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REQUEST FOR MARKET RULES AND MANUALS AMENDMENTS

Proposals made only under this prescribed form shall be accepted and considered as submitted.

This request for amendments should be submitted to:

Rules Change Committee

Attention: WESM Governance Committee Secretariat

Philippine Electricity Market Corporation

18/F Robinsons Equitable Tower

ADB Avenue, Ortigas Center

Pasig City, 1605 Philippines

Email address: mag_rrd@wesm.ph

[In accomplishing and submitting this form, you give your consent for PEMC to collect, record, organize, and update your personal data as herein provided as part of your information for purposes of rules change process.]

I. Proponent's Information

Name	[Redacted]
Designation	[Redacted]
Company	National Grid Corporation of the Philippines
Company Address	[Redacted]
Telephone No.	[Redacted]
Email Address	[Redacted]

II. Amendment Information

Proposed Amendments to the (please tick the box):

☐ WESM Rules ☐ Retail Rules

☒ Market Manual: WESM Manual on Metering Standards and Procedures, Issue No. 16.0

Topic:

Proposed Classification of Amendments (please tick the box):

☒ General ☐ Minor ☐ Urgent

If Urgent, reason for urgency:

III. SUMMARY OF THE PROPOSED RULES CHANGE

The proposed amendments seek to improve the clarity, consistency, and practical implementation of the WESM Metering Standards and Procedures without altering the fundamental objectives of metering accuracy, security, and integrity. The amendments:

- 1. Incorporate the Philippine Electrical Code (PEC) and other applicable codes and standards under the general requirements for metering installations.*
- 2. Adopt technology-neutral terminology to accommodate evolving technologies and compliant installation methods.*
- 3. Introduce controlled flexibility for installations where compliance with certain physical requirements is impracticable due to installation constraints, subject to determination by the Metering Service Provider (MSP).*
- 4. Strengthen metering security through documented verification requirements and recognition of equivalent tamper-evident measures.*
- 5. Remove redundant requirements relating to secondary terminal box sealing.*
- 6. Revise meter enclosure access provisions to allow controlled access by authorized personnel under MSP supervision while maintaining security controls.*

IV. BACKGROUND

The WESM Metering Standards and Procedures establish the technical, operational, and security requirements for WESM metering installations. These requirements were developed to ensure accurate measurement of energy quantities, safeguard metering data, and maintain the integrity of the settlement process.

The current provisions were adopted to provide a metering framework that supports the requirements of the WESM Rules, the Philippine Grid Code (PGC), and the Philippine Distribution Code (PDC).

Since the adoption of the existing provisions, advancements in metering technologies, communication systems, installation practices, and applicable technical standards have highlighted opportunities to improve certain requirements. Some provisions contain technology-specific references, duplicative security requirements, or implementation constraints that may no longer fully reflect current industry practices.

The proposed amendments are intended to maintain the original objectives of metering accuracy, security, and accountability while improving clarity, implementation flexibility, and alignment with current industry standards and practices. The amendments do not alter the fundamental principles governing WESM revenue metering but instead update selected provisions to facilitate practical implementation and accommodate current technologies.

V. THE PROPOSED RULES CHANGE

A. Rationale

The proposed amendments are intended to:

- 1. Align the Manual with applicable industry codes and standards, including the Philippine Electrical Code.*
- 2. Modernize terminology to accommodate current and emerging technologies.*
- 3. Improve the practicality and implementability of certain requirements without compromising metering accuracy, security, or integrity.*
- 4. Eliminate redundant provisions while maintaining equivalent or enhanced safeguards.*
- 5. Clarify the responsibilities of Metering Service Providers with respect to metering installation security and access control.*

B. Implications if the Current Rule is Not Changed

If the existing provisions remain unchanged:

- 1. Certain provisions may continue to reference outdated or technology-specific implementation methods.*
- 2. Ambiguities may persist regarding acceptable metering security measures and access control requirements.*
- 3. Existing installation constraints, particularly in specialized facilities such as gas-insulated switchgear (GIS) installations, may continue to create compliance difficulties.*
- 4. Certain provisions may continue to present implementation challenges and may not fully reflect current industry standards, technologies, and installation practices.*

C. Problems or Shortcomings of the Existing Rule

The existing provisions exhibit the following limitations:

- 1. References to specific technologies and installation methods may limit flexibility and future applicability.*
- 2. Some security requirements may overlap or duplicate existing controls.*
- 3. Certain requirements may be difficult or impracticable to implement in specialized installation environments.*
- 4. Existing access provisions do not provide for controlled access to authorized personnel performing regulatory, audit, inspection, or verification functions.*

D. Stakeholders Affected by the Existing Rule

The existing provisions primarily affect:

- 1. Metering Service Providers (MSPs);*
- 2. Network Service Providers;*
- 3. Distribution Utilities;*
- 4. Generation Companies;*
- 5. Embedded Generators registered as WESM Participants;*
- 6. The Market Operator; and*
- 7. Other WESM Participants maintaining registered metering installations.*

E. Stakeholders Affected by the Proposed Rule Change

Positive impacts are expected for:

- 1. MSPs through improved implementation flexibility and clearer security requirements;*
- 2. WESM Participants through more practical compliance requirements;*
- 3. Regulators, auditors and other authorized personnel through clearer provisions on authorized access;*
- 4. The Market Operator through improved consistency and clarity of metering requirements.*

No material adverse impact is anticipated, as the amendments do not compromise metering accuracy, security, integrity, or the controls supporting WESM settlement.

F. Measures of Success

The effectiveness of the proposed amendments may be assessed through:

- 1. Reduced requests for clarification relating to metering installation requirements;*
- 2. Improved consistency in implementation among Metering Service Providers;*
- 3. Continued compliance with metering accuracy and security requirements;*
- 4. Reduced instances of implementation issues arising from technology-specific provisions;*
- 5. Successful implementation of the amended provisions without adverse impact on metering accuracy, metering integrity, or WESM settlement.*

VI. BACKGROUND AND DESCRIPTION OF THE PROPONENT

The National Grid Corporation of the Philippines (NGCP) is a privately led corporation responsible for the operation, maintenance, and development of the

country's electricity transmission system. NGCP also performs the functions of the System Operator and, pursuant to the authority granted by the Energy Regulatory Commission (ERC), serves as a Metering Service Provider (MSP) in the Wholesale Electricity Spot Market (WESM).

VII. CONCLUSIONS AND RECOMMENDATIONS

The proposed amendments improve the clarity, consistency, flexibility, and practical implementation of the WESM Metering Standards and Procedures while preserving the fundamental objectives of metering accuracy, security, and integrity.

The amendments align the Manual with applicable industry standards, eliminate redundant requirements, clarify responsibilities, and accommodate evolving technologies and installation practices without compromising metering accuracy, security, integrity, or the reliability of WESM settlement.

NGCP respectfully submits this proposal to the Rules Change Committee (RCC) of the Philippine Electricity Market Corporation (PEMC) for review, evaluation, and approval.

VIII. REFERENCES

WESM Market Manual on Metering Standards and Procedures, Issue No. 16.0.

Proposed Amendment to WESM Manual on Metering Standards and Procedures

(The following tables are to be used as applicable to the proposal.)

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
General Requirements	2.1.1	This standard supplements the minimum requirements of the harmonized standards on the <i>WESM Rules</i> , PGC and PDC for the Grid and Distribution Metering Installations for the WESM. Any <i>Metering Installation</i> of a higher level accuracy or functionality than that by this standard may also be installed.	This standard supplements the minimum requirements of the harmonized standards on the <i>WESM Rules</i> , PGC, and PDC, <u>PEC, and other applicable codes and standards governing</u> Grid and Distribution Metering Installations for the WESM. Any <i>Metering Installation</i> of a higher level accuracy or functionality than that by this standard may also be installed.	The amendment incorporates the Philippine Electrical Code (PEC) and other applicable codes and standards within the general requirements to recognize their relevance to the design, installation, and operation of WESM metering installations. This provides a centralized reference to applicable standards and avoids the need for isolated references in specific provisions of the Manual.
Applicability to Equipment	2.3.1	This standard applies to the following metering equipment, devices and accessories: a. xxx b. xxx c. xxx d. xxx e. xxx f. xxx	This standard applies to the following metering equipment, devices and accessories: a. xxx b. xxx c. xxx d. xxx e. xxx f. xxx	The amendment adopts technology-neutral terminology by referring to a “conduit system” rather than a “rigid conduit system,” accommodating compliant installation methods while maintaining the required protection of metering circuits (see related proposal for Section 2.9.1.2). It also removes the standalone reference to the

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
		g. xxx h. Rigid Conduit System in accordance with the Philippine Electrical Code (PEC); i. xxx j. xxx k. xxx l. xxx The equipment is used for the settlement of Philippine <i>WESM</i> administered transactions.	g. xxx h. Rigid Conduit System in accordance with the Philippine Electrical Code (PEC); i. xxx j. xxx k. xxx l. xxx The <u>foregoing</u> equipment, <u>devices, and accessories</u> <u>is are</u> used for the settlement of Philippine <i>WESM</i> -administered transactions.	Philippine Electrical Code (PEC) from the applicability list, as references to applicable codes and standards are more appropriately addressed under the general requirements of the Manual, ensuring consistent application across all metering equipment.
General Requirements for Grounding System	2.5.6.1.	The installation shall be in accordance but not limited to the following provisions of the Philippine Electrical Code: a. xxx b. xxx c. xxx d. xxx e. xxx f. xxx g. xxx h. xxx	The installation shall be in accordance but not limited to the following provisions of the Philippine Electrical Code: a. xxx b. xxx c. xxx d. xxx e. xxx f. xxx g. xxx h. xxx	The amendment updates the reference to the Philippine Electrical Code by replacing the specific edition with the prevailing version of the Code. This ensures continued alignment with the latest applicable electrical safety and installation standards without requiring future amendments to the Manual solely due to updates in the Code.

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
		i. Connections to all bonded parts shall be made in accordance to Article 2.50.1.8 of the Philippine Electrical Code 2009 Part 1.	i. Connections to all bonded parts shall <u>comply</u> be made in accordance to Article 2.50.1.8 <u>with the applicable provisions of the prevailing version</u> of the Philippine Electrical Code 2009 Part 1.	
Codes and Conditions	2.7.3.6.	cabling from the instrument transformers to the meter enclosure shall be routed in dedicated conduit, and the route shall be visually traceable; and”	cabling from the instrument transformers to the meter enclosure shall be routed in dedicated conduit, and the route shall remain visually traceable <u>(see Figure 4), except where impracticable due to physical installation constraints, such as Gas Insulated Substations (GIS) and similar enclosed substation configurations, or due to legacy metering configurations associated with Energy Conversion Agreements (ECA) and other similar pre-WESM contractual arrangements, as determined by the Metering Service Provider (MSP);</u> and	A controlled exemption is provided for installations where visual traceability is inherently impracticable due to physical design constraints, such as Gas Insulated Substations (GIS) and similar enclosed substation configurations, or due to legacy metering configurations associated with Energy Conversion Agreements (ECA) and other similar pre-WESM arrangements. Such cases shall be subject to determination by the Metering Service Provider (MSP) to ensure that cable security and metering integrity are maintained.

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
Communication Links for the Meter	2.8	The communication link to be installed for <i>metering installations</i> of facilities directly connected to the <i>transmission system</i> shall be a dedicated line for metering purposes (e.g. PLDT, Bayantel, Digitel lines or GSM Modem) of the MSP. The communication link to be installed for <i>metering installations of embedded generators</i> shall comply with the relevant provisions of the <i>Philippine Distribution Code</i>.	The communication link to be installed for <i>metering installations</i> of facilities directly connected to the <i>transmission system</i> shall be a dedicated line for metering purposes (e.g. PLDT, Bayantel, Digitel lines or GSM Modem) of the MSP. The communication link to be installed for <i>metering installations of embedded generators</i> shall comply with the relevant provisions of the <i>Philippine Distribution Code</i> <u>and shall use an appropriate communication medium that meets the security and reliability requirements of the metering system.</u>	The amendment removes references to specific telecommunications providers and legacy communication technologies in favor of technology-neutral language. This ensures that the provision remains applicable regardless of future developments in communication infrastructure while preserving the requirement for a dedicated communication link for metering purposes. It also adopts a uniform requirement for all metering installations, recognizing that the same communication security and reliability requirements apply regardless of whether the facility is directly connected to the transmission system or embedded within a distribution network.
Instrument transformers connections	2.9.1.1	Primary and secondary cablings and connections shall be secure, tamper-resistant and compliant with the requirements of the prevailing PGC on security of registered revenue <i>metering installations</i> and metering data. Any ratio-tap changing facility which cannot be secured using a	Primary and secondary cablings and connections shall be secure, tamper-resistant, and compliant with the requirements of the prevailing PGC on security of registered	The amendment clarifies the application of security requirements to primary and secondary instrument transformer circuits. While

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
		security seal or its equivalent shall not be permitted.	revenue <i>metering installations</i> and metering data. <u>Security of primary connections shall be established and maintained through documented verification during installation, commissioning, and maintenance activities, which may include photographs, inspection records, or other equivalent means.</u> <u>Secondary cablings and associated metering connections shall be provided with appropriate security seals or equivalent tamper-evident measures.</u> Any ratio-tap changing facility which cannot be secured using a security seal or its equivalent shall not be permitted.	primary connections are generally not suitable for physical sealing, their security may be established and maintained through documented verification during installation, commissioning, and maintenance activities. This provides a basis for detecting unauthorized modifications and verifying the integrity of the metering installation over its service life. The amendment further clarifies that security sealing or equivalent tamper-evident measures apply to secondary metering circuits and associated connections, which are more susceptible to unauthorized access and potential metering interference. The requirement for ratio-tap changing facilities to be sealable is retained to preserve metering integrity and prevent unauthorized changes to metering parameters.

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
				Note: The proposed revision also takes into consideration the recommendations of the PEMC Independent Auditors in the 4th Review of Metering Installation Arrangements (RMIA).
Conduit Systems	2.9.1.2	All wiring from the instrument transformers' secondary terminal box to the meter installation enclosure (meter box) shall be placed in a rigid conduit to ensure that the connections to cabling are secure and tamper-resistant. Conduit joints (elbow, T-connector) shall be properly sealed and secured. No secondary cabling shall be exposed and accessible to unauthorized personnel. Rigid conduit used for the instrument transformer shall be surface mounted. See Figure 4.	All wiring from the instrument transformers' secondary terminal box to the meter installation enclosure (meter box) shall be installed in rigid <u>or flexible</u> conduit to ensure that the connections <u>and</u> to cabling are secure and tamper-resistant. <u>Flexible conduit, where used, shall be of heavy-duty industrial type and installed with appropriate fittings and mechanical protection.</u> Conduit joints (elbow, T-connector) shall be properly sealed and secured. No secondary cabling shall be exposed or accessible to unauthorized personnel. Rigid conduits used for the instrument transformer secondary wiring shall be surface mounted. See Figure 4.	The amendment provides installation flexibility while maintaining the requirements for security, tamper resistance, and protection of metering secondary circuits. Flexible conduit, such as Liquid Flexible Metallic Conduit (FLMC), is commonly used in utility and industrial installations, particularly where rigid conduit is impracticable, including applications involving vibration, equipment movement, retrofit constraints, or limited installation space, provided that suitable industrial-grade materials, fittings, and mechanical protection are used. It is likewise suggested to delete “(meter box)” and “(elbow, T-connector)” to improve clarity, avoid overly prescriptive wording, and maintain a technology-

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
				neutral provision. The term “meter installation enclosure” is already sufficiently clear and comprehensive, while “conduit joints” already encompasses the applicable conduit fittings and connection components. It is further suggested to delete “Rigid conduits used for the instrument transformer secondary wiring shall be surface mounted. See Figure 4.” since the requirement has already been covered under Section 2.7.3.6, thereby avoiding redundancy within the Manual. Note: The proposed revision also takes into consideration the recommendations of the PEMC Independent Auditors in the 4th Review of Metering Installation Arrangements (RMIA).

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
Secondary Terminal Box	2.9.1.3	Secondary Terminal Box Secondary terminal boxes of the current transformers and voltage transformers shall be sealed and placed as far as practicable to ensure the detection of unauthorized access to the instrument transformer connections. See Figure 1.	Secondary Terminal Box Secondary terminal boxes of the current transformers and voltage transformers shall be sealed and placed as far as practicable to ensure the detection of unauthorized access to the instrument transformer connections. See Figure 1.	The provision is no longer necessary as security requirements for instrument transformer secondary circuits and connections are addressed under Section 2.9.1.1. As secondary terminal boxes form part of the instrument transformer secondary connection assembly, a separate sealing requirement duplicates existing security provisions. Furthermore, the objective of facilitating the detection of unauthorized access is already addressed through the proposed security and tamper-evident requirements under Section 2.9.1.1.
Meter Enclosure	2.9.1.4 2.9.1.3	All meters, test links, and communication equipment shall be contained within a meter enclosure similar to Figure 5. a. Meter Enclosure Requirements The meter enclosure shall comply with the following requirements: i. xxx	All meters, test links, and communication equipment shall be contained within a meter enclosure similar to Figure 5. a. Meter Enclosure Requirements The meter enclosure shall comply with the following requirements: i. xxx	

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
		ii. xxx iii. Persons other than the meter service provider shall not be given access to the meter enclosure. iv. The meter enclosure shall be padlocked and sealed as far as practicable in a manner approved by the MO. v. xxx	ii. xxx iii. <u>Access to the meter enclosure by persons other than the Metering Service Provider shall only be allowed under MSP control or supervision.</u> Persons other than the meter service provider shall not be given access to the meter enclosure. iv. The meter enclosure shall be padlocked and sealed as far as practicable in a manner approved by the MO <u>secured using padlocks, security seals, or equivalent tamper-evident measures, as determined by the MSP.</u> v. xxx	iii. The amendment introduces operational flexibility while maintaining security control. The original absolute restriction does not account for legitimate access by authorized personnel, such as auditors or regulators, when undertaken under the supervision or control of the MSP. iv. The amendment aligns responsibility for meter enclosure security with the Metering Service Provider, consistent with the PGC requirements on security of metering facilities. It also clarifies the requirement by allowing equivalent tamper-evident measures and removing ambiguity regarding requirement for MO approval and method of implementation.
Meter Test Block/Switch	2.9.1.5 2.9.1.4	xxx	xxx	Proposed renumbering in line with the proposed deletion of Section 2.9.1.3

[WESM Manual on Metering Standards and Procedures, Issue No. 16.0]				
Title	Clause	Provision	Proposed Amendment	Rationale
Meter Seals and Padlock	2.9.1.6 2.9.1.5	xxx	xxx	Proposed renumbering in line with the proposed deletion of Section 2.9.1.3
Metering Perimeter	2.9.1.7 2.9.1.6	xxx	xxx	Proposed renumbering in line with the proposed deletion of Section 2.9.1.3

Note: For convenience, please underline and put in bold letters the proposed additions and strikethrough the proposed deletions.