



Technical Committee 2023 Annual Report

January 2023 to December 2023

MARCH 2024

This Report is prepared by the
Philippine Electricity Market Corporation –
Market Assessment Group for the WESM Technical Committee

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1.0 INTRODUCTION

Pursuant to Section 3.3.1 of the Technical Committee (TC) Market Manual¹ Issue 3.0, this Report is submitted to the PEM Board to provide the Committee's accomplishment, pending issues, and activities for the period covering January to December 2023. It shall also include the work plan of the Committee for the succeeding calendar year.

2.0 TC RESPONSIBILITIES AND MEMBERSHIP

2.1 Responsibilities

The responsibilities of the TC are set out in the WESM Rules² as follows:

- i. Monitor technical matters relating to the operation of the spot market;
- ii. Provide a report to the PEM Board on any matter of a technical nature relating to any WESM member which in the reasonable opinion of the TC causes:
 - a. That WESM Participant to be unable to comply with the WESM Rules; or
 - b. Unintended or distortionary effects to the operation of the WESM;
- iii. Assist the PEM Board by providing expertise in relation to:
 - a. Information technology;
 - b. Metering technology and metering data; and
 - c. Any other matter of a technical nature relating to the spot market;
- iv. From time to time if the TC in its discretion deems necessary or appropriate, propose amendments to the WESM Rules in relation to technical matters, in accordance with chapter 8 with a view to:
 - a. Improving the efficiency and the effectiveness of the operation of the spot market; and
 - b. Improving or enhancing the prospects for the achievement of the WESM objectives; and
- v. Assist the Rules Change Committee in relation to its assessment of proposals of a technical nature to amend the WESM Rules under chapter 8.

¹ Section 3.3.1 of the Technical Committee Market Manual – The TC shall prepare an Annual Report to be submitted to the PEM Board not later than three (3) months from the end of the calendar year. The report shall cover the Committee's accomplishments and pending issues and activities for the stated period. It shall also include the work plan of the Committee for the succeeding calendar year.

² WESM Rules Clause 1.7.2. *Responsibilities of the Technical Committee*

In addition, the TC is also tasked to conduct technical reviews and studies pursuant to the guidelines³ set forth in the TC Market Manual.

2.2 Membership

Pursuant to Section 8.1 of the WESM Manual on Guidelines Governing the Constitution of the WESM Governance Committees Issue 50, the TC shall consist of seven (7) members:

Composition	PEM Board-Appointed Member/Representative	Date of Appointment
Three (3) Independent Members	Mario R. Pangilinan	<ul style="list-style-type: none"> March 2022 to present (as Chairperson) November 2021 to February 2022 (as Member)
	Jaime V. Mendoza	<ul style="list-style-type: none"> December 2022 to present
	Wilbert Rey D. Tarnate	<ul style="list-style-type: none"> March 2023 to present
One (1) Member representing the System Operator	Ermelindo R. Bugaoisan Jr.	<ul style="list-style-type: none"> August 2018 to present
One (1) Member representing the Market Operator	Edwin N. Mosa – Principal Member Cyril Recto S. Calub – Alternate Member	<ul style="list-style-type: none"> January 2023 to present
One (1) member representing the Generation Sector registered under the WESM Rules	Daniel H. Valeriano, Jr. – Principal Member Dennis L. Enciso – Alternate Member	<ul style="list-style-type: none"> May 2023 to present
One (1) member representing the Distribution Sector registered under the WESM Rules	Froilan J. Savet – Principal Member Danilo C. Bagtasos – Alternate Member	<ul style="list-style-type: none"> May 2023 to present

³ WESM-TCMM-003 Section 4.3 *Procedures*

In performing its responsibilities, the TC conducted regular monthly meetings and special meetings. For 2023, the TC conducted twelve (12) regular meetings and various special meetings. The TC conducted its meetings and discussions in an alternate manner either face-to-face or online (via MS Teams).

3.0 TC ACCOMPLISHMENTS FOR 2023

3.1 TC 2022 Annual Report and 2023 Work Plan

On 24 March 2023, the TC submitted its 2022 Annual Report and 2023 Work Plan to the PEM Board, for the PEM Board's information.

In August 2023, during the conduct of the TC Regular Meeting, the TC discussed the reprioritization of its tasks in view of additional tasks and responsibilities brought about by the following:

- Designation of TC as the Interim Grid Management Committee (IGMC)
- Assigning TC to facilitate and approve the entry and participation of Third-Party Service Provider (TPSP) through an accreditation process duly approved by the ERC, to conduct testing according to the accepted standards and procedures and accreditation as Ancillary Services (AS) Provider specifically for System Operator-owned Energy Storage System
- Functioning as a member of the Performance Assessment and Audit Team for the Operations of the Transmission Network Provider and System Operator (PAAT-TNPSO)

With this, the TC submitted a revised 2023 Work Plan to the PEM Board on 15 August 2023.

3.2 Study on the Implementation of Day-ahead Market in the WESM

The TC conducted a preliminary study on Day-ahead Market which aims to encourage interests and discussions on the subject among market participants, service providers, and WESM Governance Committees to arrive at a consensus on the future design of the market in the next five to ten years.

The TC, as instructed by the Office of the Chief Governance Officer (OCGO), presented the results of their study to the PEM Board during its meeting on 25 January 2023. The TC recommended the conduct of a more detailed feasibility study with the following scope of work:

1. Determination of suitable day-ahead market design considering local conditions and current developments using historical data, system simulations, and cost-benefit analyses
2. Review and update of market policies, regulations, rules, and procedures that will be affected by, or will influence the implementation
3. Cost estimate of implementation including but not limited to information system changes, consultancy, training, and system impact studies
4. Project implementation and transition plans and schedules covering selection of consultants, procurement of systems, acceptance testing, operator/participant training, limited live dispatch, and commercial operations

In addition, the TC further recommended the early introduction of a day-ahead bilateral scheduling prior to the implementation of the DAM which may provide key advantages of day-ahead preparations and offer insights into the appropriate design and development of the DAM.

Noting the PEM Board's instruction for the TC to proceed with its recommendations, the TC conducted a consultation meeting with DOE Undersecretary Rowena Guevarra and with the DOE-EPIMB on 08 February 2023 to solicit inputs from the policy-making body on the subject matter.

Moreover, the TC submitted its comments on the draft Terms of Reference for the Market Design and Operations Review (MDOR) project of PEMC last 14 July 2023. The MDOR project aims to (1) Review the Enhanced WESM Design and Operations Implementation and (2) Conduct a Feasibility Study on the Implementation of Day-ahead Market through the engagement of an Independent Consultant. The TC will continue to assist in the activities related to the MDOR project subject to the project's timeline.

3.3 Review of the Adequacy of Rules and Procedures for Battery Energy Storage System (BESS) Participation in the WESM

The TC conducted a review on existing relevant WESM Rules and procedures to determine if these are adequate to support the participation of BESS and other ESS in the WESM. Based on the review and assessment, the TC concludes that the existing WESM Rules and relevant Manuals need further revisions and update to properly accommodate the ESS' participation in the WESM and into the Grid. The same conclusion may apply to the current provisions of the PGC and the PDC. Given the increasing interest in BESS and ESS, the TC believes that the following recommendations should be considered with urgency by the concerned organizations:

- Modify the WESM rules and procedure recognizing ESS operator as a new trading participant in the market with uniform treatment as load and generation resources.
- Update the PGC and PDC to provide the minimum standards for connection and operation of ESS in the grid which recognize their capabilities and limitations.
- Review policies and regulations relating to ESS recognizing their potential contribution to market efficiency, grid reliability, and the environment.

The TC, as instructed by the OCGO, presented the results of the study to the DOE-Electric Power Industry Management Bureau (EPIMB) on 08 February 2023. The TC likewise submitted its comments on the draft Department Circular entitled “Prescribing the Policy for Energy Storage System in the Electric Power Industry Amending DOE DC No. DC2019-08-0012”.

The TC also participated in the technical write shop on ERC’s regulatory framework on ESS last 21 February 2023 and subsequently submitted to the ERC the subject study last 27 February 2023 for information and consideration.

3.3.1 Provide Inputs and/or Comments in relation to the ERC’s Consultancy Project regarding Update/Revisions to the PGC and PDC

The TC participated in the ERC’s Focus Group Discussion (FGD) on PGC and PDC last 28 February 2023 and 01 March 2023, respectively, in line with the ongoing efforts of the ERC to update the PGC and PDC particularly to accommodate Inverter Based Resources (IBRs), including BESS and PV plants.

The consolidated comments of PEMC, including comments from the TC and Market Surveillance Committee (MSC), were submitted to the ERC last 14 March 2023 in addition to the PEMC comments raised during the said FGDs.

The comments of the TC were focused on the adoption of international standards in the PGC update and should be balanced by local considerations to ensure their compatibility with the current industry practices. By compatibility, the TC referred to the feasibility of implementation to comply with requirements of new standards by grid users and the enforceability of such compliance by the Transmission Network Provider (TNP) and other authorized agencies.

3.3.2 Provide Inputs to the PEMC-Energy Transition Program (ETP) Study on the Establishment of Framework for the Coordinated Operations and Governance of Battery Energy Storage Systems (BESS) and Energy Storage Systems (ESS)

The TC submitted its inputs and comments dated 12 July 2023 on the following documents as provided by the Consultant (Nel Consulting Limited) in relation to the Phase 2 (hybrid) of the BESS Study Project sponsored by the United Nations Office for Project Services (UNOPS) – ETP:

- WESM Rules incorporating the proposed changes for Phase 1 and Phase 2 of the study
- WESM Rules Change Log summarizing all the changes in the WESM Rules
- Updated final report

The TC likewise held a coordination meeting with UNOPS-ETP dated 20 July 2023 to discuss relevant study updates and possible next steps of the study. During the coordination meeting with the Consultant, the TC recommended to refer the study to or consult with IEMOP considering that the study may involve changes in the Market Dispatch Optimization Model (MDOM) and Market Network Model (MNM).

Moreover, a coordination meeting attended by representatives from the TC, IEMOP, and NCL/UNOPS-ETP was held last 13 September 2023 which intends to harmonize the ETP study recommendations with IEMOP's proposed rules changes.

3.4 Request for Technical Review and Studies

3.4.1 Study on Biomass Plants as Must Dispatch

In relation to the promulgation of the Department Circular (DC) No. 2022-10-0031 entitled *Declaring all Renewable Energy Resources as Preferential Dispatch Generating Units in the Wholesale Electricity Spot Market Amending for this Purpose Department Circular No. DC 2015-03-001* which expanded the applicability of "Preferential Dispatch" to all types of RE resources to include dispatchable (i.e., not intermittent) such as impounding hydro, geothermal, and biomass power plants, the OCGO requested the TC to conduct a study whether the biomass plants should be categorized as "must dispatch" as prescribed in the subject DC.

Based on the TC's understanding, the study requested is only a part of a blanket policy by the DOE. This is the reason why the TC opted to offer its analysis and understanding of the shift in policy of DOE and how it can be addressed in WESM governance and operations.

The general observation of the TC is that both 2015 and 2022 circulars are inconsistent with the RE Act in the application of the phrases "must dispatch" and "dispatch priority". The DOE circular DC2015-03-0001 differentiated "Must Dispatch" and "Dispatch Priority" with an interpretation of Sections 20 and 7 of the RE Act. On the other hand, DC-2022-10-0031 used the term "Preferential Dispatch" to expand the applicability to all types of RE resources including those using emerging technologies. As of the submission of this report, the TC had no knowledge of any amendments that may have been made to the RE Act to accommodate the two policies mentioned.

The TC believes that it would be more productive to support DOE in its mandate through the following suggestions and recommendations that will help WESM and the power industry in general to prepare for the high level of penetration of RE resources in the WESM:

1. Clarify concepts of dispatchability and variability.
2. Specify Dispatch Priority in the WESM.
3. Take advantage of the 5-minute dispatch interval in the WESM.
4. Study alternative methods to determine short-term reserve requirements.
5. Take advantage of ESS technologies to improve RE dispatchability.
6. Measure and monitor long-term generation reliability.

Furthermore, the TC understands the policy of the State to support the Climate Change Agenda and to insulate the country against any disruption in the global energy supply chain. The TC believes that the best way forward is to prepare for the increased penetration of RE resources should the DOE succeed in their policy objectives.

3.4.2 DOE's Request for Evaluation and Investigation of the Red and Yellow Alert Status of the Luzon Grid

In line with the Department of Energy's (DOE) letter of request dated 17 May 2023 to PEMC, through the Market Surveillance Committee (MSC) and the TC, to conduct an evaluation and investigation if ancillary services were used or were adequate during the 08 May 2023 incident, the TC conducted the following:

- TC Special Meeting dated 14 June 2023 attended by representatives from the Market Operator, System Operator, and the MSC.
- TC Special Meeting with and MSC meeting discussion dated 22 June 2023 to discuss the draft reports.

From the information provided by the MO and the SO, the TC concluded the following:

1. The reserve ancillary services at the time of the incident were inadequate, specifically the available Contingency Reserve which at that time was 0 MW. A fraction of the Contingency Reserve is needed to automatically respond to sudden loss of generation to arrest drop in system frequency which triggers under-frequency Automatic Load Dropping (ALD) and in worse scenarios cascaded outages of other thermal plants causing system collapse.
2. Given the absence of much needed Contingency Reserve, the SO did not have a choice but to rely on the ALD scheme to keep the frequency at an acceptable value to protect the grid from deteriorating to a cascaded outage scenario or total system collapse. The utilization of ancillary services when there is none becomes irrelevant.

In addition, the following points were clarified in the report which was submitted to the DOE on 04 July 2023:

- Adequacy of operating reserves depends on available reserve capacities and the responsiveness of such capacities to system power imbalances.
- Operating margins do not equate to available operating reserves unless all the spare capacities in the said margin are responsive to power imbalances in the grid.
- Providers of reserve ancillary services must be pre-qualified through dynamic testing of their generating units and equipped with dynamic recording facilities to monitor real-time response and measure dynamic tests results.
- Unlike energy, the supply and delivery of reserve ancillary service cannot be measured by existing smart revenue meters because of the dynamic response requirements to power imbalances.
- The concept of reserve market is to treat reserve ancillary services as a traded commodity which requires strict standards and processes from market offer submission, dispatch, measurement of delivery, and settlement.
- The discrepancy between existing SO reserve AS practices and the Philippine Grid Code (PGC) 2016 Edition should be addressed with the view of a reliable system (grid) operations and an efficient reserve market.

The TC likewise highlighted that both Committees, the TC and MSC, have very limited time and resources to study these points in greater detail than what the report provides. A short list of studies and investigations were recommended to allow for validation and finding the way forward. Hopefully, some of these recommended study areas are now being undertaken or are already completed by the concerned organizations.

3.4.3 Review on the Possible Consolidation of Electric Cooperatives (EC)

On 30 August 2023, PEMC President Elvin Hayes E. Nidea requested the TC to review consolidating ECs to reduce the number of ECs with the objective of making them more efficient and financially stable.

With this, the TC submitted a report to requesting party on 12 December 2023. The said report aims to review applicable rules and policies on EC consolidation and provide examples of current practices where ECs consolidate their processes and requirements.

Based on the results of the TC's review of applicable rules, policies on ailing ECs, the consolidation of ECs may not be the best solution to resolve issues of those ECs who failed to meet various performance parameters and standards set by NEA. The TC likewise highlighted the commendable practices among ECs who proactively work together in sourcing common requirements such as demand aggregation for Competitive Selection Process (CSP) purposes and joint procurement of material supplies for the ECs. Such practices can be implemented by other ECs.

3.5 Interim Grid Management Committee (IGMC) Activities

In a resolution issued by the ERC on 03 May 2023, ERC Resolution No. 04, Series of 2023, entitled *A Resolution Constituting an Interim Grid Management Committee (GMC) for a specific purpose and Perform Limited Functions Under the Philippine Grid Code*, the ERC constituted the IGMC with the PEMC TC as its initial core members. With the TC are representatives from the ERC's Regulatory Operations Service (ROS), and the Market Operations Service (MOS).

In the said resolution, the IGMC are mandated to perform the limited following limited functions as provided under the PGC:

1. Monitor the implementation of the PGC;
2. Monitor, evaluate, and make recommendations on Grid planning and Grid operations;
3. Review and recommend standards, procedures, and requirements for Grid connection, operation, maintenance, and development; and
4. Other tasks that the commission may specifically delegate other than the regulatory power of the Commission.

3.5.1 Investigation of Grid-related Significant Incidents

In compliance with the subject resolution issued by the Commission, the TC, as the IGMC, conducted the following investigations on various grid related significant events:

Report Title	IGMC Conclusion/Recommendations
<p>Review of Significant Incident Reports (SIR) Submitted for Panay and Negros Sub-Grids occurred last 27-29 April 2023</p> <p>Submitted by TC/IGMC to ERC, cc PEM Board of Directors, on 26 May 2023</p>	<p>The IGMC focused their review on the major system disturbances particularly on the following:</p> <ol style="list-style-type: none"> 1. Multiple tripping of generating units in the Panay Sub-grid 2. Tripping of Bacolod-Barotac Viejo 138-kV Submarine Cable Interconnection 3. Multiple tripping of generating units in Negros and Panay Sub-Grids 4. Reduction of solar plants output and multiple tripping of generating units in Negros and Panay Sub-grids <p>Based on the IGMC's review, the IGMC recommended for the SO to do the following activities:</p> <ol style="list-style-type: none"> 1. Have a more specific and urgent "to-do" list than what was mentioned in the relevant SIR (i.e., actions, measures, and recommendations taken by SO/NGCP) to avoid or prevent the recurrence of these system disturbance. 2. Conduct a detailed investigation and comprehensive study of voltage collapse along Negros-Panay interconnection. 3. Review and upgrade protection systems for sub-transmission lines. 4. Investigate and test conventional power plant reactive and voltage controls and variable renewable energy

Report Title	IGMC Conclusion/Recommendations
	<p>(VRE)/Inverter-Based Resources (IBR) system performance.</p> <p>5. Have a reserve allocation scheme for Negros and Panay Sub-grids.</p> <p>The IGMC believes that with these investigations and studies, SO could be able to act more decisively and confidently on the corrective measures to similar incidents in the future. If acceptable, SO should come up with an implementation plan that will accomplish this undertaking (including corrective actions) within six (6) months.</p>
<p>Review of Masinloc Units 1 and 2 Forced Outage last 08 May 2023 incident</p> <p>Submitted by IGMC to ERC cc the PEM Board of Directors on 23 June 2023</p>	<p>The investigation of the TC focused on the loss of 618 MW of generation and the absence of Contingency Reserve which resulted in under-frequency Automatic Load Dropping (ALD) in the whole Luzon Grid.</p> <p>The following are the findings and recommendations of the IGMC on their investigation:</p> <ol style="list-style-type: none"> 1. The protection system of Masinloc-Bolo 230-kV Line 2 performed correctly by clearing the fault within the required time. (PGC GPR7.3.2.2) 2. The tripping of Masinloc Units 1 and 2 should be more closely investigated given that the line fault mentioned in item 1 above was external to the plant and was properly cleared. (PGC GPR7.5 Generating Plant Control and Protection) 3. Declaration of Red Alert should have been done as early as 1000H given the absence of Contingency Reserve (see Day Ahead Ancillary Service Schedule of SO/NGCP for 08 May 2023) 4. Operating Margins and Net Operating Margins do not represent the available operating reserve as explained in the DOE report. This may lead to errors in the issuance of warning and notices. 5. The sourcing of reserve Ancillary Service through Ancillary Services Procurement Plan (ASPP) or reserve market should be facilitated to minimize ALD and Manual Load Dropping (MLD) incidents during loss of generation. 6. Medium- and long-term monitoring and enforcement of generation reliability should be pursued through strict implementation of the Grid Operating and Maintenance Program (GOMP), regular unit outage/availability

Report Title	IGMC Conclusion/Recommendations
	reporting, and annual loss of load probability (LOLP) calculation.

3.5.2 Performance Assessment and Audit Team for the Operations of the Transmission Network Provider and System Operator (PAAT-TNPSO)

In a Department Order, DO No. 2023-06-0018, released by the DOE on 08 June 2023 entitled *Creating the Performance Assessment and Audit Team for the Operations of the Transmission Network Provider and System Operator (PAAT-TNPSO) and Providing for its Responsibilities*, the TC, as the IGMC, was designated as a member of the PAAT-TNPSO, with respect to the PGC.

In 2023, the IGMC participated in the following activities related to its assignment as PAAT-TNPSO member:

Date	Activity
27 June 2023	PAAT-TNPSO Kick-off Meeting
21 July 2023	PAAT-TNPSO Work Plan Meeting
24 August 2023	PAAT-TNPSO Audit Meeting
12 September 2023	Audit Workshop
13 October 2023	PAAT-TNPSO Special Meeting

Currently, the IGMC is waiting for the DOE's further instructions on the succeeding activities related to the subject audit.

3.6 Review of Proposed Amendments to the WESM Rules and Manuals

As part of its mandates under the WESM Rules 1.7.2⁴, the TC reviewed and submitted to the RCC its comments to two (2) proposed amendments below:

- i. Proposed Amendments to the WESM Rules and the Dispatch Protocol Manual regarding the Maximum Available Capacity (ORCP-WR-WM-22-08).

⁴ WESM Rules 1.7.2 – TC Responsibilities- Assist the Rules Change Committee (RCC) in relation to its assessment of proposal of a technical nature

- ii. Proposed Amendments to the WESM Rules and WESM Manual on Dispatch Protocol regarding Enhancements and Updating of the System Operator's Re-Dispatching, Reporting and Market Intervention/Suspension Procedures (ORCP-WR-WM-22-14)

The TC likewise attended two (2) RCC Meetings to participate in the deliberation of various proposed amendments.

4.0 ONGOING ACTIVITY

4.1 4th Review of Metering Installations and Arrangements (RMIA)

As part of the TC's responsibilities as specified in Section 3.1.1 (b) of the Technical Committee Market Manual Issue 3.0 (WESM-TCMM), particularly, to assist the PEM Audit Committee (PAC) in the conduct of Audits (i.e., 4th RMIA) in matters needing technical expertise, the TC submitted their comments to the draft 4th RMIA inception report.

The TC will continue to participate in the activities of the 4th RMIA, in coordination with the PAC, subject to the activity's timeline.

4.2 Review and Proposed Revision to the WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures

In relation to the TC's activity regarding review and proposed revisions to the WESM Manual on Market Network Model Development and Maintenance – Criteria and Procedures, the TC consulted the Market Operator regarding its intention to revise the MNM Manual and highlighted the following objectives:

- To demonstrate, by example, how WESM documents can be improved to make them easier to read, more informative and useful for WESM governance and operation.
- To serve as guide for other WESM Governance Committees (WGC), the Philippine Electricity Market Board (PEMB), and market participants towards improving the operation and governance of the WESM.

IEMOP then provided its initial insights and agreed to co-write the proposal for submission to the Rules Change Committee (RCC). Further, the TC consulted with the Market Assessment Group –

Rules Review Division (MAG-RRD) regarding the relevant RCC processes and possible next steps for the TC.

Considering the revised TC 2023 Work Plan, this activity was moved to 2024 to accommodate urgent tasks assigned to the TC as IGMC

4.3 Review of the threshold for price substitution (Price Trigger Factor)

In accordance with Clause 6.2.4 of the WESM Manual on Price Determination Methodology (WESM-PDM) Issue 3.0, the WESM TC shall (1) evaluate the results of the assessment of the application of the price trigger to be conducted by PEMC and (2) determine whether a change in the value of the price trigger is warranted.

Noting the ongoing assessment by PEMC on the subject, the TC will provide its evaluation of the assessment once accomplished. The results of the evaluation of the price trigger factor (PTF) will be submitted to the Commission by Q2 of 2024.

5.0 2024 TC WORK PLAN

Annex A provides details of the TC's program of activities for 2024 consistent with the PEM Board-approved PEMC's Corporate Strategic Plan for 2024-2026.

Submitted by:

TECHNICAL COMMITTEE

[signed]

MARIO R. PANGILINAN
Chairman, Independent

[signed]

JAIME V. MENDOZA
Member, Independent

[signed]

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Member, Independent

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ERMELINDO R. BUGAOISAN, JR.
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FROILAN J. SAVET
Member, Distribution Sector
Manila Electric Company (MERALCO)

TECHNICAL COMMITTEE 2024 WORK PLAN

March 2024

The table below provides the TC's 2024 Work Plan consistent with the PEM Board-approved 2024-2026 Corporate Strategic Plan of PEMC and various directives from the Department of Energy (DOE) and the Energy Regulatory Commission (ERC).

Legend: Submission/Completion of Report/Inputs/Comments
 Regular Activity/Preparatory Activities

No.	Activity	Output	Indicative Timeline				Considerations/ Remarks
			Q1	Q2	Q3	Q4	
Continuing TC Activities/Studies							
1	PEMC's Concept Review of Day-ahead Bilateral Scheduling (DABS)	Provide comments on PEMC's concept review of implementing Day-ahead Bilateral Scheduling (DABS) as a prerequisite to DAM implementation.					<ul style="list-style-type: none"> • The MDOR project was deferred in consideration of the comments received in the Terms of Reference (TOR). <ul style="list-style-type: none"> ○ 2025 – engagement of independent Consultant ○ 2026 – conduct of study proper • The Secretariat, in consultation with the TC, will undertake the concept review as part of preparatory activities prior to resuming the MDOR project.
2	Annual Assessment of the Threshold for the Implementation of Price Substitution Methodology (PSM)	Provide comments on PEMC's outputs during the conduct of study for PEMC's compliance with ERC Directives.					<p>Ongoing activity of PEMC. PEMC will submit one full report to the ERC which will cover the following:</p> <ol style="list-style-type: none"> 1. Congestion issues experienced by the regions considering that the main

No.	Activity	Output	Indicative Timeline				Considerations/ Remarks
			Q1	Q2	Q3	Q4	
							<p>driver for the application of PSM is the possibility of a spring-washer effect during extraordinary network congestion.</p> <p>2. Assessment of price trigger factor in various regions covering the transition period from 29 December 2020 to 28 December 2023.</p>
3	DOE's assignment for TC to facilitate and approve the entry and participation of Third-Party Service Provider (TPSP) through an accreditation process duly approved by the ERC, to conduct testing standard and procedures and accreditation as Ancillary Services Provider for SO-owned ESS.	Submit a proposed accreditation process on the entry and participation of TPSP for testing of SO-owned ESS					
		Contingent on the accreditation process duly approved by the ERC					<ul style="list-style-type: none"> Contingent on the accreditation process duly approved by the ERC and/or as further directed by DOE
TC Regular Activities							
4	TC 2023 Annual Report and 2024 Work Plan	Submission to the PEM Board and publication in the PEMC website					
5	Assist in the Conduct of Regular Audits for the WESM: <ul style="list-style-type: none"> Review of Metering Installations and Arrangements (RMIA) 	Assist the PEM Audit Committee (PAC) in the conduct of activities for RMIA, as required. Submit comments/suggestions on the report, as required.					<ul style="list-style-type: none"> Subject to the audit timeline

No.	Activity	Output	Indicative Timeline				Considerations/ Remarks
			Q1	Q2	Q3	Q4	
6	Submit comments to the following as requested or required within specified timelines: <ul style="list-style-type: none"> • RCC Rule Change Proposals • DOE Circulars • ERC Issuances 	Provide comments as necessary and/or applicable					• As applicable
7	Submit proposed amendments to the RCC as a result of market studies or best practice recommendations						• As applicable
8	Conduct Review and Studies as requested through the TC Request for Study or Review	Report/Response to the Request for TC Study/Review					• As applicable
9	Attend PEMC events and trainings	Attendance in PEMC Membership meetings, WCO Summit, and trainings					• As scheduled
10	Regular conduct of TC Meetings (every 1 st Wednesday of the month, alternate face-to-face and online)	Participation in TC Meetings					• As scheduled
TC as Interim Grid Management Committee (IGMC)							

No.	Activity	Output	Indicative Timeline				Considerations/ Remarks
			Q1	Q2	Q3	Q4	
11	Conduct of IGMC Meetings, as necessary	A. Minutes of Meetings, Resolutions, as necessary					
		B. Attendance/participation in IGMC-related tasks or meetings, as may be requested by ERC or DOE					
12	Submit reports, comments, and/or proposed amendments, as required or as necessary	A. IGMC Report on Significant Grid-related Incidents					• As scheduled or directed by DOE or ERC
		B. Provide inputs and/or comments in relation to the ERC's consultancy project regarding update/revisions to the PGC and PDC					• Subject to the Consultant's timeline
		C. Provide comments and/or proposed amendments to ERC resolutions, etc., as required or as necessary					• As required or as necessary
		D. Proposed SIR Reporting Protocol					
		E. Other Reports or Studies, as may be directed by DOE or ERC					
13	Participate in the activities of Performance Assessment and Audit Team for the Operations of the Transmission Network Provider and System Operator (PAAT-TNPSO)	Provide inputs, as required.					• As required and subject to the project's timeline and instructions from the DOE and/or ERC.