



TECHNICAL COMMITTEE 2020 ANNUAL REPORT

January 2020 to December 2020

MARCH 2021

This Report is prepared by the
Philippine Electricity Market Corporation –
Corporate Planning and Communications Department

Contents

1.0 INTRODUCTION	2
2.0 2020 ACCOMPLISHMENTS	2
2.1 Technical Review on the Reclassification of Impounding Hydroelectric Power Plants (HEPP) as Non-Scheduled Generating Unit.	2
2.2 Technical Review on the Appropriate Classification of Run-of-River (ROR) Hydroelectric Power Plants in the WESM.....	4
2.3 RCC-TC Joint Resolution on the Interpretation of Philippine Grid Code (PGC) 2016 GRM 9.2.3.2	5
2.4 Support to PEM Audit Committee (PAC)	6
2.5 Review of Proposed Amendments to the WESM Rules and Manuals	6
2.6 Attendance to PEMC Membership Meetings and other Market Participants' Events	7
3.0 ONGOING ACTIVITIES	7
3.1 Proposed MO-SO-DU-EG Coordination Protocol	7
3.2 Proposed Framework for Battery Energy Storage System (BESS).....	8
3.3 Study on the Proposed Design for the Demand-Side Participation	9
3.4 MSC Study Request Review of the 2018 PEMC Proposed Methodology for the Determination of New Threshold for the Price Substitution Methodology.....	10
4.0 TC 2021 WORK PLAN.....	10
5.0 TC RESPONSIBILITIES AND MEMBERSHIP.....	11
5.1 Responsibilities	11
5.2 Membership	12

1.0 INTRODUCTION

Pursuant to Section 1.7.2 of the WESM Rules and Section 3.3.1 of the Technical Committee Market Manual Issue 2.0 (TCMM), the Technical Committee (TC) performed its mandate in monitoring technical matters relating to the operation of the spot market, with the PEMC-Corporate Planning and Communications (CPC) Department as its primary support unit.

In performing its responsibilities, the TC conducted regular monthly meetings and special meetings. For 2020, the TC conducted twelve (12) regular meetings and two (2) special meetings¹. With the National Capital Region placed under community quarantine since 14 March 2020 due to the COVID-19 pandemic, the TC has conducted their meetings and discussions through an online platform.

Despite the current situation, the TC was able to deliver their commitments as outlined in the succeeding section of this report.

2.0 2020 ACCOMPLISHMENTS

The Technical Committee (TC) submits this Annual Report covering the activities undertaken and accomplishments of the TC for the year 2020, and the proposed activities for year 2021.

2.1 Technical Review on the Reclassification of Impounding Hydroelectric Power Plants (HEPP) as Non-Scheduled Generating Unit.

The TC conducted a technical review on the possible reclassification of impounding HEPPs from scheduled generating unit to non-scheduled generating unit in the WESM, specifically those with contracts to provide peaking requirements. This study was requested by DOE due to instances of impounding HEPPs being dispatched during off-peak hours which affected the supply security during - peak hours.

¹ TC Special Meeting with DOE held on 16 June 2020; and TC Special Meeting No. 2020-12 held on 25 November 2020

To provide a recommendation to the said request, the TC reviewed the following:

A. Definition of a Non-Scheduled Generating Unit.

Based on the definition of a non-scheduled generating unit² in the PGC and the WESM Rules, the registered capacity of impounding HEPPs in the WESM is above the regional threshold³ for it to be qualified as non-scheduled generating unit.

B. Pivotal Supplier Index

For this study, the TC reviewed the data from 26 February 2019 to 25 May 2019, which was 2019's dry season and observed that impounding HEPPs are pivotal suppliers⁴. Hence, it is not recommended that these power plants be reclassified as non-scheduled generating units.

C. Offer Pattern

Based on data available, the offer pattern of impounding HEPPs is generally similar during peak and off-peak hours, that is why some of them were dispatched even during off-peak hours. The dispatch of impounding HEPPs during peak and/or off-peak hours, even those with contracts to provide peaking requirements, would really depend on their bidding behavior.

In view of the foregoing, the TC submitted their technical review to the DOE on 02 April 2020. The TC recommended the retention of the classification of impounding HEPPs that are currently registered in the WESM as scheduled generating plants. In order to realize better dispatch during peak hours, strategic bidding should be employed. Also, as requested by the DOE, the TC presented the results of their review to the DOE on 16 June 2020.

² A generating unit can be classified as a non-scheduled generating unit if its nameplate rating is less than one tenth of one percent (<0.1%) of the peak load in a particular reserve region, or less than ten percent (<10%) of the size of the interconnection facilities, whichever is lower.

³ In Luzon, a generating unit's capacity must be 11 MW or below to be 0.1% of Luzon's 11,344 MW peak demand in 2019.

⁴ A generating plant is considered pivotal in a region when the sum of the remaining generating plants' capacities, after excluding its capacity, is less than the total demand (including reserve requirements) in that region for the relevant trading periods. In the WESM, pivotal suppliers are typically the large generating plants.

2.2 Technical Review on the Appropriate Classification of Run-of-River (ROR) Hydroelectric Power Plants in the WESM.

Following the request of the DOE to conduct another study on the appropriate classification of run-of-river hydroelectric plants, the TC reviewed the current generating unit classifications in the WESM that are applicable to RORs, as follows:

Classification	Definition ⁵
Scheduled Generating Unit	A generating unit or a group of generating units connected at a common connection point with a nameplate rating or a combined nameplate rating of greater than or equal to 0.1% of the peak load in a particular reserve region.
Non-scheduled Generating Unit	A generating unit or a group of generating units connected at a common connection point with a nameplate rating or a combined nameplate rating of less than 0.1% of the peak load in a particular reserve region, or less than 10% of the size of interconnection facilities, whichever is lower.
Must Dispatch Generating Unit	A generating unit or group of generating units connected at a common connection point that is intermittent renewable energy resource-based, whether or not under the Feed-In Tariff system, such as wind, solar, run-of-river hydro or ocean energy with the corresponding DOE certification.

Based on the definitions in the WESM Rules, the TC remarked that the classification of a generating unit is determined based on its capacity and for renewable energy resource-based generation, its intermittency. The TC also noted that the classification of generating units as must-dispatch plants is based on the certification issued by the DOE.

For ROR plants that are capable of controlling their power generation despite having limited water storage capacity, the TC referred the DOE to its previous study on the Luzon HEPPs in 2013 wherein they recommended that plants that are considered as ROR plants which operate at a specified head, should submit the same data requirements as for an impounding HEPPs. This type of plant is currently classified in the WESM as scheduled generating units.

Finally, the TC submitted to the DOE on 27 October 2020 their opinion that plants that have the capability to manage, store, and control their output should be registered as scheduled generating units, subject to their registered capacity.

⁵ WESM Manual on Registration, Suspension and De-Registration Criteria and Procedures Issue 5.2, PEMC, 17 June 2020

2.3 RCC-TC Joint Resolution on the Interpretation of Philippine Grid Code (PGC) 2016 GRM 9.2.3.2

The TC, together with the WESM Rules Change Committee (RCC), was tasked by the PEM Board to clarify the interpretation of GRM 9.2.3.2 of 2016 Philippine Grid Code (PGC) to address the National Grid Corporation of the Philippines' (NGCP) opposition to Manila Electric Company's (MERALCO) proposed amendments to the WESM Manual on Metering Standards and Procedures (Issue 11.0 and 12.) regarding the current transformer requirements.

The TC provided to the RCC their initial comments and inputs on the matter on 21 April 2020, as follows:

- i. PGC GRM 9.2.3.2 is consistent with the WESM Metering Manual but specifying Appendix 2 may lead to strict interpretation;
- ii. PGC GRM 9.2.3.2 including its appendix should be read as a whole and in context, to give consistent, harmonious, and sensible effect to all the parts of said provision, to the extent possible;
- iii. TC fully supports the RCC's approved version of the WESM Metering Manual and is confident that this should not be interpreted contrary to the PGC. However, if some parties perceive any conflict in interpretation, the said party should seek guidance from the ERC concerning the same; and
- iv. Only the ERC has the authority to resolve, in case there is any perceived conflict in the interpretation between the PGC and the Metering Manual.

To fully discuss the views of the concerned parties, the RCC organized a coordination meeting with the TC and concerned parties on 05 May 2020. Present in the meeting were representatives from NGCP and MERALCO to present their respective positions on the matter.

After further discussions, the RCC Sub-Committee and the TC were not able to reach a common position on the interpretation of the PGC 2016 GRM 9.2.3.2. In a joint resolution published on 05 September 2020, the RCC and TC provided the following recommendations:

- i. The WESM Metering Manual should be consistent with the PGC;
- ii. Any enhancements to the WESM Metering Manual may be introduced during the public consultation to be conducted by the DOE to ensure consistency with the PGC and to support the interest of the industry; and

- iii. Any clarifications and/or proposed enhancements on the PGC should be raised by the concerned entities, stakeholders and other parties to the ERC.

2.4 Support to PEM Audit Committee (PAC)

The TC provided assistance to the PEM Audit Committee (PAC) in the selection of External Auditor for the joint conduct of the 7th Market Operational (MO) Audit and 4th Review of Metering Installations and Arrangements (RMIA).

The 7th MO Audit and 4th RMIA officially started in 15 May 2020 and is expected to be completed by June 2021.

2.5 Review of Proposed Amendments to the WESM Rules and Manuals

As part of its mandate under the WESM Rules 1.7.2⁶, the TC reviewed the following proposed amendments and submitted its comments to the RCC to four⁷ (4) of the proposed amendments below:

- i. Proposed Amendments to the WESM Manual on Registration, Suspension, and De-Registration Criteria and Procedures for General Enhancements to the Application Process of New WESM Members;
- ii. **Proposed Amendments to the WESM Manual on Metering Standards and Procedures (Issues 11.0 and 12.0) regarding Current Transformer Requirements;**
- iii. **Proposed Amendments to the Guidelines Governing the Constitution of the PEM Board Committees, Issue 3.0 to Harmonize with DOE Circulars on WESM Governance;**
- iv. Proposed Abolishment of Relevant WESM Manuals in View of the Implementation of Enhanced WESM Design and Operations;
- v. Proposed Amendments to the WESM Manual on Registration, Suspension, and De-Registration Criteria and Procedures to Clarify Bilateral Contracts Accounted for In Settlements;

⁶ WESM Rules 1.7.2 – TC Responsibilities- Assist the Rules Change Committee (RCC) in relation to its assessment of proposal of a technical nature

⁷ Proposed Amendment Items ii, iii, vi and viii

- vi. **Proposed Amendments to the WESM Manual on Load Forecasting Methodology for the Inclusion of the Procedures for Preparation and Updating of Nodal Load Distribution Factors;**
- vii. Proposed Amendments to the WESM Rules regarding the Authority of the ERC to Issue Rules on the Distribution of Net Settlement Surplus or Deficit;
- viii. **Proposed Amendments to the WESM Rules and WESM Manual for the Implementation of ERC Resolution No. 07 Series of 2019 entitled “A Resolution Adopting Amendments to the Rules for the Distribution of Net Settlement Surplus”;**
- ix. Proposed Amendments to the WESM Manual on Billing and Settlement regarding Bilateral Contract Quantity Declaration; and
- x. Proposed Amendments to the WESM Rules and WESM Manual on Billing and Settlement regarding Enhancements to Prudential Requirements Procedures.

2.6 Attendance to PEMC Membership Meetings and other Market Participants’ Events

The TC attended and actively participated in the following events organized by PEMC and other stakeholders:

1. PEMC Annual General Membership Meeting held on 29 July 2020;
2. WESM Compliance Officers Summit held on 21 to 25 September 2020; and
3. IEMOP’s Market Participants’ Updates held on 03 July 2020 and 25 November 2020

3.0 ONGOING ACTIVITIES

3.1 Proposed MO-SO-DU-EG Coordination Protocol

The TC continued its task to identify potential technical issues that may affect the operation of WESM Mindanao and to recommend possible solution to address such potential issues specifically on the participation of embedded generators in the WESM.

DOE Circular No. 2019-02-0003 entitled Providing for the Framework in Governing the Operations of the Embedded Generators (EG) specified that a protocol be established for the dispatch of EGs in the WESM for the provision of energy and ancillary services.

With this, the TC prepared a conceptual diagram on a proposed coordination and communication protocol among the Market Operator (MO), the System Operator (SO) and the Distribution Utilities (DU) in light of EG's participation in the WESM. In March 2020, the TC conducted an online survey and collected inputs from concerned market participants to the said conceptual diagram for the coordination protocol.

Based on the survey results, the TC prepared the draft protocol which aims to provide and establish the following:

1. Roles of the MO, the SO, host DU and EG in the WESM;
2. Process and coordination activities between and among the MO, the SO, host DU and EG with regard to the participation of Embedded Generators in the WESM; and
3. Guide in the process for the dispatch of Embedded Generators in the WESM.

Noting that the NGCP has a parallel effort in developing a protocol for the EGs providing Ancillary Services, the TC requested for the NGCP's approval to include NGCP's Coordination Protocol for Provision of Ancillary Services as Section 8 of the TC's document. This is to provide a complete process on the coordination and communication of required information especially for EGs providing energy and/or ancillary services. On 17 December 2020, NGCP approved the use of their document for inclusion in the proposed TC Coordination Protocol through its issuance of an approved Standard Release Form.

The TC is expected to submit the proposed Coordination Protocol to the PEM Audit Committee (PAC) by the first quarter of 2021. This is part of the TC's commitment to the PAC to develop a proposal for the efficient interfaces among the concerned stakeholders in preparation for the implementation of WESM in Mindanao.

3.2 Proposed Framework for Battery Energy Storage System (BESS)

The TC continued its assessment on the current operations of Battery Energy Storage System (BESS) in the Philippines. The TC reviewed the following to provide a framework for BESS participation in the WESM:

1. Existing Policies and Regulatory Issuances
2. Existing Provisions in the WESM Rules and Market Manuals
3. Status of BESS Projects in the Philippines

The TC decided to focus on stand-alone BESS considering that majority of BESS projects on-application fall under this category. Also noting that these BESS projects are intended to provide ancillary services (AS), the TC will include in the proposed framework BESS providing AS in the reserve market and prior to reserve market.

The TC will continue the development of the said framework until the second quarter of 2021.

3.3 Study on the Proposed Design for the Demand-Side Participation

As part of its 2020 workplan, the TC is expected to come up with a proposed framework on demand-side participation, specifically demand-side bidding and as applicable, rules change to implement this new market feature. Based on the review conducted by the TC on the existing WESM Rules and Market Manuals, the framework for demand-side bidding is already in place but in order to address if demand-side bidding is applicable in the Philippine setting, the TC conducted online discussions with market participants that may benefit from this.

On 14 October 2020, the TC invited the Retail Electricity Suppliers Association (RESA) representatives to an online discussion to gather inputs to further gauge the interest and preparedness of the stakeholders on demand-side bidding in the Philippines. RESA representatives opined that DSB will be empowering and beneficial, provided that all policies and mechanism is clear and streamlined. The TC also took note of a couple of issues and concerns raised in the meeting.

In line with the ERC's directive to provide a review on the interest and preparedness of participants on demand-side bidding, the TC will prepare a consultation paper which aims to:

1. Provide information and background on demand-side bidding; and
2. Gather information on the interest and preparedness of market participants on demand-side bidding

The TC will finalize the consultation paper by first quarter of 2021 and the actual consultation is expected to be rolled out by March 2021.

3.4 MSC Study Request Review of the 2018 PEMC Proposed Methodology for the Determination of New Threshold for the Price Substitution Methodology

In March 2020, the WESM Market Surveillance Committee (MSC) requested for the TC to review the appropriateness of the Price Trigger Factor (PTF) in the Current Price Substitution Methodology Manual due to the high LWAP that was observed in 2019 wherein neither pricing error nor pricing substitution was applied since there was no network congestion in the system even with a resulting value of PTF greater than 1.2.

Consistent with a PEMC proposal to the ERC in 2018 on a methodology in Setting the Threshold for the Application of the PSM for the Enhanced WESM Design and with the MSC's concurrence, the TC proceeded with validating this proposal as applied to the most recent available data.

The TC also conducted meetings with the PEMC's Market Assessment Group (MAG) and the Independent Electricity Market Operator of the Philippines (IEMOP) to request data and information to aid the TC in their ongoing review.

Currently, the TC is finalizing the calculation and is expected to finish the review by first quarter of 2021 in line with the ERC's directive to conduct a review and propose regional thresholds within three (3) months from the promulgation of the proposed Price Determination Methodology (PDM) Manual for the NMMS.

4.0 TC 2021 WORK PLAN

Annex A provides details of the TC's program of activities for 2021 consistent with PEMC's Corporate Strategic Plan for 2021-2022 which was approved by the PEM Board on 13 December 2020.

5.0 TC RESPONSIBILITIES AND MEMBERSHIP

5.1 Responsibilities

The responsibilities of the TC are set out in the WESM Rules⁸ 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 Technical Committee, 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 relation to the spot market;
- iv. From time to time if the Technical Committee 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.

In addition, the TC is also tasked to conduct technical reviews and studies pursuant to the guidelines⁹ set forth in the TC Market Manual.

⁸ WESM Rules Clause 1.7.2. *Responsibilities of the Technical Committee*

⁹ WESM-TCMM-002 Section 4.3 *Procedures*

5.2 Membership

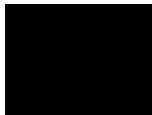
The members of the Technical Committee (“TC”) are as follows:

1. Mr. Jordan Rel C. Orillaza (Independent)
2. Mr. Fortunato C. Leynes (Independent)
3. Mr. Jaime V. Mendoza (Independent)
4. Mr. Ermelindo R. Bugaoisan, Jr. (SO representative)

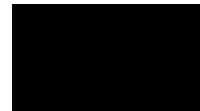
Mr. Jordan Rel C. Orillaza was designated as chairperson on 25 May 2016 and was re-appointed as independent member of the TC on 30 October 2019. The SO representative, Mr. Ermelindo R. Bugaoisan, Jr., was appointed on 30 August 2018. Mr. Jaime V. Mendoza was re-appointed as DMC representative on 18 September 2017. Mr. Fortunato C. Leynes was appointed as an independent member of the TC on 28 November 2018.

Submitted by:

TECHNICAL COMMITTEE



JORDAN REL C. ORILLAZA
Chairperson



FORTUNATO C. LEYNES
Vice Chairperson




ERMELINDO R. BUGAOISAN, JR.
Member



JAIME V. MENDOZA
Member

TECHNICAL COMMITTEE 2021 WORK PLAN

Legend:

	Submission/Completion of Report
	Regular Activity

	ACTIVITIES	OUTPUTS	2021			
			Q1	Q2	Q3	Q4
POWER						
1	Studies on VRE integration and other new technologies	Proposed framework on BESS in the energy market and as AS provider.				
2		Study on the nature of VRE participation in WESM (Prospect to change status from must-dispatch to scheduled)				
EFFICIENCY						
3	Assist PAC in the conduct of metering arrangements review	Assistance to the PAC in the site inspection activities, as required Submission of comments/suggestions to the RMIA reports, depends on the audit timelines				
4	Enhanced WGC processes based on best global practices	Provide inputs/comments to the proposed WESM Governance Performance Metrics				
MARKET						
5	As required, provide inputs on documents/manuals related to the establishment of the RE Market	Comments/suggestions on the documents/manuals for the RE Market, as required.				

	ACTIVITIES	OUTPUTS	2021			
			Q1	Q2	Q3	Q4
6	Attend trainings on RE Market and other related activities	Attendance to trainings and other related activities, as required.				
7	Study on the proposed design for the demand-side bidding/participation	Consultation on the preparedness and interest of Participants in Demand-Side Bidding				
8		Position Paper on Demand-Side Bidding				
9		Study on options for Demand-Side Participation				
EMPOWERED GOVERNANCE						
10	Regular conduct of TC Meetings (every 2nd Wednesday of the month)	Attendance to TC Meetings				
11	TC Annual Report and 2021 Work Plan	Submission and publication of TC 2020 Annual Report and 2021 Work Plan				
12	Attend PEMC Membership meetings, as scheduled	Attendance to PEMC Membership meetings, WCO Summit				
13	Provide comments to the RCC on the proposed amendments to WESM Rules and various Manuals	Comments to proposed amendments to WESM Rules and various Manuals				
14	Submit proposed amendments to the RCC as a result of market studies or best practice recommendations	Proposed amendments, as necessary				