



Republic of the Philippines
DEPARTMENT OF ENERGY
(Kagawaran ng Enerhiya)

DEPARTMENT CIRCULAR NO. DC2022-06-0024

**ADOPTING FURTHER AMENDMENTS TO THE WHOLESALE ELECTRICITY
SPOT MARKET (WESM) RULES AND MARKET MANUAL ON CONSTRAINT
VIOLATION COEFFICIENTS (CVC) AND PRICING RE-RUNS (PR)**

(Harmonization with the Energy Regulatory Commission (ERC) Decision on ERC
Case No. 2017-042 RC)

WHEREAS, Sections 30 and 37(f) of the Electric Power Industry Reform Act (EPIRA) provides that the Department of Energy (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, Sections 30 and 43(c) of the EPIRA mandates the ERC to review and approve the price determination methodology (PDM) for the electricity spot market and enforce the rules and regulations governing the operation of the same including its activities and participants, for the purpose of ensuring a greater supply and rational pricing of electricity;

WHEREAS, on 28 June 2002, the DOE, with the endorsement of the electric power industry participants, promulgated the WESM Rules through Department Circular No. DC2002-06-0003;

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

WHEREAS, on 29 December 2020, the ERC promulgated its decision dated 29 August 2020 on ERC Case No. 2017-042RC approving the PDM for the enhanced WESM design and operations which provide, among others, that the status quo on the pricing mechanisms during under-generation and over-generation shall be observed to reflect the cost that the consumers are willing to pay for a continuous supply of electricity particularly during under-generation;

WHEREAS, in a letter dated 28 January 2022, the PEM Board, after due course, formally endorsed to the DOE for final approval, its proposed amendments to the WESM Rules and the Market Manual on Constraint Violation Coefficients and Pricing Re-runs to ensure consistency with the abovementioned ERC directives on the pricing mechanisms during under-generation and over-generation;

WHEREAS, on 24 February 2022, the proposal was posted in the DOE website to solicit comments from the market participants and other interested parties;

WHEREAS, on 15 and 16 March 2022, the DOE conducted public consultations on the abovementioned proposed amendments to solicit inputs and consider comments of stakeholders in the finalization of the same;

NOW THEREFORE, after careful review of the PEM Board 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 WESM Rules and Market Manual on CVC-PR:

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

xxx xxx xxx

3.6.7.2 The purpose of the automatic market pricing re-runs is to ensure that the *energy* and *reserve* prices reflect:

- (a) the marginal costs of supplying *energy* at each *node*; and
- (b) the marginal costs of supplying *reserves*;

3.6.7.3 The automatic re-run of the *dispatch* optimization shall relax the soft *constraints* that were violated by a value corresponding to the resulting non-zero violation variable, including a very small value, to allow the *market dispatch optimization model* to find a feasible price.

xxx xxx xxx

3.10.5.4 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 pricing re-run and the *timetable* for implementation.

3.10.6 Determination Reserve Price

xxx xxx xxx

Section 2. Amendments to the Market Manual on Constraint Violation Coefficients and Pricing Re-runs. The following provisions on the Market Manual on CVC-PR are hereby amended to read as follows:

xxx xxx xxx

5.1.3 The purpose of the automatic pricing re-runs is to ensure that the energy and reserve prices reflect:

- (a) the marginal costs of supplying energy at each node; and
- (b) the marginal costs of supplying reserves.

5.2 Process for Automatic Pricing Re-Runs

5.2.1 During the *automatic pricing re-run*, the *soft constraint* that was violated shall be relaxed using the resulting non-zero violation variable, considering a very small value (delta), to allow the *market dispatch optimization model to be able to find a feasible price*.

5.2.2 The delta shall be set as small as possible for each *constraint violation coefficient* so that the *automatic pricing re-run* shall be reflective of the most accurate price considering the original *dispatch schedules*.

5.2.3 An example related to Section 5.2.1, is provided below:

Should a thermal contingency *constraint* violation occurs:

$$\text{Contingency Power flow} \leq \text{Thermal contingency limit} + x$$

Where:

- i. Contingency Power flow refers to the power flow through an equipment during an N-1 outage scenario
- ii. x refers to the violation amount in MW
- iii. *Thermal contingency limit* refers to the maximum transmission limit during an N-1 *outage* scenario

Then, its constraint shall be relaxed during the *automatic pricing re-run* similar to the formulation below:

$$\text{Contingency Power flow} \leq \text{Thermal contingency limit} + x + \text{delta}$$

5.2.4 The resulting prices during an *automatic pricing re-run* shall be produced in the *real time dispatch*, along with the original *real time dispatch* schedules produced prior to the relaxation.

5.3 Automatic Pricing Re-Run Parameters

5.3.1 The corresponding constraint relaxation formulas for the constraint violation coefficients during pricing re-runs shall be as provided in Table 2 below:

Order	Constraint Violation Coefficient Name	CVC	Violation Variable Value	Delta	Constraint Relaxation during Pricing Re-Run	Re-run Price ¹
1	Tertiary Dispatchable Reserve Requirement	or 100,000	x	0.1	x + delta	EDP AND RP

¹ EDP refers to *nodal energy dispatch price*; and RP refers to *reserve price*

Order	Constraint Violation Coefficient Name	CVC	Violation Variable Value	Delta	Constraint Relaxation during Pricing Re-Run	Re-run Price
2	Primary or Contingency Reserve Requirement	200,000	x	0.1	x + delta	EDP AND RP
3	Nodal Value of Lost Load or Nodal Energy Balance Constraint	800,000	x	0.1	x + delta	EDP AND RP
4	System Energy Balance Constraint (Over-generation and Under-generation)	1,300,000	x	0.1	x + delta	EDP AND RP
5	Self-scheduled Generation Constraint – Non-scheduled Generation	1,400,000	x	0.1	x + delta	EDP AND RP
6	Self-scheduled Generation Constraint – Priority Dispatch Generation	1,500,000	x	0.1	x + delta	EDP AND RP
7	Self-scheduled Generation Constraint – Must Dispatch Generation	1,600,000	x	0.1	x + delta	EDP AND RP
8	Thermal Contingency Constraint – Transformer	1,500,000	x	0.1	x + delta	EDP AND RP
9	Thermal Contingency Constraint - Line	1,500,000	x	0.1	x + delta	EDP AND RP
10	Thermal Contingency Constraint – Branch Group	2,000,000	x	0.1	x + delta	EDP AND RP
11	Secondary or Regulating Reserve Requirement	3,500,000	x	0.1	x + delta	EDP AND RP
12	Thermal Base Case Constraint - Transformer	4,000,000	x	0.1	x + delta	EDP AND RP
13	Thermal Base Case Constraint - Line	4,000,000	x	0.1	x + delta	EDP AND RP

Order	Constraint Violation Coefficient Name	CVC	Violation Variable	Delta	Constraint Relaxation during Pricing Re-Run	Re-run Price
14	Thermal Base Case Constraint – Branch Group	4,500,000	x	0.1	x + delta	EDP AND RP

xxx xxx xxx

Section 3. 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 4. 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 5. 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. Copies thereof shall be filed with the University of the Philippines Law Center – Office of National Administrative Register (UPLC-ONAR).

Issued on JUN 20 2022 2022 at the Energy Center, Rizal Drive, Bonifacio Global City, Taguig City, Metro Manila.


ALFONSO G. CUSI
 Secretary

