

Public Consultation on the Draft Department Circular

PROVIDING POLICIES FOR THE EFFECTIVE UTILIZATION OF ANCILLARY SERVICES IN THE GRID THROUGH CAUSER PAYS MECHANISM

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INTRODUCTION – Legal Basis For CPM

RA 9136 “EPIRA”

Section 37 of the Electric Power Industry Reform Act of 2001 (EPIRA) provides that the Department of Energy (DOE) is mandated to, among others:

- a) **Supervise the restructuring** of the electric power industry;
- b) Ensure the **reliability, quality and security** of supply of electric power;
- c) **Develop policies** and procedures and, as appropriate, promote a system of energy development **incentives** to enable and encourage electric power industry participants to provide adequate capacity to meet demand **including**, among others, **reserve requirements**;
- d) Jointly with the electric power industry participants, shall **establish** the Wholesale Electricity Spot Market (**WESM**) and formulate the detailed rules governing the operations thereof;
- e) Formulate such rules and regulations as may be necessary to implement the objectives of this Act; and
- f) **Exercise such other powers** as may be necessary to attain the objectives of the EPIRA;



BACKGROUND

- The DOE noted the **insufficiency of Ancillary Services** in the Grid, and frequent occurrences of Forced Outages of the generating units and transmission components
- On 20 March 2017, the DOE adopted and promulgated the **Price Determination Methodology** (PDM) Manual for the implementation of enhancements to WESM design and operations
- The said PDM Manual includes the provisions for the **responsibility** of the WESM members on the costs of the Ancillary Services, however, the said provisions need further enhancements to cover all types of Ancillary Services such as Primary Reserve, Secondary Reserve, Tertiary Reserve, Reactive Power Support and Black Start
- The **costs of all the Ancillary Services are currently passed on to the loads or customers**



Ancillary Services (AS)

Definition.

Ancillary Services. Support services such as Primary Reserve, Secondary Reserve, Tertiary Reserve, Reactive Power support, and Black Start Capability which are necessary to support the transmission capacity and Energy that are essential in maintaining Power Quality and the Reliability of the Grid. (Philippine Grid Code, 2016)



Ancillary Services (AS)

Classification.



Primary Reserve “gulong”



Secondary Reserve “accelerator”



Tertiary Reserve “back-up accelerator”

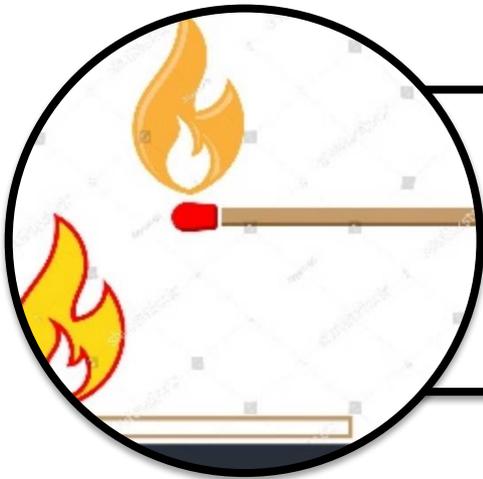


Ancillary Services (AS)

Classification.



Reactive Support “tulay”



Black-start Support “posporo”



Relevant Issuances

Philippine Grid Code

- Defines Ancillary Services
- Introduces the Frequency Reserve Obligation of the SO

Open Access Transmission Service (OATS)

- Sets out the functions of the SO, which includes development of Ancillary Service Procurement Plan, among others.
- Introduces Alternative Ancillary Services Arrangements

Ancillary Service Procurement Plan (ASPP)

- Covers the AS level requirement
- Outlines the processes for procurement of each Ancillary Service and monitoring AS Providers

Ancillary Service Requirement and Specification (ASRS)

- Specifies the technical requirements to be met by plant and equipment providing AS
- Specifies the tests for verification of technical requirements.

Price Determination Methodology

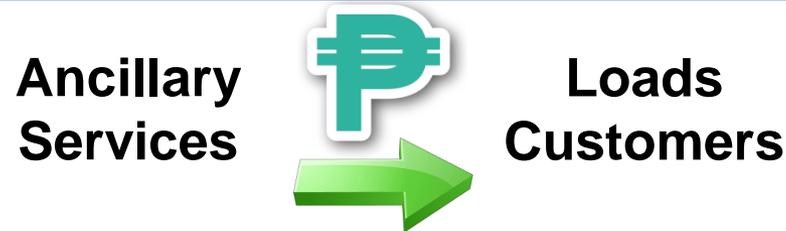
- Provides the methodology for pricing and settlement of energy and reserves in the WESM
- Includes cost recovery for reserves, determination of additional compensation

Ancillary Service – Cost Recovery Mechanism

- Specifies the cost recovery mechanism for the provision of scheduled Ancillary Services



COST RECOVERY MECHANISM OF AS



Currently, the costs of all the AS are passed on to the loads or customers (ERC Decision, 2006-049 RC)

The Commission believes that the “Causers Pay” principle may be immaterial inasmuch as the Generator Customers can always impute the AS charges as part of their operation and maintenance costs which will eventually be charged to their Load Customers. Hence, allocating 100% of the cost of AS to Load Customers would be reasonable considering that it will lessen the layers of transaction among the stakeholders and also reduces the cost of operation of TransCo as well as the Generation Customers. However, the proposed allocation (i.e.100% to Load Customers) shall be adopted in the computation of cost recovery only and until such time that such AS is already traded in the WESM.



Policy Objectives

- To establish a policy or **mechanism** in order to provide more **transparency and fair cost recovery** on the utilization of Ancillary Services (AS)
- To provide **accountability** to the electric power industry participants that cause the need for AS, through “Causer Pays Mechanism”
- To **supplement** the recent DOE-approved Price Determination Methodology (PDM) for the New Market Management System (NMMS)



Outline of Draft Department Circular

Sections	Title
Section 1.	Guiding Principles.
Section 2.	Definition of Terms.
Section 3.	Reserve Responsibility Share.
Section 4.	Additional Responsibilities of the National Grid Corporation of the Philippines.
Section 5.	Additional Responsibilities of the Generation Companies.
Section 6.	Additional Responsibilities of the Customers in the WESM.
Section 7.	Additional Responsibilities of the Market Operator.



Outline of Draft Department Circular

Sections	Title
Section 8.	Additional Responsibilities of the Philippine Electricity Market Corporation (PEMC).
Section 9.	Dispute Arising from the Forced Outage Report.
Section 10.	Regulatory Support.
Section 11.	Separability Clause.
Section 12.	Repealing Clause.
Section 13.	Effectivity.



Draft Department Circular - Section 1

Section 1. Guiding Principles. The implementation of the Causer Pays Mechanism or CPM for the effective utilization of Ancillary Services in the Grid shall be guided by the following principles:

1.1 The CPM is a principle wherein the cost of Ancillary Services, as determined under the Philippine Grid Code, which may include Primary Reserve, Secondary Reserve, Tertiary Reserve, Reactive Power Support, and Black-Start, utilized shall be recovered equitably from the WESM Member that requires or caused the use of such Ancillary Services;

1.2 The CPM shall apply to all WESM Members requiring or causing the use of Ancillary Services, which shall include the Generation Companies, the Transmission Network Service Provider and the Customers in the WESM;



Draft Department Circular - Section 1

1.3 Costs of Primary Reserves shall be recovered from the Generation Companies with at least five (5) MW registered capacity, Transmission Network Service Provider and Customers;

1.4 Costs of Secondary Reserves and Tertiary Reserves shall be recovered from the Generation Companies and Customers;

1.5 Costs of Reactive Power Supports shall be recovered from the Distribution Utilities or Transmission Network Service Provider;

1.6 Costs of Black Start shall be recovered from the Generation Companies, Transmission Network Service Provider and Customers;



Draft Department Circular - Section 1

1.7 Cost of Must-Run Units shall be recovered from the Generation Companies and Customers;

1.8 The CPM shall apply the Reserve Responsibility Share (RRS) formula to determine the share or contribution factor of each WESM Member to the costs of each type of Ancillary Service; and

1.9 All new convention generation facility shall at least provide one (1) type of Ancillary Service and shall be included in the certificate of compliance of the ERC.



Draft Department Circular - Section 2

Section 2. Definition of Terms.

2.1 Ancillary Service - Support services such as Primary Reserve, Secondary Reserve, Tertiary Reserve, Reactive Power support, and Black Start Capability which are necessary to support the transmission capacity and Energy that are essential in maintaining Power Quality and the Reliability of the Grid.

2.2 Black Start - The process of recovery from Total System Blackout using a Generating Unit with the capability to start and synchronize with the Power System without an external power supply.

2.3 Customer – A person who engages in the activity of purchasing electricity supplied through a transmission or distribution system which may include Distribution Utilities, Retail Electricity Suppliers and directly connected customers in the Grid.



Draft Department Circular - Section 2

2.4 Forced Outage - An Outage that results from emergency conditions directly associated with a Component, requiring that it be taken out of service immediately, either automatically or as soon as switching operations can be performed. Also, an Outage caused by human error or the improper operation of Equipment.

2.5 Grid Operating Maintenance Program – Refers to the Operating Program or the periodic program prepared by the Transmission Network Provider and the System Operator based on data submitted by Generation Company and Users which specifies the expected Availability and aggregate capability of generation to meet forecasted Demand.



Draft Department Circular - Section 2

2.6 Must-Run Unit (MRU) – A generating unit identified and instructed, by the System Operator to either a) come on-line, or b) provide additional energy on a particular Trading Interval but the Dispatch of which is said to be Out of Merit, to address System Security requirements. For clarity, MRU shall be utilized only after the System Operator has exhausted all available Ancillary Services.

2.7 Primary Reserve - Synchronized generating capacity that is allocated to stabilize the system Frequency and to cover the loss or failure of a Synchronized Generating Unit or a transmission line or the power import from a single circuit interconnection.

2.8 Qualified Interruptible Load - A Load that is tested, certified and monitored by the System Operator to provide Tertiary Reserve Ancillary Service.



Draft Department Circular - Section 2

2.9 Reactive Power Support - The capability of a Generating Unit to supply or absorb Reactive Power beyond the ranges prescribed under the Philippine Grid Code.

2.10 Reserve Responsibility Share - The percentage share of Generation Company, Transmission Network Service Provider and/or Customer to the total cost of the Ancillary Services.

2.11 Secondary Reserve. Synchronized generating capacity that is allocated to restore the system Frequency from the quasi-steady state value as established by the Primary Responses of Generating Units to the nominal Frequency of 60 Hz.



Draft Department Circular - Section 2

2.12 Tertiary Reserve - The capacity which can be connected (automatically or manually) under Tertiary Control, in order to provide an adequate Secondary Reserve. This reserve must be used to contribute to the restoration of the Secondary Control range when required. The restoration of an adequate Secondary Control range may take, for example, up to 15 minutes, whereas Tertiary Control for the optimization of the network and generating system will not necessarily be complete after this time.

2.13 WESM Member - A person who is registered with the Market Operator which shall include the Generation Companies, the Transmission Network Service Provider and the Customers.



Draft Department Circular - Section 3

Section 3. Reserve Responsibility Share. All WESM Members shall comply with the following Reserve Responsibility Share (RRS) for the effective and fair cost recovery of the Ancillary Services:

3.1 RRS for the Primary Reserve:

3.1.1 Fifty percent (50%) of the cost recovery for the Primary Reserve shall be allocated to the Generation Companies in accordance with Section 1.3 of this Circular;

3.1.1.1 The RRS of each Generation Company shall be calculated by the Market Operator through runway model;



Draft Department Circular - Section 3

3.1.1.2 The runway model shall be computed based on the real-time dispatch schedule and reliability performance of the Generation Companies; and

3.1.1.3 Reliability performance shall be determined based on the forced outage rate (FOR) of the Generation Companies, which shall be calculated and published by the Market Operator;

3.1.2 Twenty-five percent (25%) of the cost recovery for the Primary Reserve shall be allocated to the Transmission Network Service Provider.

3.1.3 Twenty-five percent (25%) of the cost recovery for the Primary Reserve shall be allocated to the Customers. The RRS for each Customer shall be the calculated by the Market Operator through pro-rata basis to the energy consumption (metered quantity) per settlement interval in the WESM.



Draft Department Circular - Section 3

3.2 RRS for Secondary Reserve and Tertiary Reserve:

3.2.1 The RRS for each Generation Company and Customer shall be calculated by the Market Operator through pro-rata basis to the first 5MWh-energy dispatch (metered quantity) of the Generation Companies and energy consumption (metered quantity) of the Customers per settlement interval in the WESM;

3.3 RRS for the Reactive Power Support:

3.3.1 The RRS of the Transmission Network Service Provider and the Distribution Utilities shall be based on the cause of utilization of the said Ancillary Service.



Draft Department Circular - Section 3

3.4 RRS for the Black Start:

3.4.1 Twenty-five percent (25%) of the cost recovery for the Black Start shall be allocated to the Generation Companies. The RRS for each Generation Company shall be calculated by the Market Operator through pro-rata basis to the energy dispatch (metered quantity) per settlement interval in the WESM;

3.4.2 Fifty percent (50%) of the cost recovery for the Black Start shall be allocated to the Transmission Network Service Provider - System Operator; and

3.4.3 Twenty-five percent (25%) of the cost recovery for the Black Start shall be allocated to the Customers. The RRS for each Customer shall be calculated by the Market Operator through pro-rata basis to the energy consumption (metered quantity) per settlement interval in the WESM.



Draft Department Circular - Section 4

Section 4. Additional Responsibilities of the National Grid Corporation of the Philippines (NGCP). The NGCP as the System Operator and Network Service Provider shall:

4.1 Pay its share to the cost of Ancillary Services based on the RRS;

4.2 Determine the cause of generator's Forced Outage and shall submit detailed report to the PEMC and the DOE regarding the cause of the event. For this purpose, the NGCP shall provide all necessary documents required by the PEMC for the validation of the Forced Outage event;

4.3 Provide to the Market Operator the monthly costs of each type of Ancillary Service covered by bilateral contracts for recovery and settlement purposes;



Draft Department Circular - Section 4

4.4 Ensure the availability of the transmission system at all times, and submit to the DOE the scheduled maintenance outage of the transmission system or equipment and shall be posted in the website for transparency; and

4.5 Any changes in the planned maintenance outage of the transmission system or equipment shall be approved by the DOE;



Draft Department Circular - Section 5

Section 5. Additional Responsibilities of the Generation Companies.

The Generation Companies shall:

5.1 Prepare and submit a report to the PEMC, System Operator and the DOE on the occurrence of Forced Outages which shall include details and the cause of the event;

5.2 Adhere to the planned and maintenance schedule of their generating units in accordance with the Grid Operating and Maintenance Program (GOMP) as approved by the DOE, hence, any changes in the planned maintenance outage based on the GOMP shall be approved by the NGCP and DOE in accordance with the DOE Circular No. 2010-03-0003;



Draft Department Circular - Section 5

5.3 Pay its share to the cost of the Ancillary Services based on the RRS;
and

5.4 For the new conventional generation facility, include in the Certificate of Compliance the type of Ancillary Services that its generation unit/s can provide.



Draft Department Circular - Section 6

Section 6. Additional Responsibilities of the Customers in the WESM. All Customers in the WESM, which shall include the Distribution Utilities, Suppliers and directly connected customers, shall pay their shares to the cost of the Ancillary Services based on the RRS.



Draft Department Circular - Section 7

Section 7. Additional Responsibilities of the Market Operator. The Market Operator shall:

7.1 Determine the RRS of each WESM Member in accordance with Section 3;

7.2 Act as the settlement agent for the CPM and the Reserve Market;

7.3 Determine the quarterly FOR of the generators based on the reports submitted by the Generation Companies and the System Operator. If there are inconsistencies in the reports, the Market Operator shall submit the same to the WESM's Enforcement and Compliance Office for review and validation; and

7.4 Ensure timely provision of data to the System Operator in connection with the schedule and actual dispatch of the Ancillary Services;



Draft Department Circular - Section 8

Section 8. Additional Responsibilities of the Philippine Electricity Market Corporation (PEMC). The PEMC shall:

8.1 Determine and validate the cause of the Forced Outages through its Enforcement and Compliance Office based on the submission of the Market Operator, NGCP-System Operator and the Generation Companies; and

8.2 Prepare and submit a report on the determination and validation of the cause of Forced Outage to the System Operator, ERC and the DOE;



Draft Department Circular - Section 9

Section 9. Dispute Arising from the Forced Outage Report. Any dispute arising from the monthly validation report on Forced Outages prepared by the PEMC shall be settled through Dispute Resolution Process of the WESM.



Draft Department Circular - Section 10

Section 10. Regulatory Support. The ERC shall provide within sixty (60) days the necessary regulatory issuances, if any, for the implementation of the CPM and the harmonization and amendments of the existing AS cost recovery rules with the policy set forth in this Circular.



Draft Department Circular - Section 11

Section 11. 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.



Draft Department Circular - Section 12

Section 12. Repealing Clause. All DOE issuances that are inconsistent with the provisions of this Circular are hereby repealed or amended accordingly.



Draft Department Circular - Section 13

Section 13. Effectivity. This Circular shall take effect after fifteen (15) days following its publication in at least two (2) newspapers of general circulation in the Philippines, and shall remain in effect until otherwise revoked.



Submit to us your comments on the Draft Circular on 15 May 2018



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