reserve. xxx xxx xxx
- l. Disturbance. xxx xxx xxx
- m. Frequency control. xxx xxx xxx
- n. Generator. xxx xxx xxx
- o. Islanding Operation. xxx xxx xxx
- p. Islanding Operation. xxx xxx xxx
- q. Manual Load Dropping. xxx xxx xxx
- r. Market Management System (MMS). xxx xxx xxx
- s. MMS-Market Participant Interface (MPI). xxx xxx xxx
- t. Multiple Outage Contingency. xxx xxx xxx
- u. Normal State. xxx xxx xxx
- v. Offer. xxx xxx xxx
- w. Operating margin. xxx xxx xxx
- x. Preferential Dispatch Units. xxx xxx xxx
- y. Real-Time Data. xxx xxx xxx
- z. Real-Time Dispatch. xxx xxx xxx
- aa. Red Alert. xxx xxx xxx
- bb. Regulating Reserve. xxx xxx xxx
- cc. Security. xxx xxx xxx
- dd. Self-scheduled nomination. xxx xxx xxx
- ee. Shutdown. xxx xxx xxx
- ff. Stability. xxx xxx xxx
- gg. Start-up. The synchronization of a *generating unit* to the *grid* from its *outage* state (closing of *generator* circuit breakers).
- hh. System Integrity Protection Scheme (SIPS). xxx xxx xxx
- ii. System Operator System Advisories. xxx xxx xxx
- jj. Voltage Control. xxx xxx xxx
- kk. Voltage Instability. xxx xxx xxx
- ll. Voltage Sag. xxx xxx xxx

Section 6 Bids, Offers and Data Submission and Processing

6.1 Background

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6.1.8. WESM Rules Clause 3.5.11.5 requires *Trading Participants* to revise their bids or offers if they no longer represent a reasonable estimate of either the *status* (e.g., *generator* circuit breaker status, *outage*) for the *dispatch interval* of the relevant *generating unit*, the capacity that can be attained taking into account

the *ramp rate* limitations of the *generating unit* during the relevant *dispatch interval*, or *scheduled load* or *bids* or *offers* likely to apply in the *real-time dispatch* optimization for the *dispatch interval*.

6.1.9 Pursuant to *WESM Rules* Clause 3.5.11.6, *Trading Participants* that cancel their *bids* or *offers*, or submit *bids* or *offers* less than the *maximum stable load (Pmax)* or *available capacity* of their *facility* or *generating unit* are required to provide justifiable reasons or circumstances of such cancellation or submission.

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6.9 Format and Contents of Submissions

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6.9.2 *Trading Participants* shall provide the following information when submitting *market offers*:

- a. May include up to ten (10) *market offer* blocks per (aggregate) unit. The maximum combined capacity of *generation* and *reserve offers* must not be less than the *available capacity* of the *generator*;

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6.9.3 *Trading Participants* shall provide the following information when submitting *battery energy storage system offers*:

- a. May include up to ten (10) *energy offer* blocks per (aggregate) unit. The maximum combined capacity of *generation* and *reserve offers* must not be less than the *available capacity* of the *generator*;

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6.13 Revisions of Self-scheduled Nominations, Bids and Offers Based on Reasonable Estimates

Trading Participants shall revise their *self-scheduled nominations*, *bids*, or *offers*, if the *self-scheduled nominations*, *bids* or *offers* submitted no longer represent a reasonable estimate of either the following:

- a. The *status* (e.g., generator circuit breaker status, *outage*) for the *dispatch interval* of the relevant *generating unit* or *scheduled load*; or
- b. The capacity that can be attained taking into account the *ramp rate* limitations of the *generating unit* during the relevant *dispatch interval*; or
- c. The *loading level*, *projected output*, *bid* or *offer* likely to apply in the *real-time dispatch* optimization for the *dispatch interval*.

Section 21 Monitoring the Effective Provision of Ancillary Services

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21.4 Measuring the Reserve Effectiveness Factor of Regulating Reserves on Governor Control Mode

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21.4.2 Measuring REF based on Accuracy

The REF for a *Regulating Reserve* facility on GCM with respect to its accuracy shall be based on its static gain. The static gain shall be computed as such:

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Where:

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Capacity of the Generating Unit_i refers to the *available capacity* of the *reserve facility at dispatch interval i*

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Section 3. Amendments to the WESM Manual on Registration, Suspension and De-registration Criteria and Procedures. The following provisions of the WESM Manual on WESM Manual on Registration, Suspension and De-registration Criteria and Procedures are hereby amended:

2.5. Registration of Direct WESM Members and Trading Participants

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2.5.4.7 Modelling of Generating Unit's Availability

Upon registration, *Trading Participants* shall specify if the availability of its *generating unit* shall be based on the real-time status of its generator circuit breaker, or on the availability of its *market offers*.

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Section 4. Amendments to the WESM Manual on Market Network Model Development and Maintenance – Criteria and Procedures. The following provisions of the WESM Manual on Market Network Model Development and Maintenance – Criteria and Procedures are hereby amended:

Section 3 Responsibilities

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3.2 System Operator and Trading Participants

The *System Operator* and the *Generation Companies* shall ensure that their facilities for real-time monitoring are available and that they accurately reflect the state of their generation (i.e., MW/MVAR output and generator circuit breaker *status*).

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Section 6 Modelling of Market Resources

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6.5 Generator Market Resource

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6.5.3 During the registration of the generator resource, *Trading Participants* shall specify if its availability shall be based on the real-time status of its generator circuit breaker, or on the availability of its *market offers*.

Section 5. Amendments to the WESM Manual on Price Determination Methodology. The following provisions of the WESM Manual on Price Determination Methodology are hereby amended:

Section 1 Introduction

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1.2 Purpose

The price determination methodology and *settlement* formula in this *Market Manual* shall ensure that the following market design principles and characteristics of the *WESM* are achieved:

- a. Gross pool, where each *Scheduled Generation Company* offers its *available capacity*, *Non-Scheduled Generation Company* submits a standing nomination of *loading levels*, and *Generation Company*, with must *dispatch generating units* and priority dispatch generating units, submits projected outputs, for central scheduling and *dispatch* to ensure *system security* and a level playing field among *generators*;

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Section 6. Amendments to the WESM Manual on Protocol for Central Scheduling and Dispatch of Energy and Contracted Reserves. The following provisions of the WESM Manual on Protocol for Central Scheduling and Dispatch of Energy and Contracted Reserves are hereby amended:

Section 4 Central Scheduling of Reserve Capacities

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4.4 Day-Ahead Scheduling of Reserves by the System Operator

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4.4.2 *Trading Participants* shall submit their *available capacity* to the *WESM*, inclusive of *reserve offers* based on the approved day-ahead ancillary schedule.

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4.5 Submission of Generation and Reserve Offers for the Real-Time Dispatch (RTD)

4.5.1 All *Trading Participants* shall submit *generation offers* that represent their *available capacity* pursuant to the provisions of *WESM Rules* Clause 3.5.5.2.

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Section 7. Amendments to the WESM Penalty Manual. The following provisions of the *WESM Penalty Manual* are hereby amended:

Section 5 Schedule of Breach and Penalties

| No | Breach | Market Rule Breached & Associated Market Manual | Applicable Penalty | Level 2 - Financial Penalty | Level 3 - Escalated Financial Penalty |
|----|--|---|--------------------|-----------------------------|---------------------------------------|
| 1 | <p>Failure of generation company to submit valid generation and/or reserve offers, or failure to submit valid generation and/or reserve offers that is equivalent to the maximum stable load (Pmax) or available capacity of their generating units at any dispatch interval;</p> <p>xxx xxx</p> <p>The obligation is to submit offers equivalent to available capacity, as defined in the <i>WESM Rules</i>. For purposes of determining breach, the constraints considered in determining maximum available capacity are</p> | xxx | xxx | xxx | xxx |

Section 5 Schedule of Breach and Penalties

| No | Breach | Market Rule Breached & Associated Market Manual | Applicable Penalty | Level 2 - Financial Penalty | Level 3 - Escalated Financial Penalty |
|----|--|---|--------------------|-----------------------------|---------------------------------------|
| | considered as exempting circumstances. | | | | |

Section 8. Separability Clause. If, for any reason, any section or provision of this Circular is declared unconstitutional or invalid, such parts not affected shall remain valid and subsisting.

Section 9. Repealing Clause. Except insofar as may be manifestly inconsistent herewith, nothing in this Circular shall be construed as to repeal any mechanisms already existing or responsibilities already provided for under existing rules.

Section 10. Effectivity. This Circular shall take effect fifteen (15) days following its complete publication in at least two (2) newspapers of general circulation and shall remain in effect until otherwise revoked.

Issued this _____ 2023 at the DOE, Energy Center, Rizal Drive, Bonifacio Global City, Taguig City, Metro Manila.

RAPHAEL P. M. LOTILLA
Secretary