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## **WESM Market Manual**

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# **Management of Net Settlement Surplus Issue 3.0**

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Abstract	This Market Manual sets the procedure for the allocation of the net settlement surplus in the Philippine Wholesale Electricity Spot Market
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## Document Change History

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1	PEMC	Original Document
2	PEMC	Incorporate ERC Resolution No. 06 Series of 2009 and address audit findings
3	PEMC	Specify the calculation for the allocation of Net Settlement Surplus As approved by the ERC through ERC Resolution No. 1 Series of 2018

## Document Approval

Issue No.	RCC Approval	RCC Resolution No.	PEM Board Approval	PEM Board Resolution No.	DOE Approval	DOE DC No.
1	07 September 2006		27 September 2006			
2	02 July 2014	2014-12	31 July 2014	2014-41		
3	07 July 2016	2016-09	10 November 2017	2016-32	20 April 2017	2017-04-0005

## Reference Documents

Document ID	Document Title
	WESM Rules
WESM-PDM	WESM Price Determination Methodology
WESM-BSM	Billing and Settlements Manual
	PEMC Board Resolution No. 2005-37, 15 December 2005
	Energy Regulatory Commission Decision, In the Matter of the Application for Approval of the Price Determination Methodology for the Philippine Wholesale Electricity Spot Market, ERC Case No. 2006-007 RC, 21 June 2006.
	Energy Regulatory Commission Resolution No 06 Series of 2009, A Resolution Adopting the Rules for the Distribution of Net Settlement Surplus

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**SECTION 1 INTRODUCTION****1.1 BACKGROUND**

- 1.1.1 The surplus or deficit resulting from the aggregate *settlement* transactions in the Philippine *Wholesale Electricity Spot Market (WESM)* is the *net settlement surplus*<sup>1</sup>. Specifically, a *net settlement surplus* arises when the total payments of *Customers* exceeds the total payments to *Generation Companies* (or generators, for brevity).
- 1.1.2 The *WESM Rules* Clause 3.13.16.2<sup>2</sup> provides that the *net settlement surplus*:
- a) may be retained by the *Market Operator* to fund deficit *settlement* as a result of transactions required in *WESM Rules* Clause 3.13.14 and may be flowed back to the *Trading Participants* in accordance with the procedures to be developed under *WESM Rules* Clause 3.13.16.3 and may be used by the *Market Operator* to establish and support the market for financial *transmission rights* subject to the approval of the *PEM Board*; and
  - b) shall be clearly accounted for and taken into account when setting the allowable charges under any regulatory instruments applying to the *Market Operator* and the *System Operator*.
- 1.1.3 In accordance with *WESM Rules* Clause 3.13.6.3 (d), the *Market Operator* is required to develop procedures on the possible uses of *net settlement surplus* subject to approval by the *PEM Board*; and, to continuously review the procedures on possible uses of such surplus to the extent the *Market Operator* considers it to be reasonably necessary to promote *WESM* objectives. Any changes made on the procedures are approved by the *PEM Board*.<sup>3</sup>
- 1.1.4 The *Energy Regulatory Commission* (the "*Commission*") in its decision in the application for approval of the *WESM* price determination methodology likewise directed the *Philippine Electricity Market Corporation* (the "*PEMC*") to formulate the procedures for redistribution of the *net settlement surplus* within three (3) months from the start of the *WESM* commercial operations in Luzon. It likewise directed the *PEMC* to annually submit to the *Commission* a comprehensive report on the *net settlement surplus*, including but not limited to, the monthly levels and the underlying causes of the surplus.<sup>4</sup>

**1.2 PURPOSE**

- 1.2.1 This document implements the above-mentioned requirements of the *WESM Rules* and the directive of the *Commission* and specifically establishes the following –

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<sup>1</sup> *WESM Rules* Clause 3.13.16.1

<sup>2</sup> *WESM Rules* Clauses 3.13.16.2 and 3.13.16.3

<sup>3</sup> *WESM Rules* Clause 3.13.16.2

<sup>4</sup> Decision, In the Matter of the Application for Approval of the Price Determination Methodology for the Philippine Wholesale Electricity Spot Market, *ERC* Case No. 2006-007 RC, 21 June 2006.

- a) The manner by which the *net settlement surplus* or deficit is calculated;
- b) The uses of the *net settlement surplus* and the methodology for its allocation;
- c) The schedule for allocation or flow back of the *net settlement surplus*; and
- d) The manner of compliance with the reportorial requirements set in the *WESM Rules* and in regulatory directives.

1.2.2 This document governs the uses and procedures for allocation of the *net settlement surplus* until the implementation of the financial *transmission rights* market or other utilization regime as may be decided and approved by the *PEM Board*.

### 1.3 SCOPE

The guidelines and methodology set in this document applies to all *Trading Participants* registered in the *WESM*, the *Market Operator* and the *Philippine Electricity Market Corporation*.

## SECTION 2 DEFINITIONS, REFERENCES AND INTERPRETATION

### 2.1 DEFINITIONS

All italicized terms in this document will have the same meaning as defined in the *WESM Rules*, unless the context provides otherwise.

### 2.2 REFERENCES

This document should be read together with the –

- a) *WESM Rules*, as amended;
- b) Price Determination Methodology;
- c) Billing and *Settlements Manual*;
- d) *Energy Regulatory Commission Decision*, In the Matter of the Application for Approval of the Price Determination Methodology for the Philippine *Wholesale Electricity Spot Market*, ERC Case No. 2006-007 RC, 21 June 2006; and
- e) *Energy Regulatory Commission Resolution No. 6*, Series of 2009, A Resolution Adopting the Rules for the Distribution of *Net Settlement Surplus*.

### 2.3 INTERPRETATION

Any reference to a clause in any section of this *Market Manual* shall refer to the particular clause of the same section in which the reference is made, unless otherwise specified or the context provides otherwise.

**SECTION 3 RESPONSIBILITIES****3.1 MARKET OPERATOR**

3.1.1 In accordance with *WESM Rules* Clause 3.13.12.3, the *Market Operator* shall:

- a) *Publish* regular summary reports on the amount of any *net settlement surplus* being generated;
- b) Within one (1) year from *spot market commencement date*, and every year thereafter, *publish* a review of the underlying factors giving rise to any *net settlement surplus*, and attempt to identify any binding *constraints* which may have caused or contributed to such *net settlement surplus*;
- c) Determine, in consultation with *Trading Participants* and *Network Service Providers*, and subject to approval by the *PEM Board*, whether the *net settlement surplus* generated by any particular set of *constraints* is of such magnitude as to justify development of a regime similar to that implemented in the *WESM Rules* with respect to *transmission line rentals* and *transmission rights*.
- d) Develop procedures on the possible uses of *net settlement surplus* subject to approval by the *PEM Board*; and
- e) Continuously review the procedures on possible uses of *net settlement surplus* to the extent the *Market Operator* considers it to be reasonably necessary to promote *WESM* objectives. Any changes made on the procedures shall have approval from the *PEM Board*.

**SECTION 4 NET SETTLEMENT SURPLUS ALLOCATION****4.1 NET SETTLEMENT SURPLUS**

4.1.1 The *WESM Rules*, as amended, defines *net settlement surplus* as the settlement surplus or deficit remaining after all *market transactions* have been accounted for, including the assignment of transmission line rentals to *Network Service Providers*. This surplus or deficit is assumed to be attributable to economic rentals arising from other binding constraints, and accounted for in accordance with the *WESM Rules* provision on the *Treatment of Net Settlement Surplus*.

4.1.2 The *Market Operator* shall immediately include the NSS for allocation and reflect the same in the corresponding billing statement on the current billing period, from the time of computation and determination of the NSS amount. The allocation shall be in the form of an immediate deduction from or an adjustment of the total settlement amount of the recipients of the NSS for their *WESM transactions*.

4.1.3 The DUs serving the captive shall be eligible for an NSS allocation. As such, any NSS allocation received by the DUs shall be re-distributed back to its End-users respective of their consumption during the same billing period that it received the allocation. Re-distribution of which is deemed to be received by the End-users by virtue of adjustment in the billed amount from the DUs.

- 4.1.4 The RES, being the *Direct WESM Member*, shall be eligible to receive an NSS allocation. As such, any NSS Allocation received by the RES shall be re-distributed back to its End-users in the retail electricity market, respective of their consumption during the same billing period that it received the allocation.

In the event of a deficit, the RES shall collect the amount of deficit payable to *Market Operator* from its End-users in the retail electricity market respective of their consumption.

- 4.1.5 The *Generation Company* that have withdrawn from the grid or the *Generation Company* declared as the paying counterparty of the Line Rental shall be eligible to receive an NSS allocation from the *Market Operator*. Any NSS allocation received by the *Generation Company* shall be an adjustment to the settlement amount of the *Generation Company* for the subject billing month.

## 4.2 OWNERSHIP OF NET SETTLEMENT SURPLUS

- 4.2.1 *WESM Participants* that paid for the loss and congestion charge shall receive a share in the *net settlement surplus*. Pursuant to ERC Resolution No. 01 Series of 2018, the *net settlement surplus* (NSS) shall be allocated to *Direct WESM Members* as follows:

- a) *Distribution Utilities* (DUs);
- b) Retail Energy Suppliers (RES), including Local RES and Supplier of Last Resort (SoLR) and other electricity *suppliers*;
- c) *Generation Companies* that acted as end-users or made withdrawal from the grid;
- d) Independent Power Producer (IPP) Administrators who will be assigned Contracts for the Supply of Electric Energy (CSEE) and assume the default wholesale *supply* functions for the assigned TSC *Customers*; and
- e) Other parties which have acted as end-users and paid line loss and congestion charges.

- 4.2.2 Any NSS allocated to the DUs shall be subject to immediate re-distribution to the corresponding End-users at the retail level.

- 4.2.3 Any NSS allocated to the RES shall be subject to immediate re-distribution to the corresponding End-users in the retail electricity market.

- 4.2.4 Any NSS allocated to a *Direct WESM Member* on behalf of its *Indirect WESM Member* shall be subject to immediate re-distribution to the corresponding *Indirect WESM Member*.

- 4.2.5 When prices in the *WESM* are administered *i.e.*, upon the occurrence of Market Intervention, Market Suspension, or implementation of Secondary Price Cap, there shall be no NSS allocation and re-distribution for the affected trading intervals.

<b>SECTION 5 METHODOLOGY AND PROCEDURE</b>
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## 5.1 CALCULATION OF NET SETTLEMENT SURPLUS

5.1.1 The adoption of locational marginal pricing for the WESM under different market trading nodes accounts for congestion and losses in the transmission system. As a result, the price differences occur between generator nodes and customer nodes due to the losses and congestion. The surplus resulting from the aggregate WESM settlement transactions in the Net Settlement Surplus. This may also result in a settlement deficit.

5.1.2 Pursuant to Article II Section 2 of the *ERC* Resolution No. 01 Series of 2018, the *net settlement surplus* amount shall be calculated based on the total trading amount for every trading interval as follows:

$$\mathbf{NSS}_k = \mathbf{Collectibles}_k - \mathbf{Payables}_k$$

Where:

**NSS<sub>k</sub>** = *Net Settlement Surplus for trading interval k*

**Collectibles** = total amount to be collected by the *Market Operator* from the *Trading Participants* for *energy* transactions in the market (including loss and congestion charges for both spot and bilateral quantities) for all *nodes* at *trading interval k*

**Payables** = total amount to be paid by the *Market Operator* to the *Trading Participants* for *energy* transactions in the market (including loss and congestion charges) for all nodes at *trading interval k*

**k** = hourly *trading interval*

## 5.2 NET SETTLEMENT DEFICIT

5.2.1 The *net settlement surplus* may be retained by the *Market Operator* to fund deficit *settlement*, pursuant to *WESM Rules* Clause 3.13.16.2(a). Since the issuance of the *settlement* statements are on monthly basis, the formula for calculation of the *net settlement surplus* presented in Section 5.1 of this document automatically takes the deficit into account. Thus, the resulting calculation presented in the statements already netted out the deficit.

5.2.2 It is possible that a *net settlement deficit* rather than a surplus will occur. That is, for certain *trading intervals* the sum of the *trading amounts* at the *generator nodes* (i.e., payments) is greater than the *trading amounts* at the *load* or *Customer nodes* (i.e., collections). This deficit may occur because of differences between the *ex-ante* and *ex-post energy trading amounts*, which are due, in turn, to un-realized schedules and resulting price differences during real time (i.e., *ex-post*). These occurrences are

beyond the control of the *Market Operator* and are brought about by offer and bid structures submitted to the market by the *Trading Participants*.

### 5.3 FLOW BACK TO THE PARTICIPANTS

5.3.1 The *net settlement surplus* after funding the deficit *settlement* will be returned to the *WESM Participants*. The allocation shall be on a pro-rata basis depending on each recipient's contribution to the total *NSS*. The monthly amount to be allocated to each recipient shall be equal to the sum of the recipient's *NSS* allocation amounts computed for all trading intervals in a billing month. A recipient's *NSS* allocation amount per interval is equal to the total *net settlement surplus* amount per trading interval multiplied by the ratio of the recipient's line loss and congestion charges payments for the trading interval to the total line loss and congestion charges payments for the trading interval of all recipients. This rule shall apply regardless of the allocation method, whether outright deduction or otherwise.

5.3.2 This is represented by the following formula:

$$R_{J,k} = NSS_k \times (\sum LLCC_{j,k} / \sum LLCC_k)$$

**Where:**

$R_{J,k}$	= rebate amount or <i>NSS</i> allocation for <i>Participant J</i> for <i>trading interval k</i>
$NSS_k$	= <i>Net Settlement Surplus</i> for the <i>trading interval k</i>
$\sum LLCC_{j,k}$	= sum of the line loss and congestion charges payments of <i>Participant J</i> 's resources for the <i>trading interval k</i>
$\sum LLCC_k$	= sum of line loss and congestion charges payments of all eligible resources for the <i>trading interval k</i>
$J$	= any <i>WESM</i> <i>Participant</i> paying line loss congestion charges for which a pro-rated amount of <i>NSS</i> will be returned or allocated
$j$	= any resource of <i>Participant J</i> paying line loss and congestion charges for which a line loss and congestion charge payment will be computed
$k$	= <i>trading interval</i>

5.3.3 The value of the total *net settlement surplus*,  $\sum NSS_k$ , is derived from the hourly *settlement* runs.

5.3.4 The line loss and congestion charges payments of each *Trading Participant* shall be calculated as follows:

$$LLCC_{j,k} = LLCP_{RTD,j,k} \times (EAQ_{j,k} - BCQ_{j,c,k}) + LLCP_{RTX,j,k} \times (MQ_{j,k} - EAQ_{j,k}) + \text{Line Rental}_{j,k}$$

The line loss and congestion price of each trading participants for the ex-ante or ex-post run shall be calculated as follows:

$$\mathbf{LLCP}_{\text{RTD/X,j,k}} = \mathbf{LMP}_{\text{RTD/X,j,k}} - \mathbf{MCP}_{\text{Lowest,k}}$$

**Where:**

**LLCC<sub>j,k</sub>** = line loss and congestion charges payments of *resource j* for the *trading interval k*

**LLCP<sub>RTD/X,j,k</sub>** = line loss and congestion price of *resource j* during ex-ante or ex-post run for *trading interval k*

**LMP<sub>RTD/X,j,k</sub>** = locational marginal price of *resource j* during ex-ante or ex-post run for *trading interval k*

**MCP<sub>lowest,k</sub>** = lowest marginal clearing price for *trading interval k*

**EAQ<sub>j,k</sub>** = ex-ante quantity of *resource j* for *trading interval k*

**BCQ<sub>j,c,k</sub>** = bilateral contract quantity of the bilateral contract between *resource j* and *counterparty c* for *trading interval k*

**MQ<sub>j,k</sub>** = metered quantity of *resource j* for *trading interval k*

**Line Rental<sub>j,c,k</sub>** = line rental trading amount associated with the bilateral contract between *resource j* and *counterparty c* for *trading interval k* (this amount may be zero if the resource is not the assigned payer of the line rental trading amount)

**j** = any resource of *Participant J* paying line loss and congestion charges for which a line loss and congestion charge payment will be computed

**k** = trading interval

#### 5.4 LIMITATION OF FLOW BACK MECHANISM

The allocation mechanism described in this document will only be up to the level of the registered *WESM Participants*. Further allocation to the retail *Customers* is not considered in this methodology.

#### 5.5 SCHEDULE OF PAYMENTS TO THE PARTICIPANTS

The *net settlement surplus* will be returned to the *WESM Participants* as an outright adjustment to their *Final Statements*.

**SECTION 6 NET SETTLEMENT SURPLUS RETENTION****6.1 RETENTION**

As per Section 6.1 of *ERC* Resolution No. 06 Series of 2009, *PEMC* is allowed to retain ten percent (10%) of the total NSS amount for the previous three (3) months preceding the current *WESM* billing or invoice cycle to cover *settlement* adjustments. The 10% retention shall be reckoned per *WESM Participant*.

**6.2 EXCESS AND DEFICIT**

Any amount in excess of the allowed ten percent (10%) to be retained shall be returned as a deduction in the *WESM Members'* billing statement. The application of Net Settlement Deficit Allocation shall follow accordingly the stipulations discussed in Articles III, IV, and V, respectively, of the *ERC* Resolution No. 01 Series of 2018.

**SECTION 7 FUND MANAGEMENT AND TAXATION****7.1 INTEREST**

Pending distribution to the recipients, the *net settlement surplus* retention will be held by the *PEMC* in trust for the *WESM Participants*. The treatment of any income earned or expense incurred by *PEMC* will be subject of separate guidelines duly approved by the *PEM Board*.

**7.2 TAX**

The value added tax paid on the surplus will be remitted by *PEMC* to the Bureau of Internal Revenue in accordance with relevant revenue regulations. Taxation of the *net settlement surplus* fund will likewise be in accordance with applicable revenue regulations.

**SECTION 8 REPORTORIAL REQUIREMENTS****8.1 REPORTS**

8.1.1 The *Market Operator* shall prepare the following:

- a) Regular monthly summary reports on the amount of NSS or deficit being generated and distributed and the corresponding final metered quantities, Marginal Line Loss and Marginal Congestion Cost<sup>5</sup>. The corresponding value added tax (VAT) and interest amounts, as well as the date when the interests were earned or credited to *the market operator*, if any. This report shall be made available to all *WESM Participants* and shall be *published* in the *market*

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<sup>5</sup> Upon approval and implementation of the new Price Determination Methodology

*information website*<sup>6</sup>. A verified copy of the report shall likewise be submitted to the *ERC* on a monthly basis including contributors to and reasons for the deficit or surplus; and

- b) Annual report comparing the subject year and the preceding year's *NSS* levels and allocations, analysis of the factors and constraints giving rise to any *NSS* or deficit. This report shall be made available to the *WESM Participants* and will be submitted to the *PEM Board Directors* and the *ERC*.<sup>7</sup>

8.1.2 The *Market Operator* shall contract a qualified external auditor who shall conduct an annual audit of the *NSS* or deficit, the corresponding value added tax (VAT) and interest amounts as well as the procedure used by the *Market Operator*, and submit to the *ERC* the audit report immediately upon its completion but no later than three (3) months after the calendar year end.

8.1.3 DUs and RES, which are eligible recipients of any *NSS* amount shall also submit monthly report to the *ERC* of said amount and metered quantities including the corresponding report on *NSS* re-distributed to customers. For *Indirect WESM Members*, the responsibility of submitting report shall be borne by the corresponding *Direct WESM Members* representing the former.

## SECTION 9 AMENDMENT, PUBLICATION AND EFFECTIVITY

### 9.1 AMENDMENTS TO THIS MANUAL

Any amendments to this Manual shall be approved by the *DOE*, following the procedures for changes to *Market Manual* set out in the *WESM Rules* and in the relevant *Market Manual*.

### 9.2 PUBLICATION AND EFFECTIVITY

This *Market Manual* and its subsequent amendments shall be *published* in the *market information website* maintained by the *Market Operator*.

This *Market Manual* or any amendments thereto shall become effective upon approval of the *DOE* in accordance with *WESM Rules* Clause 8.6.4. The date of effectivity shall be indicated herein.

<sup>6</sup> *WESM Rules* Clause 3.13.16.3

<sup>7</sup> *WESM Rules* Clause 3.13.16.3