



# Report on the Audit of Net Settlement Surplus/Deficit

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First Quarter Audit covering the period of 26 November 2019 to 25 March 2021

**OCTOBER 2022**

This Report is prepared by the  
Philippine Electricity Market Corporation –  
Market Assessment Group for the  
PEM Audit Committee

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## FOREWORD

The PEM Audit Committee (PAC) supervised the audit of the Net Settlement Surplus/ Net Settlement Deficit (NSS/NSD) in compliance with Article VII, Section 2 of the ERC Resolution No. 07 Series of 2019 (or 2019 NSS Rules).

The audit was conducted by an independent auditor, Roxas Cruz Tagle & Co., to assess compliance of the of the Independent Electricity Market Operator of the Philippines (IEMOP) with the Market Rules and Manuals, and directives of the ERC through its communications, orders, and issuances. The audit also determined the relevant controls (or lack thereof) and verified the effectiveness of identified controls to prevent, detect and/or correct errors on NSS/NSD.

The NSS/NSD audit covering the period 26 November 2019 to 25 December 2021 is split into four (4) audit periods as follows:

<b>Audit Period</b>	<b>Covered Billing Months</b>
First Quarter	26 November 2019 to 25 March 2021
Second Quarter	26 March 2021 to 25 June 2021
Third Quarter	26 June 2021 to 25 September 2021
Fourth Quarter	26 September 2021 to 25 December 2021

After the conclusion of the first quarter audit, Roxas Cruz Tagle & Co. submitted a report indicating the results as follows:

- Calculation of NSS/NSD and its allocation, corresponding value added tax (VAT) – no exception was noted between the results of Roxas Cruz Tagle & Co. and IEMOP calculations
- Billing and collection – no exception was noted in the final trading amounts billed to market participants
- IT General Controls (ITGC) Review – control gaps were noted in logical access control and authentication control on the NSS Tool used by IEMOP

The PAC wished to express its appreciation and gratitude to the management of PEMC as well as the Auditee, IEMOP, for the continuous cooperation and support they extended to the Independent Auditor for the successful completion of the first quarter audit.

For the PEM Audit Committee,

  
**ATTY. MAILA LOURDES G. DE CASTRO**  
Chairperson  
**FRANCISCO LEODEGARIO R. CASTRO, JR.**  
Member  
**ROSSANO C. LUGA**  
Member

## 1.0 ABOUT THIS REPORT

This report is prepared pursuant to Section 3.3.1 of the PEM Audit Market Manual Issue 3.0. It contains the objectives, scope, and audit methodology for the conduct of the Net Settlement Surplus/ Net Settlement Deficit (NSS/NSD) as well as the findings and recommendations identified in the course of the audit.

## 2.0 EXECUTIVE SUMMARY

### 2.1 BACKGROUND

The Net Settlement Surplus (NSS)/ Net Settlement Deficit (NSD) is the surplus or deficit resulting from the locational marginal pricing design and differences between total trading amounts received and paid out in the WESM. Net surpluses are required to be passed back to applicable trading participants in accordance with the relevant WESM Rules.

On 23 October 2019, the ERC promulgated Resolution No. 07, Series of 2019 “A Resolution Adopting Amendments to the Rules for the Distribution of Net Settlement Surplus” or the 2019 NSS Rules, which became effective on 25 November 2019.

The ERC, under Article VII, Section 2 of the 2019 NSS Rules, directed PEMC/MO to comply with the provisions of the WESM Rules on the conduct of Spot Market Audit and include in the said audit the actual calculation of NSS or NSD and its allocation, corresponding VAT and interest amounts, as well as the actual billing and collection. Further, under Article VII, Section 3, the ERC directed that the audit be conducted quarterly by a qualified third-party auditor.

On 14 October 2020, PEMC presented its recommendations on how to implement the directives during the PAC meeting. Noting that this is a regulatory directive, the PAC agreed with the PEMC recommendation to conduct a separate audit of NSS/NSD within the context of WESM Rules and PEM Audit Manual through an independent auditor, under the supervision of PAC. The PAC also agreed with the recommendation to engage an independent auditor on a retainer basis to keep up with quarterly audit requirement.

On 17 December 2020, PEMC presented the said recommendations to the IEMOP to which the latter agreed.

Further, the ERC-Market Operations Services (ERC-MOS) also agreed, in principle, with the PEMC recommendations during the meeting held on 06 January 2021. Upon instruction of the ERC-MOS during the said meeting, PEMC formally relayed the recommendations to the Commission on 13 January 2021.

On 24 February 2021, the PEM Board approved the engagement of an independent auditor for the audit of NSS/NSD. Thereafter, PEMC engaged Roxas Cruz Tagle & Co. to conduct the NSS/NSD audit as follows:

<b>Audit Period</b>	<b>Covered Billing Months</b>
First Quarter	26 November 2019 to 25 March 2021
Second Quarter	26 March 2021 to 25 June 2021
Third Quarter	26 June 2021 to 25 September 2021
Fourth Quarter	26 September 2021 to 25 December 2021

The kickoff meeting for the audit project was conducted on 13 April 2021. Meanwhile, the closing meeting for the first quarter audit of NSS/NSD was held on 26 August 2022.

## 2.2 AUDIT SCOPE AND OBJECTIVES

This report includes the first quarter audit of NSS/NSD covering the period 26 November 2019 to 25 March 2021.

The audit was conducted to assess compliance with the Market Rules and Manuals, and directives of the ERC through its communications, orders, and issuances. The audit also determined the relevant controls (or lack thereof) and verified the effectiveness of identified controls to prevent, detect and/or correct errors on NSS/NSD.

## 2.3 AUDIT METHODOLOGY

The auditor's work covers the following general procedures (GP) to satisfy the objectives and requirements in the Terms of Reference which are in accordance with the Methodology and Philippine Standards on Related Services 4400, *Engagement to Perform Agreed-Upon Procedures Regarding Financial Information*.

1. GP1. Obtain understanding of the relevant laws, pronouncements, Market Rules and Manuals and directives of ERC.
2. GP2. Obtain an understanding of the NSS/NSD Tool and identify relevant controls (or lack thereof) and verify effectiveness of identified controls on NSS/NSD Tool.
3. GP3. Perform an understanding and walkthrough of the processes surrounding the NSS/NSD with the assistance of IEMOP.
4. GP4. Perform recalculation of NSS/NSD and its allocation, corresponding Value-added Tax and interest amounts, as well as the actual billing and collection performed by IEMOP and determine any inconsistencies and non-compliances.
5. GP6. Assess any inconsistencies and non-compliances of the foregoing.
6. GP7. Report the assessments and findings.

In performing GP4, the auditor selected at least 10 days with the highest amount or at least 50% of total NSS/NSD on the sample months of December 2019, January 2020, April 2020, July 2020, September 2020 and December 2020, January 2021, February 2021, and March 2021 to perform the recalculation of NSS/NSD.

## **2.4 AUDIT FINDINGS AND CONCLUSION**

### **2.4.1 IT GENERAL CONTROLS (ITGC) REVIEW OF THE NSS/NSD TOOL**

#### **Logical Access Control**

It was noted that there is no distinction on the access granted to users of the NSS/NSD Tool. The Tool allows all authorized users to access all the features of the system that includes importation of files, calculation of trading amount, and report generator. This may cause unauthorized changes to data as one may perform transactions that are beyond their job responsibilities. With this, the auditor noted that the logical access control was ineffective by design.

The auditor recommended that user access should be limited within the user's job responsibilities to avoid unauthorized changes to critical data.

#### **Authentication control**

It was noted that the NSS/NSD Tool interface is integrated to Microsoft Active Directory for user authentication. The auditor reviewed the password and account lockout policy of Windows. It was observed that IEMOP does not enforce adequate user authentication control to restrict access to the system (e.g., the maximum password age is set to 365 days, the minimum password length is set to 6 characters). Thus, authentication control over NSS Tool was assessed to be ineffective.

The auditor recommended improving user authentication control in Windows, consequently improving user access security of the NSS tool, by applying an 8-character minimum password length and setting the password age to maximum of 60 to 90 days.

#### **Other ITGC Controls**

The auditor further noted the following:

- Existence of separate environments for the production (v.1.0.08052020) and development/testing (v.0.2.07282020) of the NSS Tool.
- Existence of a licensed anti-virus system – ESET Endpoint Security with validity until 18 December 2021. This antivirus application was also kept up to date to reflect latest virus definitions and increase security.
- IT Change Management procedure was followed and was deemed effective.

## **2.4.2 RECALCULATION OF NSS/NSD AND ITS ALLOCATION, CORRESPONDING VALUE-ADDED TAX AND INTEREST AMOUNTS, AND BILLING AND COLLECTION**

### **Recalculation of NSS/NSD and its Allocation**

No exception was noted between the results of the recalculation performed by the auditor and the IEMOP calculation. The auditor remarked no difference or minimal differences in their recalculation and explained that minimal differences were due to rounding off. It was further noted that the amounts presented are total amount of the samples taken for the month, and not the actual total amount for the month.

In relation to the recalculation of Equation 10, it was noted that GWAMTLP for December 2019 could not be recalculated due to the unavailability of data, i.e., prices and schedules, which were affected by the malware attack in IEMOP system. Recalculation for December 2019 will be performed in the audit of the succeeding periods when the unavailable data will be made available to the auditor.

### **Recalculation of Value-Added Tax (VAT)**

The auditor reviewed the VAT being imposed on the vatable sales per market participant and assessed its compliance in with BIR regulations. The auditor noted no exception on the recalculation of VAT.

### **Validation of Billing and Collection**

The auditor compared the monthly final trading amounts calculated by IEMOP with the final trading amounts in the billing statement. No exception was noted.

However, it was noted that certain amounts remain uncollected which represent withholding taxes and unsettled amounts. For market participants with outstanding balances, IEMOP issues default notices after the scheduled due date.