Republic of the Philippines
DEPARTMENT OF ENERGY

Department Circular No. DC2019-12-0018

# ADOPTING A GENERAL FRAMEWORK GOVERNING THE PROVISION AND UTILIZATION OF ANCILLARY SERVICES IN THE GRID

**WHEREAS**, Section 2 of Republic Act No. 9136, otherwise known as the Electric Power Industry Reform Act of 2001 (EPIRA), declared the Policy of the State among others to: (i) ensure the quality, reliability, security and affordability of the supply of electric power; (ii) protect the public interest as it is affected by the rates and services of electric utilities and other providers of electric power; and (iii) establish a strong and purely independent regulatory body and system to ensure consumer protection and enhance the competitive operation of the electricity market.

**WHEREAS**, Section 37 of the EPIRA further mandates the Department of Energy (DOE) to supervise the restructuring of the electricity industry by formulating policies for the planning and implementation of a comprehensive program for the efficient supply and economical use of energy consistent with the approved national economic plan and with the policies on environmental protection and conservation and maintenance of ecological balance, and provide a mechanism for the integration, rationalization, and coordination of the various energy programs of the Government and such rules and regulations as may be necessary to implement the objectives of EPIRA;

**WHEREAS**, Ancillary Services (AS), as defined in the EPIRA, are services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the transmission system in accordance with good utility practice and the Grid Code;

**WHEREAS**, Department Circular No. DC2015-10-0015 provided policies and guiding principles for further enhancements of the Wholesale Electricity Spot Market (WESM) Design and Operations, including the co-optimization of energy and reserves;

**WHEREAS**, Department Circular No. DC2015-11-0018 declared the commercial operation of the central scheduling and dispatch of energy and contracted reserves in the WESM and provided further amendments to its protocol in preparation for the eventual operation of the WESM reserve market;

**WHEREAS**, the Energy Regulatory Commission (ERC), through Resolution No. 22, Series of 2016, approved the publication of the revised Philippine Grid Code (PGC), which changed the classification of reserves from Contingency Reserve, Regulating

Reserve, and Dispatchable Reserve into Primary Reserve, Secondary Reserve, and Tertiary Reserve, respectively, to set the hierarchy of deployment of reserves for specific events. However, the same has not been implemented due to technical issues;

**WHEREAS,** in 2018, the DOE laid the groundwork for establishing an equitable cost recovery mechanism for the utilization of AS through the conduct of focus group discussions and public consultations on the Causer Pays Mechanism (CPM);

**WHEREAS,** the abovementioned developments to the WESM and the PGC, as well as the discussions on the CPM, put into light various operational and commercial issues on AS and brought about the need to update other related guidelines;

**WHEREAS**, the DOE, in cognizance of the need to harmonize ancillary service-related issuances and address various issues, formulated a draft circular providing a general framework governing the provision and utilization of AS in the grid which was subjected to public consultations on various dates as follows:

| Date | Venue |
|---|---|
| 05 April 2019 | The Royal Mandaya Hotel, Davao City |
| 12 April 2019 | The Legend Villas, Mandaluyong City |
| 23 May 2019 | Cebu Parklane Hotel, Cebu City |

**NOW, THEREFORE**, from the foregoing premises and pursuant to its authority under the EPIRA and the WESM Rules, the DOE hereby adopts, issues, and promulgates the following policies governing AS:

**Section 1. Guiding Principles.** To ensure the reliability, quality, and security of supply of electric power, any policy or guideline relevant to AS shall adhere to the following principles:

1.1 Safe and reliable operation of the Grid taking into account the entry of emerging technologies and the intermittency of Variable Renewable Energy generating resources;

1.2 Cost-effective planning for the expansion, rehabilitation, repair, and maintenance of the Transmission systems and facilities;

1.3 Sufficiency of the Ancillary Services to meet the power quality and reliability requirements of the grid;

1.4 Harmonization of the guidelines, rules, and regulations concerning the operation of the Grid;

1.5 Proper accountability among concerned entities in the efficient and transparent operation of the Grid in accordance with the PGC and other relevant issuances that may be promulgated by the DOE and the ERC;

1.6 Transparent and cost-effective procurement of AS taking into account the appropriate location and capacity requirements of each grid in accordance with the Transmission Development Plan (TDP);

1.7 Transparent and equitable allocation of cost for the utilization of AS taking into account each grid user's responsibility and contribution in maintaining the reliability of the grid;

1.8 Co-optimization of energy and reserves in the WESM, through central dispatch and the commercial operation of the WESM Reserve Market as declared by the DOE; and

1.9 Transparent accreditation process for determining capability of resources capable of providing AS, to include among others, generating units, energy storage systems, and interruptible loads.

**Section 2. Classification and Required Levels of Ancillary Services.** Pending the harmonization of AS-related issuances and review of the relevant provisions of PGC 2016, the classification and required levels of AS shall be in accordance with the following:

2.1 Classification of AS

2.1.1 Regulating Reserve – Readily available and dispatchable generating capacity that is allocated exclusively to correct deviations from the acceptable nominal frequency caused by unpredicted variations in demand or generation output;

2.1.2 Contingency Reserve – Synchronized generation capacity from Qualified Generating Units and Qualified Interruptible Loads allocated to cover the loss or failure of a synchronized generating unit or a transmission element or the power import from a circuit interconnection;

2.1.3 Dispatchable Reserve – Generating capacity that is not scheduled for Regular Energy Supply, Regulating Reserve or Contingency Reserve, or interruptible loads not scheduled for Contingency Reserve, and that are readily available for dispatch in order to replenish the Contingency Reserve Service whenever a generating unit trips or a loss of a single transmission interconnection occurs;

2.1.4 Reactive Power Support AS – Capability to supply Reactive Power to, or absorb Reactive Power from, the Grid in order to maintain the bus voltage within five percent (±5%) of its nominal voltage;

2.1.5 Black Start AS – Ability of a generating unit, without assistance from the Grid or other external power supply, to recover from a shutdown

condition to an operating condition in order to energize the Grid and assist other generating units to start.

2.2 Required Levels of AS

2.2.1 The following reserve levels shall be allocated per trading interval per grid:

2.2.1.1 Regulating Reserve - 4% of the total demand;

2.2.1.2 Contingency Reserve – Maximum capacity among the following: the largest synchronized generating unit or a transmission element or the power import from a circuit interconnection;

2.2.1.3 Dispatchable Reserve – Maximum capacity among the following: the second largest synchronized generating unit or a transmission element or the power import from a circuit interconnection;

2.2.2 Reactive Power Support – System Operator (SO) to determine day-ahead through load flow simulation;

2.2.3 Black Start - At least two (2) generating units contracted per power restoration highway and one (1) should always be available at any given time.

**Section 3. Mandatory AS Capability Testing of All Generating Facilities.** The following shall govern the testing of AS capability of generating facilities:

3.1 Upon the effectivity of this Circular, all generating facilities, except those with valid and existing AS capability accreditation, shall undergo AS capability testing and shall be certified according to their respective capabilities. This provision shall cover all generating units with Pmax equivalent to or above the following regional thresholds:

a) 10MW for Luzon Grid;
b) 5MW for Visayas Grid; and
c) 5MW for Mindanao Grid.

3.2 For this purpose, the NGCP shall submit an initial inventory of existing plants and their AS capability to the DOE and ERC not later than 30 days from the effectivity of this Circular;

3.3 The NGCP shall conduct and complete testing of all plants not later than 26 March 2020 and submit a report thereof to the DOE and ERC; and

3.4 Until the establishment of an accreditation process for third-party AS testing entities by the DOE, the NGCP shall ensure testing of all generating facilities

and shall submit a report on the results thereof to the DOE and the ERC.

**Section 4. Procurement of Ancillary Services Prior to the Commercial Operation of the WESM Reserve Market.** Prior to the commercial operation of the Reserve Market, the SO shall ensure compliance with its obligation to procure the required level and specifications of AS in line with the following:

4.1 Regulating, Contingency, and Dispatchable Reserves shall be procured through firm contracts only;

4.2 Reactive Power Support AS and Black Start AS shall be procured through firm contracts only; and

4.3 The protocol for the central scheduling of energy and contracted reserves in the WESM shall still apply, in accordance with the WESM Rules and relevant Market Manuals.

**Section 5. Procurement of Ancillary Services during the Commercial Operation of the WESM Reserve Market.** Upon the commercial operation of the Reserve Market, the following shall govern the procurement of AS:

5.1 SO shall procure Regulating, Contingency, and Dispatchable Reserves through firm contracts and the Reserve Market provided that the contracted levels per reserve region shall be as follows:

5.1.1 Regulating Reserve – Equivalent to 50% of the Regulating Reserve requirement;

5.1.2 Contingency Reserve – Equivalent to 50% of the dependable capacity of the largest generating unit;

5.1.3 Dispatchable Reserve – Equivalent to 50% of the dependable capacity of the second largest generating unit;

5.2 Generating units shall submit energy and reserve offers to the WESM with respect to their maximum available capacities, which shall include contracted and uncontracted capacities;

5.3 All energy and reserve offers shall be co-optimized and subjected to central scheduling, dispatch, spot pricing and settlement of the Market Operator (MO) and SO;

5.4 Reactive Power Support AS and Black Start AS shall be procured through firm contracts only.

**Section 6. Criteria for the Commercial Operation of WESM Reserve Market.** The co-optimization of the energy and reserves in the WESM shall be implemented not later than **26 March 2020**, subject to the compliance to the following criteria:

6.1 Approval by the ERC of the Price Determination Methodology for the enhanced WESM containing the reserve pricing mechanism;

6.2 Completion of the AS capability testing of all generating facilities and certification thereof as AS Provider, pursuant to Section 3 of this Circular;

6.3 All systems and procedures including all interfaces between and among the MO, SO and WESM Participants necessary to implement the Reserve Market are in place;

6.4 Establishment of mitigating measures including, but not limited to, reserve offer price cap and floor and secondary price cap;

6.5 Schedule, dispatch, bill and settlement procedures relative to the co-optimization of energy and reserves are fully operational and incorporated into the WESM Rules and Market Manuals; and

6.6 Successful conduct of Trial Operations to ensure readiness of AS Providers to participate in the Reserve Market.

**Section 7. Certification of the Readiness of the WESM Reserve Market.** The Philippine Electricity Market Corporation, in consultation with the DOE, shall determine the readiness of the WESM Reserve Market based on the criteria provided in Section 6 of this Circular, and shall thereafter issue a certification of readiness. The DOE shall confirm the commercial launch date upon assessment of the certification submitted by PEMC.

**Section 8. Cost Recovery of Ancillary Services.** The existing cost-recovery mechanism for Ancillary Services shall continue to be adopted until a new mechanism is recommended by the AS – Technical Working Group and adopted by the DOE and/or the ERC.

**Section 9. Creation and Composition of the Ancillary Services – Technical Working Group (AS-TWG).** There is hereby created the AS-TWG characterized by the following:

9.1 The AS-TWG shall be composed of the following:

Co-Chair: Department of Energy
Energy Regulatory Commission

Members: One (1) representative from the following:

Energy Regulatory Commission
Department of Energy
National Electrification Administration
National Grid Corporation of the Philippines

Philippine Electricity Market Corporation
Independent Electricity Market Operator of the Philippines
Private Electric Power Operators Association
Manila Electric Company

Three (3) representatives from Philippine Independent Power Producers Association

Secretariat: DOE Electric Power Industry Management Bureau

9.2 The AS-TWG may invite other entities as resource persons to assist them in the fulfilment of the mandates in this Circular;

9.3 Each organization shall nominate a permanent and alternate representative to the AS-TWG;

9.4 The AS-TWG shall have the following functions:

9.4.1 Assist the DOE in implementing the provisions of this Circular;

9.4.2 Render technical assistance and advice to the DOE in developing further policies on AS;

9.4.3 Review the Philippine Grid Code 2016 edition to address issues on the implementation of new AS categories and Primary Response requirement;

9.4.4 Review the existing methodology for determining the required level for each AS category and recommend revisions to applicable rules and relevant manuals to the DOE and ERC as necessary, taking into account impact of emerging factors such as influx of Variable Renewable Energy and reduction of WESM trading interval;

9.4.5 Recommend technical specifications and testing procedures for the accreditation process of AS providers;

9.4.6 Recommend the procedure for the selection of third-party entity to conduct AS capability testing;

9.4.7 Recommend the guidelines for the Competitive Selection Process for procurement of AS to be promulgated by the DOE; and

9.4.8 Participate in other activities relevant to AS such as fora, IECs, and consultations.

9.5 The AS-TWG shall convene within thirty (30) days from the effectivity of this Circular and shall provide recommendations in accordance to Section 9.4 within one hundred and eighty (180) days thereon, to be reviewed annually or as necessary.

**Section 10. Responsibilities of the Generation Companies.** The Generation Companies shall:

10.1 Undergo mandatory testing for AS capability during application for Certificate of Compliance (COC) and conduct re-testing as necessary, provided that results thereof shall not affect the issuance of the COC;

10.2 Comply with its responsibilities in maintaining grid reliability pursuant to the PGC, WESM Rules and Manuals and other relevant issuances of the DOE and the ERC, which may include among others, the following:

10.2.1 Conformance with the schedule and dispatch instructions for energy and reserves issued by the MO and SO respectively; and

10.2.2 Adherence to the dispatch instructions issued by the SO when the Grid is operating under Emergency or Extreme State as described in the PGC.

10.3 Participate in Trial Operations for Reserve Market.

**Section 11. Responsibilities of the Market Operator.** The MO shall:

11.1 Ensure the completion of the software certification of the New Market Management System;

11.2 Coordinate with the SO and other WESM Participants for the preparation and completion of procedures necessary for the efficient operation of the Reserve Market;

11.3 Ensure the readiness and availability of the necessary interfaces with the SO and WESM Participants;

11.4 Secure the approval of the ERC of the pricing mechanism for reserves traded in the Reserve Market which is incorporated in the WESM Price Determination Methodology;

11.5 Review and/or propose amendments to the WESM Rules and Manuals, including mitigating measures for pricing of reserves in the Reserve Market

such as offer or price cap and floor, relevant to the provision and utilization of AS; and

11.6 Assist in all activities relating to the preparation and implementation of the Reserve Market, as may be necessary, or as may be directed by the DOE.

**Section 12. Responsibilities of the System Operator.** The SO shall:

12.1 Maintain grid reliability through central dispatch of energy and AS, in accordance with the PGC, PDC, WESM Dispatch Protocol, and other relevant issuances;

12.2 Incorporate in its preparation of the TDP its AS procurement plan;

12.3 Submit regular reports to the DOE with respect to the:

12.3.1 Compliance of AS providers with the reserve schedules and dispatch instructions; and

12.3.2 Compliance of the SO in ensuring that adequate AS are scheduled for each trading interval per Grid.

12.4 Ensure the prudent and least-cost contracting of AS, considering the optimal mix of contracts, Reserve Market sourcing and solicitation of offers from various AS providers;

12.5 Re-negotiate, as necessary, its existing contracts with AS providers, in accordance with Sections 4 and 5 of this Circular;

12.6 Procure future AS requirements of the grid through contracting with prospective generators;

12.7 Coordinate with the MO and the other WESM Participants for the preparation and completion of procedures necessary for the efficient operation of the Reserve Market; and

12.8 Assist in all activities relating to the preparation and implementation of the Reserve Market, as may be necessary, or as may be directed by the DOE.

**Section 13. Regulatory Support.** The ERC is hereby directed to issue the relevant Rules and Regulations necessary to implement the recommendations from the AS-TWG within sixty (60) calendar days from its submission.

The ERC shall review and harmonize all the guidelines, rules, and regulations concerning the operations of the Grid in accordance with this Circular.

**Section 14. Separability.** If any provision of this Circular is declared invalid or unconstitutional, the other provisions not affected thereby shall remain valid and subsisting.

**Section 15. Repealing Clause.** All issuances inconsistent with the provisions of this Circular are hereby repealed or amended accordingly.

**Section 16. Effectivity.** This Circular shall take effect fifteen (15) days following its publication in two (2) newspapers of general circulation. Copies thereof shall be filed with the University of the Philippines Law Center – Office of National Administrative Register (UPLC-ONAR).

Issued on _____ 2019 at the Energy Center, Rizal Drive, Bonifacio Global City, Taguig City.

**ALFONSO G. CUSI**
Secretary

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