TERMS OF REFERENCE

for the Conduct of the Market Design and Operations Review

Philippine Electricity Market Corporation

September 2026

Table of Contents

1. REQUIREMENT

Engagement of the services of a third-party consultant to conduct the following studies:

1. Enhanced WESM Design and Operations Implementation Review; and
2. Feasibility Study on the Implementation of Day-ahead Market.

2. BACKGROUND

2.1. The WESM

2.1.1. The Electric Power Industry Reform Act of 2001 (EPIRA) mandates the establishment of the Wholesale Electricity Spot Market (WESM) that will facilitate a competitive market environment in the Philippine electricity industry. Pursuant to the EPIRA, the Department of Energy (DOE) and the electric power industry participants are mandated to jointly formulate the detailed rules governing the operations of the +power industry participants, promulgated the WESM Rules through DOE Department Circular No. 2002-06-003.

2.1.2. Section 30 of the EPIRA provides, among others, that the DOE shall constitute an autonomous group, with equitable representation from electric power industry participants, to act as the Market Operator. On November 2003, the DOE constituted the Philippine Electricity Market Corporation (PEMC), a non-stock and non-profit organization, to operate the WESM. After several months of trial operations, the WESM commercial operations commenced in Luzon on 26 June 2006. Four years into the commercial operations in Luzon, the Visayas grid was integrated into the WESM and commenced commercial operations on 26 December 2010.

2.1.3. On 18 January 2018, the DOE issued Department Circular No. 2018-1-0002 which endorses and sets out the guidelines on the transition to an independent market operator. The Independent Electricity Market Operator of the Philippines (IEMOP) assumed the market operations functions of the WESM on 26 September 2018. PEMC retains its role as the WESM governing entity. PEMC thereafter entered into an Operating Agreement with the IEMOP on 19 September 2019 which details the transfer of the market operator functions. For purposes hereof, IEMOP shall be hereinafter alternatively referred to as “Market Operator”.

2.1.4. Governed by the WESM Rules, the WESM is a venue for trading electricity as a commodity. It serves as a clearing house to reflect the economic value of electricity as indicated by the spot price. The WESM uses the concept of a gross pool market where all electricity output of the generators is centrally coordinated for scheduling and dispatch. Generators, as well as buyers of bulk electricity, compete for a share

of this pool to be dispatched and scheduled to meet the electricity demand in real time. The members of the WESM include Generation Companies, Customers, Trading Participants, Network Service Providers, and Metering Services Providers.

2.1.5. With respect to policy and regulatory oversight over the WESM, such functions are carried out by the DOE, the Energy Regulatory Commission (ERC) and the Philippine Competition Commission (PCC). The functions of the DOE involve the formulation of the country's overall energy policy, the development and improvement of the WESM design, as well as the promulgation of the WESM Rules and Manuals, including changes thereto.

2.1.6. On the other hand, the ERC enforces the provisions of the EPIRA and its implementing rules and regulations and has investigative and quasi-judicial powers over any market participant for violations of the EPIRA, its implementing rules and regulations, and the WESM Rules. The ERC also approves, among others, the market fees being collected by the Market Operator from the market participants to recover the cost of administering and operating the WESM.

2.1.7. The PCC, lastly, is an independent quasi-judicial body mandated to implement the national competition policy and enforces Republic Act No. 10667 or the Philippine Competition Act (PCA), which serves as the primary law in the Philippines for promoting and protecting market competition. The PCC acts in partnership with each industry’s respective policy oversight and regulatory bodies, including the DOE and ERC, to promote a competitive business environment, deter anti-competitive behaviors, and protect consumer welfare.

2.1.8. Nine (9) years into the commercial operations of the WESM, the DOE promulgated Department Circular No. 2015-10-0015 on 23 October 2015 adopting enhancements to the WESM design and operations to address issues that have undermined market efficiency.

2.1.9. Following a series of rules changes, system developments, public consultations, information and education campaigns and readiness assessment to put in place the foregoing market enhancements, the DOE declared the commercial operations of the enhanced WESM design and operations (EWDO) on 26 June 2021 in Luzon and Visayas per DOE Department Circular No. 2021-06-0015 dated 25 June 2021.

2.1.10. Two (2) years after the commencement of commercial operations of the EWDO in Luzon and Visayas, WESM officially began its commercial operations in Mindanao on 26 January 2023 through DOE Department Circular No. 2022-12-0039

2.1.11. On 26 January 2024, the Mindanao-Visayas Interconnection Project (MVIP) was ceremonially inaugurated after a 10-month test period that began on 30 April 2023,

physically connecting all three (3) major power grids in Luzon, Visayas, and Mindanao.

2.1.12. On the same day, the full commercial operations of the Reserve Market was declared through DOE Department Circular 2023-09-0026. This declaration marked the start of the co-optimization of the energy and reserve in the WESM. On 26 March 2024, the ERC suspended the billing and settlement of ancillary services in the WESM due to pricing concerns. On 05 August 2024, the full operations of reserve trading in the WESM resumed.

2.2. Enhanced WESM Design and Operations (EWDO)

2.2.1. The EWDO was developed beginning in 2014 based on the recommendations from Phases 1 and 2 of the WESM Design Study (WDS) conducted by a third-party consultant, the Intelligent Energy Systems (IES). The IES was commissioned by PEMC in April 2013 to examine several market design and implementation issues which were undermining the efficiency of the WESM that were identified in the first Market Operations Audit undertaken by Deloitte and IES (completed in July 2010), and in the second audit undertaken by PA Consulting (completed in August 2011).

2.2.2. The WDS is a comprehensive report consisting of three (3) Phases where the first two were focused on identifying the issues hounding the market at that time and recommendations on changes to the market features to resolve them, while the third report (Phase 3) focused on the options for implementing a Day-Ahead Market. PEMC endorsed the Study to the DOE for consideration and after thorough review, the following enhancements to the market design and operations were adopted per DOE Department Circular No. 2015-10-0015 dated 23 October 2015:

a) Removal of minimum stable load (Pmin) constraint in the MDOM;
b) Shorter trading and dispatch interval of five (5)-minute;
c) Ex-ante pricing only for every five (5)-minute trading and dispatch interval;
d) One (1)-hour settlement interval for settlement purposes based on weighted average of the five (5)-minute ex-ante prices;
e) Automated pricing corrections;
f) Mandatory integration of Distribution Utilities' sub-transmission network, which materially affect dispatch schedules and prices in the WESM, into the Market Network Model (MNM);
g) Changing the values and priorities of some of the Constraint Violation Coefficients (CVCs), including the corresponding values thereof taking into consideration the imminent implementation of the WESM Reserve Market;
h) Imposition of WESM offer cap and floor for energy and reserve as determined through joint study by the DOE, Energy Regulatory Commission (ERC) and PEMC;

i) Implementation of hourly Day-Ahead Projection (DAP) with sensitivities and Hour-Ahead Dispatch (HAD);
j) Implementation of nodal-based short-term demand forecasting;
k) Enhanced training of WESM participants; and
l) Any other enhancements as may be deemed necessary and issued by the DOE.

2.2.3. Since 2015, PEMC proposed a number of rules changes to the Rules Change Committee (see Annex A) and also undertook the development of a New Market Management System (NMMS), Central Registration and Settlement System (CRSS), and Compliance Post Evaluation Monitoring System (CPEMS) to implement the procedural and operational changes arising from the adopted market design changes. Further changes to the rules were proposed by the Market Operator and the System Operator for the EWDO in 2018 onwards. Table 1 provides key differences in the market features between the previous and the enhanced (current) market design:[1]

Table 1 Comparison of Previous and Enhanced (Current) Market Design

Market Design / Operations	Previous Design	Enhanced (Current) Design
Dispatch Interval	1 hour	5 minutes
Consideration of Pmin	Priority dispatch	Submitted as offer
Pricing	Ex-ante and Ex-post	Ex-ante only
Market Re-runs	Manual Market re-runs	• Automatic pricing re-runs for constraint violations • Manual Market re-runs for pricing errors
Market Projections	• Week-ahead projections (WAP) every day • Day-ahead projections (DAP) every four (4) hours	• WAP every day • DAP every one (1) hour with sensitivities • Hour-ahead projections (HAP) every five (5) minutes
Compliance Monitoring	• Manual dispatch conformance monitoring for energy by PEMC • Ancillary services monitoring by System Operator	• Automatic offer capacity compliance and dispatch conformance for energy, through the Market Participant Interface (MPI) and reserve

[1] PEM Audit Committee, *PEM Audit Committee Report on the Market Readiness Assessment (MRA)*, May 2019.

Market Design / Operations	Previous Design	Enhanced (Current) Design
		conformance standards monitoring[2] by PEMC
Scheduling/ Trading of Energy and Reserves	Central scheduling and dispatch of energy and contracted reserves	Co-optimized energy and reserves
Settlements	• One hour interval and resolution for energy • Two-part settlement	• 5-minute settlement interval and 5-minute resolution for energy • One-part settlement
Administered Prices	Calculated during settlement	Calculated by NMMS
Price Substitution Methodology (PSM) Settlement	Adjustments made during settlement	PSM prices by NMMS is binding
Must-Run Unit (MRU) Settlement	Generation Price Index (GPI) plus additional compensation	Market price plus additional compensation
Demand-Side Bidding	Not implemented	Not implemented

2.2.4. Market Readiness Assessment (MRA) activities were thereafter conducted between 2019 to 2021 to ensure the effective transition to and implementation of the enhanced WESM design and operations in Luzon and Visayas, and the WESM in Mindanao. The MRA activities monitored the compliance of PEMC, Market Operator, System Operator, Metering Services Providers, and WESM participants with the market readiness criteria which signals their respective preparedness for the transition to the EWDO regime. Among the readiness activities is the conduct of the Parallel Operations Program (POP) led by the Independent Electricity Market Operator of the Philippines (IEMOP, Market Operator) to allow all stakeholders to be familiarized and exercise the revised WESM processes, specifically in terms of trading, dispatch, and settlement.

2.2.5. With all required readiness conditions met, including the approval of critical rules changes (i.e., Price Determination Methodology for EWDO), the DOE declared the commercial operations of the EWDO effective 26 June 2021 pursuant to DOE Department Circular No. 2021-06-0015 dated 25 June 2021.

[2] PEMC monitors the compliance of market participants with the reserve conformance standards for spot reserve transactions only. The System Operator is responsible for monitoring participants' compliance with contracted reserve capacities.

2.2.6. To provide a complete accounting of these recommendations and their implementation status, the Implementation Status of the WESM Design Study (WDS) Phases 1, 2, and 3 is provided in Annex B, including the original IES recommendations, PEMC/TWG recommendations to the DOE, and the corresponding implementation status of each item.

2.3. Basis for the Conduct of Enhanced WESM Design and Operations Implementation Review

As the Governance Arm of the WESM, PEMC is mandated to ensure the achievement of WESM objectives, which is to establish and maintain a competitive, efficient, and reliable market for electricity[3]. Since the enhancements made to the design and operations of the WESM aim to contribute towards obtaining said goals, it is within the responsibility of PEMC to evaluate whether the objectives of the changes have been met after five (5) years of implementation. This is also a crucial public policy question to evaluate whether the issues that have afflicted the market since its launch in 2006 have been finally addressed, or a different direction in the market process or design is in order.

2.4. The Day-Ahead Market[4]

2.4.1. In general, the goal of a Day-Ahead Market is to ensure in advance that there is adequate capacity in terms of power supply and ancillary services for the next day, which brings more reliability in the market. Participants buy and sell electricity in advance ahead of real-time conditions. The clearing price is determined when the supply bids meet the demand bids. Generators are scheduled based on stacking the lowest to highest bids until the demand is met, and in consideration of resource and transmission constraints. Necessary additional energy not procured via the DAM may be secured via a real-time market.

Like the real-time market, running a DAM requires data such as system parameters (network model), resource parameters (e.g., plant type, Pmin/Pmax, ramp rates, etc.), outage information, demand forecast, transmission line limits, supply bids, and demand bids. Additional necessary inputs are the reserve requirements and extra unit commitments to meet the forecasted demand not met through the day-ahead schedules.

[3] WESM Rules Clauses 1.2.5 and 1.4.5(d).
[4] Hinman, Cynthia, "Day-Ahead Market Overview," *California ISO.* 30 November 2021, http://www.caiso.com/InitiativeDocuments/Presentation-Day-AheadMarketOverview-Nov30-2021.pdf (accessed May 25, 2023)

2.4.2. Phase 3 of the WDS provided four (4) options for implementing a DAM in the WESM, summarized as follows:[5]

- Option 1: Market with information-driven day-ahead processes (Australian NEM or WESM with an enhanced DAP)
- Option 2: Market with compulsory technical DAM (representative US market)
- Option 3: Market with compulsory financial DAM and intra-day trades (based on Nord Pool)
- Option 4: Market with optional financial DAM and intra-day trades

The Report implied that any one of the foregoing general DAM designs should be executed and the benefits be fully reaped only if the recommended enhancements in Phases 1 and 2 of the WDS have been implemented. Among the options, IES suggested that Options 1 and 4 are the most viable as they maintain the decentralized design principle of the WESM.

2.5. Basis for the Conduct of Feasibility Study on the Day-Ahead Market (DAM)

2.5.1. On 21 February 2014, PEMC submitted a report to the DOE covering Phase 3 of the WESM Design Study, a consultancy project commissioned by PEMC. In the submission, PEMC recommended the implementation of the recommendations from the first two (2) phases of the study, i.e. EWDO, and the conduct of a review of these new arrangements before considering the implementation of a DAM.

2.5.2. With the implementation of the EWDO in 2021, the WESM Technical Committee (TC) steered its efforts towards examining at the policy level whether the enhanced market design successfully addressed the major issues that undermined the market since 2006 as cited in the WESM Design Study. This activity is among the responsibilities of the TC of the WESM which is to assist the PEM Board and the DOE in the formulation of policies that will help the achievement of a sustainable, competitive, efficient, transparent and reliable market for electricity.[6]

2.5.3. While the recommendations provided in Phases 1 and 2 of the WESM Design Study were mostly adopted and implemented through the EWDO program, the TC noted that Phase 3 of the same Study, which was focused on the advantages, disadvantages, and several options for implementing a DAM in the WESM, were not. The TC re-visited the Phase 3 Study in parallel with its high-level monitoring of the technical aspects of the enhanced market operations, and in 2022, conducted a preliminary study on the possible implementation of a DAM in the WESM.[7] The

[5] Intelligent Energy Systems & SW Advisory, *WESM Design Study: Phase 3 Report: Assessment of a Day-ahead Market,* (17 January 2014), page 39.
[6] Technical Committee Market Manual, Section 3.1.1.
[7] Technical Committee, *Day-Ahead Market,* 2022.

TC's preliminary study involved, among others, consultations with the Market Operator and System Operator to gather feedback on the issues or challenges encountered so far in the implementation of the EWDO. The Committee concluded that discussions on the possibility of establishing a DAM in the WESM should be revived to enable more transparency and certainty in the market which the current market design, even with the enhancements, still falls short of.

3. OBJECTIVE OF THE PROJECT

This project aims to engage a consultant to conduct the Market Design and Operations Review within the first half of 2027, which has two (2) components, namely:

1) Enhanced WESM Design and Operations Implementation Review - to assess and strengthen market design and operations in alignment with WESM objectives of promoting a competitive, efficient, transparent, and reliable electricity market (See Section 2.3); and
2) Feasibility Study on Day-ahead Market – to evaluate the viability of implementing a day-ahead market that supports efficient scheduling, transparent price formation, and reliable operations (See Section 2.5).

4. PROJECT SCOPE

4.1. Period Covered

4.1.1. The EWDO Implementation Study component of the Project shall cover the period 26 June 2021, corresponding to the commercial launch of the EWDO, up to 25 June 2026. Five (5) years since implementation is deemed an appropriate period to commence evaluation of the effectiveness of the enhancements since material data and/or market outcomes would have already been available and sufficient. However, subsequent market developments and policy directives should be considered and data from the previous market design regime may also be reviewed as the study requires or for benchmarking purposes.

4.1.2. For the DAM Feasibility Study component of the Project, the study shall seek to estimate the potential savings or benefits of implementing DAM in the EWDO.

4.2. Applicable Rules

The following shall guide the consultant in the conduct of the studies:

1) WESM Rules and its Market Manuals;
2) WESM Design Study Phases 1, 2 and 3;
3) WESM Technical Committee's Preliminary Study on the Day-Ahead Market; and
4) Relevant Circulars, Orders and other Issuances or directives of the DOE and ERC.

The consultant shall also take into account the versions of rules and market manuals that were in effect during the study period.

4.3. Scope of Work

4.3.1. Enhanced WESM Design and Operations Implementation Review

The Consultant shall:

1) Evaluate the effectiveness of the enhancements made to the WESM design and operations as enumerated in DOE DC2015-10-0015 and summarized in Table 1. More specifically, the Implementation Review shall assess the EWDO implementation and determine whether the EWDO policy directives were effectively implemented, and the objectives of the EWDO-related rules changes were met (see Annex A). Based on the result of the assessment study, the Consultant shall recommend appropriate changes to the Market Rules or Manuals to ensure the attainment of WESM objectives. The Consultant shall employ accepted policy/project effectiveness methodologies, including metrics or quantitative assessment or approaches to evaluate said rules changes;

2) Identify prevailing issues in the current market design, including the co-optimization of energy and reserve markets, and provide recommendations on possible approaches, or market design changes, if necessary, to address them. The review shall encompass, but not be limited to, the specific market processes and review tasks identified in Table 2: [8]

[8] Technical Committee, *Consultations on Enhanced WESM Design and Operations (EWDO) and Implementation of the Day-ahead Market (DAM)*, 2022.

Table 2 Specific Areas for Market Design Review

Market Process	Review Tasks
Market Projections	Review and provide recommendations on: i. Week-Ahead Projections and Day-Ahead Projections; and ii. Unreliability of nodal-based demand forecasts
Market Network Model	Review and provide recommendations on inaccurate load flows in the MDOM
Schedule and Dispatch	i. Evaluate effectiveness of 5-minute vis-à-vis 1-hour dispatch interval; ii. Review the treatment of Pmin under the EWDO framework; iii. Review the occurrence of Market Management System-related declaration of market intervention; iv. Review instances of manual re-runs due to pricing errors; v. Evaluate the effectiveness of automatic relaxation of constraints as part of automatic pricing rerun; vi. Revisit System Operator's concerns in prioritizing reserve capacities over thermal constraints; vii. Review the System Operator's curtailment and dispatch instruction framework, including the criteria and consistency of prioritization among similarly situated generating units; viii. Review the System Operator's re-dispatch instructions, including: • Re-dispatch instructions over extended periods even with the 5-minute market; • Those triggered by unreliable projected outputs from Variable Renewable Energy; • The possible market treatment of displaced generators[9] and those re-dispatched by the SO to reduce output for system security and reliability requirements, including the corresponding settlement treatment; and ix. Review policies relating to:

[9] PEMC, *Discussion Paper on the Possible Compensation of Displaced Generators* (submission to ERC in compliance to ERC directive), March 2021.

Market Process	Review Tasks
	• Must-Dispatch and Preferential Dispatch of RE Generation Facilities and their overall impact to market operations; • the treatment of Variable Renewable Energy (VRE) resources as price takers, considering increasing VRE penetration and its impact on dispatch, market clearing, and price formation; and • the participation of Energy Storage Systems (ESS), including market design, scheduling, dispatch, and settlement arrangements, consistent with applicable DOE policies and guidelines
Market Pricing	i. Assess the effectiveness of ex-ante pricing for every 5-minute trading and dispatch interval; ii. On pricing corrections and mitigating measures: • Review the effectiveness in addressing pricing errors, extreme price outcomes, and preserving efficient market signals; • Assess whether they adequately detect and prevent the exercise of market power; • Assess and recommend possible alternative mitigation measures and evaluate potential effects on market clearing price, participant incentives, customer costs, and generator revenues
Settlement	i. Review the implementation of the enhancements to settlements (e.g. 5-minute metering data, changes to settlement formula) requiring changes to market participants' process; ii. Reassess the frameworks governing additional compensation and evaluate whether cost recovery principles, eligible operating cost components, and compensation methodologies should be aligned across Price Substitution Methodology (PSM), Secondary Price Cap (SPC), Administered Price (AP), and Merit Order Table (MOT) mechanisms; and iii. Review the calculation of additional compensation, including the treatment of reserve quantities, and clarify the recoverable cost components under AP,

Market Process	Review Tasks
	SPC, MOT, and PSM to ensure consistency across similar operating circumstances.

3) Conduct focused group discussions and/or consultation meetings with market participants and relevant parties/agencies;
4) Provide simulations and impact analysis to support the recommendations and references on how it is being implemented in other jurisdictions, if applicable;
5) Identify possible rules changes to implement said recommendations; and
6) Present reports to PEMC, DOE, ERC, IEMOP and, as necessary, WESM Governance Committees.

4.3.2. Feasibility Study on Day-ahead Market

Referring to Section 2.5.1 on PEMC's recommendation regarding the implementation of a Day-Ahead Market (DAM) in the WESM, the Consultant shall assess the relevance of the results of the feasibility study under Phase 3 of the WESM Design Study in light of current market conditions, taking into account the findings of Section 4.3.1 on the review of the EWDO implementation.

The Consultant is expected to:

1) Determine suitable day-ahead market design considering local conditions and current developments using historical data, system simulations, and cost-benefit analyses;
   a. Evaluate the interaction of day-ahead schedules with generating unit operating constraints, reserve requirements, outages, and real-time dispatch and the treatment of deviations arising from outages, deratings, VRE forecast errors, reserve requirements, and real-time operating conditions;
   b. Assess the volume and price exposure of VRE resources arising from differences between day-ahead schedules and actual generation, including the treatment of imbalance settlements, balancing costs, and incentives for forecast accuracy improvements in consideration of, among others, the accuracy and reliability of current load and variable renewable energy forecasting capabilities;
   c. Assess the implications of DAM, including potential new vulnerabilities to market power exercise, and recommend necessary enhancements to market monitoring tools, data access, and WESM Rules to ensure market integrity in the day-ahead timeframe;
   d. Conduct comprehensive market simulations and quantitative analysis of the impact of implementing a Day-Ahead Market on WESM prices, including the

potential incremental costs or cost savings, with due consideration to consumer welfare;

2) Conduct focused group discussions and/or consultation meetings with market participants and relevant parties/agencies;
3) Provide simulations and impact analysis to support the design recommendations;
4) Identify market policies, regulations, rules, and procedures that will be affected by, or will influence the implementation;
5) Cost estimate of the implementation including but not limited to information system changes, consultancy, training, and system impact studies;
6) Provide project implementation and general transition plans and schedules covering selection of consultants, procurement of systems, acceptance testing, operator/participant training, limited live dispatch, and commercial operations;
7) Identify potential risks and recommend strategies on how to operationalize, including cost implications, and the necessary changes in the market participants processes and systems, including the identification of affected market obligations, procedures, and participant readiness requirements, which may entail regulatory support or approval;
8) Present draft reports to PEMC, DOE, ERC, IEMOP, NGCP, WESM Governance Committees, and the market participants; and
9) Identify possible rules changes to implement the recommended Day-ahead Market scheme.

5. PROPOSED ARRANGEMENTS

5.1. Project Schedule

5.1.1. The project shall commence upon receipt of the Notice to Proceed and will be deemed completed upon issuance of the Certificate of Completion.

5.1.2. The Consultant shall review all documentation and consult relevant parties to be able to deliver the project deliverables as scheduled.

5.1.3. Below is the indicative schedule for the project.

Table 3 Indicative Project Schedule

Output	Timeline	Involved Parties				
		Responsible	**Consulted**	**Recommending Approval**	**Approver**	**Informed**
Kickoff Meeting	Week 1 of Month 1	• Consultant MDOR-TWG				
Inception Report	Week 4 of Month 1 to Week 3 of Month 2	• Consultant • Secretariat • Technical Committee (TC) • MDOR-TWG	• MDOR-TWG • DOE • ERC • MO • PEMC • Sectors (Generation, Distribution, and Supply) • SO • WGCs	MDOR - TWG	OP-WGO	• PEM Board
EWDO Implementation Review Report	Drafts – Month 4					• PEM Board • DOE • ERC • Others via web posting
Feasibility Study on Day-ahead Market Report	Final – Month 5					

5.2. Deliverables

The Consultant shall submit the following reports:

a) Inception Report – It shall contain the Consultant's Methodology and Work Program. This shall confirm the project scope and outline the approaches for the two study components, including the schedule of consultations with WESM stakeholders (e.g., focused group discussions, etc.)

b) EWDO Implementation Review Report – This report shall contain the results of the study evaluating the effectiveness of the EWDO and the recommendations to address issues that may be identified during the conduct of the study.

c) Feasibility Study on Day-ahead Market Report – This report shall contain the assessment on the feasibility of implementing a Day-Ahead Market in the WESM and recommendations on the design suitable for local conditions and a broad plan for its introduction in the WESM.

The timelines for the submission of the draft and final reports are in Section 5.1.3 above.

5.3. Qualifications of Consultants

5.3.1. The Consultants shall be composed of professionals and experts in the design of power market systems, particularly on the impact of design to prices, electricity trading, market operations, grid operations and regulatory policies. They shall have competence and adequate experience in understanding nuances of local electricity markets to properly provide comprehensive advisory services as required by the project.

5.3.2. The Consultant's team shall collectively demonstrate expertise in the following areas:

- Electricity market design and operations;
- Power system and grid operations;
- Electricity market economics and price formation;
- Reserve markets and ancillary services;
- Power market simulation and quantitative analysis;
- Regulatory and policy frameworks; and
- Information systems supporting electricity market operations.

5.3.3. The project is open for local and foreign consultants. Joint venture partnership is allowed.

5.3.4. The Consultant shall notify PEMC in writing of any interest in any other project if it conflicts with the performance of the Services. The Consultant shall not undertake any services or accept any employment, interest or contribution which could give rise to a conflict of interest except with prior written approval of PEMC.

5.3.5. The Consultant guarantees that it has not given any fee, gratuity, rebate, gifts, commission or other payment, other than those shown in the proposal or the Contract, to PEMC in connection with the selection process or in the contract execution.

5.4. Interface between the Consultants and PEMC

5.4.1. The Consultants shall report to the Market Design and Operations Review-Technical Working Group (MDOR-TWG) for the duration of the project.

5.4.2. All activities of the Consultants shall be accordingly coordinated with the MDOR-TWG, through the TWG Secretariat. The TWG Secretariat shall provide linkages between the MDOR-TWG, PEMC, Market Operator, System Operator, DOE, ERC, the Technical Committee, and other WGCs, as necessary. It shall extend all

reasonable support to the Consultants for the duration of its services, which support shall include, among others:

a) Provide necessary office space, internet access, access pass, etc.;
b) Facilitate access to all data and information for the conduct of the studies; and
c) Arrange coordination meetings with relevant entities to discuss issues and concerns pertaining to the conduct of the studies.

5.5. Confidentiality

5.5.1. Definition. As used herein, “Confidential Information” shall refer to all information furnished to the Consultant and/or any officers, directors, employees, affiliates, outside auditors and legal, technical, financial advisors, agents or other representatives of Consultant (herein referred to as Representatives) supplied by PEMC, or by any Market Participant during consultations, surveys, interviews, or FGDs, in connection with the Subject of the Bid, including without limitation, any information relating to the Bid or PEMC together with any analyses, compilations, notes, summaries, studies or other documents or materials prepared, developed, derived, discovered or collated by or on behalf of the Consultant or its representatives which contain or otherwise reflect such information. All such disclosures, in any format, shall be marked or reasonably made known to be Confidential and/or Proprietary information.

5.5.2. Without limiting the generality of the foregoing, Confidential Information shall further include:

a) Information contained in the Request for Proposal of PEMC;
b) Information obtained by the Consultant and its Representatives during (i) bidding process; (ii) meetings/consultation with PEMC and parties that may be invited by PEMC; and (iii) through any management presentation by PEMC to the Consultant;
c) Information contained in any other written material furnished or otherwise made available to the Consultant;
d) Information furnished to the Consultant electronically;
e) Information presented to the Consultant or its representatives;
f) information provided by PEMC to Consultant that is marked confidential;
g) if disclosed orally or not marked confidential, is identified prior to its disclosure as confidential information, and is confirmed confidential information in a signed writing by PEMC promptly thereafter; or
h) PEMC treats such information as confidential; or
i) such information can be reasonably considered as confidential information based upon the nature of the information and the business of PEMC; or
j) without designation or limitation, is related to the Project.

5.5.3. Ownership. All rights, title and interest in the Confidential Information and materials are and shall remain the sole property of PEMC, as may be warranted.

5.5.3.1. All confidential information provided by Market Participants shall remain the exclusive property of the respective Market Participant. The Consultant shall ensure that all data gathered from surveys, interviews, and FGDs are presented in reports, simulations, and presentations solely in an aggregated and anonymized format, ensuring that no participant-specific commercially sensitive data can be identified.

5.5.3.2. The Consultant shall, upon request of any participating Market Participant, execute a separate Bilateral Non-Disclosure Agreement (NDA) prior to receiving proprietary operational or financial data.

5.5.4. The Consultant acknowledges that PEMC has the exclusive right to determine what information the latter may choose to furnish the Consultant. Neither PEMC nor any of its Representatives shall be liable to the Consultant or any other person arising out of or relating to their interpretations of or conclusions based on the Confidential Information.

5.5.5. The Consultant shall ensure the removal of all Confidential Information and confidential data used during the Project upon its completion. PEMC may send a formal request for confirmation of data deletion, and the Consultant shall provide written acknowledgment of its compliance with this requirement.

5.5.6. The Consultant may be required to execute a Non-Disclosure Agreement (NDA) in favor of any third party, data owner, information provider, stakeholder, or other entity that provides or makes available confidential information for purposes of the Project. Such NDA shall be separate from any NDA or confidentiality undertaking executed in favor of PEMC. The NDA shall outline the Consultant's obligations to maintain strict confidentiality throughout and after the Project. The delivery of the duly executed NDA to the relevant party shall be a prerequisite to the provision of confidential information for purposes of the Project. This requirement may be further discussed during the Project kickoff meeting to ensure full understanding and compliance.

5.5.7. An evaluation of the Consultant's performance may be conducted upon completion of the Project. The Consultant may be evaluated in terms of quality of service, effectiveness of communication, impartiality, and professionalism. The evaluation may also solicit comments on the Project process and recommendations for improvement of the evaluation criteria.

5.6. Data Privacy

5.6.1. The Consultant acknowledges and agrees that, in the course of providing the Services, it may receive or have access to Personal Information of PEMC's directors, officers, employees, market participants, WESM governance committee members, and authorized representatives. The "Personal Information" shall have the meaning ascribed to it under Republic Act No. 10173, and its implementing rules and regulations, as may be amended from time to time (the "Data Privacy Act").

5.6.2. The Consultant represents and warrants that its collection, access, use, storage, disposal, and disclosure of any Personal Information shall at all times comply with the Data Privacy Act and all other applicable data privacy and data protection laws and regulations.

5.6.3. In the event that the Consultant will act as a Personal Information Processor, the Consultant shall:

a) Process the personal data including transfers of personal data to another country or an international organization, only upon the document instructions of PEMC;
b) Ensure that an obligation of confidentiality is imposed on persons authorized to process the personal data;
c) Implement appropriate security measures and comply with the Data Privacy Act and other relevant issuances of the National Privacy Commission ("NPC");
d) Not engage another Personal Information Processor without prior instruction from PEMC; Provided, that for any such arrangement authorized by PEMC, the Consultant shall ensure that the same obligations for data protection are implemented, taking into account the nature of the processing;
e) Assist PEMC, by appropriate technical and organizational measures and to the extent possible, fulfill the obligation to respond to requests by data subjects relative to the exercise of their rights;
f) Assist PEMC in ensuring compliance with the Data Privacy Act, other relevant laws, and other issuances of the NPC, taking into account the nature of processing and the information available to the Independent Auditor;
g) At the option of PEMC, delete or return all personal data to PEMC after the end of the provision of services relating to the processing; Provided that this shall include deleting exiting copies unless storage is authorized by the Data Privacy Act or other relevant laws;
h) Make available to PEMC all information necessary to demonstrate compliance with the obligations laid down in the Data Privacy Act; and
i) Immediately inform PEMC if, in its opinion, an instruction infringes the Data Privacy Act, or any other applicable issuance of the NPC.

ANNEX A – Rules Amendments for the Implementation of the Enhanced WESM Design and Operations[10]

Document/Information	Description	DOE Approval	Location
Rules change proposals to implement EWDO			

1. Proposed Amendment to the WESM Rules for the Implementation of Enhancements to WESM Design and Operations
 	
Reference:
RCC Resolution No. 2016-05 (03 Mar 2016)
	Amendments as a result of Phases 1 and 2 of the WDS; enhancements to WESM design and operations pursuant to DOE directives	DC2016-10-0014	• Original Proposal (ORCP-WR-15-22)
			  ○ Paper
			  ○ Matrix
			  ○ Attachment
			
			• RCC Resolution No. 2016-05

2. Proposed Amendments to the WESM and Retail Rules and Various Manuals for the Implementation of WESM Design Enhancements
 	
References:
• *RCC Resolution No. 2017-04 (11 Apr 2017)*
• *RCC Resolution No. 2017-05 (11 Apr 2017)*
• *RCC Resolution No. 2017-08 (07 Jul 2017)*
• *RCC Resolution No. 2017-09 (07 July 2017)*
• *RCC Resolution No. 2017-10 (10 Nov 2017)*
	Amendments to procedures to implement the following market features:
	
	(i) Five (5) minute dispatch interval;
	(ii) Ex-ante pricing only for energy and reserves for every 5-minute dispatch interval;
	(iii) One (1) hour settlement interval for settlement purposes;
	(iv) Automatic pricing corrections;
	(v) Mandatory integration of Distribution
	(vi) Utilities' sub-transmission network, which materially affect dispatch schedules and prices in the WESM, into the market network model (MNM);
	(vii) Nodal-based short-term demand forecasting; and
	(viii) Hourly day-ahead projection (DAP) with sensitivities and hour-ahead projection (HAP)
		• DC2018-04-0007
		• DC2018-04-0008
		• DC2018-04-0009
		• DC2018-05-0015
			• Original Proposal (ORCP-WR-RR-WM-16-26)
			  ○ Paper
			  ○ WESM Rules – Matrix
			  ○ Retail Rules – Matrix
			  ○ Billing and Settlement – Matrix
			  ○ Dispatch Protocol – Matrix
			  ○ Load Forecasting – Matrix

[10] RCC Resolutions may be accessed at the PEMC website (https://www.wesm.ph/market-governance/rules-change/rcc-resolutions)

Document/Information	Description	DOE Approval	Location
			○ Retail Metering – Matrix ○ WESM Metering - Matrix • RCC Resolution No. 2017-04 (11 Apr 2017) • RCC Resolution No. 2017-05 (11 Apr 2017) • RCC Resolution No. 2017-08 (07 Jul 2017) • RCC Resolution No. 2017-09 (07 July 2017) • RCC Resolution No. 2017-10 (10 Nov 2017)
3. Proposed General Amendments to the WESM Manuals on Price Determination Methodology (PDM) and Constraint Violation Coefficient (CVC) and Pricing Re-run for the Implementation of WESM Design Enhancements *References:* *RCC Resolution No. 2016-13 (26 Oct 2016)* *RCC Resolution No. 2017-07 (09 Jul 2017)*	a) Amendments to WESM Manual on Price Determination Methodology: (i) provide final prices for energy and reserves in real-time; (ii) consider the integration of reserves into the WESM in the determination of substitute prices during pricing errors due to network congestion; (iii) reflect the actual generation and consumption and provision of reserves in the settlement calculation; (iv) allocate the net settlement surplus to trading participants that paid congestion; (v) consolidate all pricing and settlement provisions and equations into one manual; (vi) revise the proposed calculation of price adjustment for customers in the non-administered region to ensure there is no	• DC2017-03-0001 • DC2018-04-0012 • ERC Decision on Case No. 2017-042RC	• Original Proposal (ORCP-WM-16-17 & ORCP-WM-16-18) – ○ Paper ○ Matrix (PDM) ○ Proposed PDM and Appendix (formatted) ○ Matrix (CVC Manual) ○ Proposed CVC Manual (formatted) • RCC Resolution No. 2016-13

Document/Information	Description	DOE Approval	Location
	cross-subsidy when the administered region under market intervention or suspension is exporting power to the non-administered region; (vii) clarify that both Must-Run Units and constrained-on generating units may apply for additional compensation; (viii) specify that Must-Run Units or constrain-on generators are price takers; and (ix) delete the provision stating that administered price will only be applied to an isolated portion of the grid under market suspension or intervention. b) Amendments to WESM Manual on Constraint Violation Coefficient (CVC) and Pricing Re-run: (i) revise CVC hierarchy; (ii) Implementation of automatic pricing re-runs and conduct of market pricing re-runs upon the issuance of pricing error notices; (iii) add constraints to provide the details of the categories and distinguish the priority among transmission equipment, (iv) revise the nomenclature of certain CVCs to be consistent with those used in the 2016 Philippine Grid Code; and (v) clarify the actions undertaken by the System Operator during instances when certain CVCs are violated.		• RCC Resolution No. 2017-07
4. Proposed Amendments to the WESM Manual on Dispatch Protocol for the Optimal Timing of Market Runs *Reference:*	Amendments to optimize the timing of dispatch scheduling activities considering system performance and System Operator requirements for the Day-Ahead Projection Hour-Ahead Projection and Real-Time Dispatch market runs	DC2020-10-0020	• Original Proposal (ORCP-WM-19-14) – paper, matrix, annex • RCC Resolution No. 2019-16

Document/Information	Description	DOE Approval	Location
RCC Resolution No. 2019-16 (08 Nov 2019)			
5. 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 *Reference:* *RCC Resolution No. 2020-11 (15 May 2020)*	Amendments to include the procedures for the preparation and updating of load distribution factors: 1) Each nodal load shall have LDFs for each hour and each day type ; 2) Each nodal load shall have LDFs updated every five (5) minutes based on either (a) latest real-time data or (b) an estimated value; 3) In determining the LDF for each nodal load: (i) Obtain base MW values for each nodal load; (ii) Once all base MW values are obtained, compute for LDF using specified formula; and (iii) If a nodal load does not have real-time data, an additional set of procedures will be performed to estimate the value of its base MW before calculating the LDF	DC2021-03-0005	• Original Proposal (ORCP-WM-20-05) ○ Paper ○ Matrix ○ Appendix • RCC Resolution No. 2020-11
6. Proposed Amendments to the WESM Manual on Dispatch Protocol (Issue 13.0) to Enhance Procedures in Must-Run Unit (MRU) Accounting *Reference:* *RCC Resolution No. 2020-03 (12 Feb 2020)*	Amendments to improve accounting of energy produced due to a must-run unit dispatch instruction and processing of discrepancy reports	DC2021-03-0006	• Original proposal (ORCP-WM-19-18) ○ Paper ○ Matrix • RCC Resolution No. 2020-03
Rules change proposals to address EWDO-related issues			
7. Proposed Amendments to the WESM Rules and relevant WESM Manual regarding the Effectivity of Settlement of Displaced Generators	Amendments to: 1) Clarify that the settlement methodology for Displaced Generators, as stated in Section 10 in the version of the *WESM Manual on*	*DOE remanded the proposal in support of ERC's directive for PEMC to submit*	• Original proposal (ORCP-WR-WM-20-06) • RCC Resolution No. 2020-12

Document/Information	Description	DOE Approval	Location
Reference: *RCC Resolution No. 2020-12 (15 May 2020)*	*Management of Must-Run and Must-Stop Units* for the 1-hour dispatch interval market regime, shall be effective only until commercial operations of the enhanced market design; and 2) remove the terms 'must-stop unit' and 'displaced generators' and all references thereto in the version of the WESM Rules for enhanced market design	*a proposal for the possible compensation of displaced generators*	• PEMC Discussion Paper on Possible Compensation of Displaced Generators in compliance to ERC's directive
8. Proposed Amendments to the Protocol on Central Scheduling and Dispatch of Energy and Contracted Reserves *Reference:* *RCC Resolution No. 2020-06 (01 Apr 2020)*	Amendments to reflect the following: • Scheduling is within ramp-limited energy and upward / downward regulation capability every five (5) minutes during real-time dispatch • Dispatchable reserve providers can conform to the ancillary service nomination from its off-line state • Improve accounting of quantities for additional compensation claims in the WESM • Clarify compliance requirements of ancillary service providers with the Central Scheduling Protocol under their Ancillary Services Procurement Agreements	DC2021-05-0010	• Original proposal (ORCP-WM-20-10) • RCC Resolution 2020-06
9. Proposed Amendments to WESM Rules and Various WESM Manuals for Enhancements to Market Operator and System Operator Procedures *Reference:* *RCC Resolution No. 2021-14 (10 Oct 2021)*	Amendments to reflect the following: 1) Use nomenclature for reserves types (i.e. regulation, contingency, and dispatchable) as provided under DOE Department Circular No. DC2019-12-0018; 2) Replace the term 'system snapshot' with 'real-time data', including the reference to the Market Network Modelling Criteria and Procedures (MNMCP) Manual concerning the required type of information for these data; 3) Clarify the process for updating SO constraints data in the NMMS; 4) Submission of day-ahead projected output from must dispatch generating units to the System Operator;	DC2022-06-0023	• Original proposal (ORCP-WR-WM-21-07) • RCC Resolution No. 2021-14

Document/Information	Description	DOE Approval	Location
	5) Enhancements on the creation of the Merit Order Table (MOT), specifically on the exclusion of scheduled reserve capacities and outages, and on the MO's provision of MOT to the SO 6) Process enhancements on dispatch implementation; 7) Provide definition of automatic generation control (AGC) aligned with the Philippine Grid Code and include guidelines on dispatch via AGC; 8) Improvements in post-dispatch reporting; 9) Registration of option for generator availability for WESM scheduling; 10) Improve process on MNM Development and Deployment; 11) Allow urgent updates to the MNM; and 12) Improve documentation and reporting		
10. Proposed Amendments to the WESM Rules and WESM Manual on Billing and Settlement on Harmonization with ERC Decision on Case No. 2017-042RC on Additional Compensation Process *Reference:* *RCC Resolution No. 2021-19 (21 Oct 2021)*	Amendments to: 1) harmonize the WESM Manual on Billing and Settlement with the ERC Decision on ERC Case No. 2017-042RC (i.e., ERC Decision on the Price Determination Methodology for EWDO); 2) provide supplementary guidelines on the additional compensation process in the WESM Manual on Billing and Settlement; and 3) consistently apply the guidelines to the different pricing or dispatch conditions eligible for additional compensation	DC2022-06-0025	• Original proposal (ORCP-WM-21-09) • RCC Resolution No. 2021-19
11. Proposed Amendments to WESM Rules and WESM Manual on Constraint Violation Coefficients and Pricing Re-runs, Issue 6 on Harmonization of Provisions on Automatic Pricing Re-runs with ERC Decision on Case No. 2017-042RC *Reference:* *RCC Resolution No. 2021-22 (17 Dec 2021)*	Amendments to harmonize provisions on automatic pricing re-runs in the WESM Rules and Manuals for the EWDO with the ERC directives provided in its Decision dated 20 August 2020 (and promulgated on 29 December 2020) on ERC Case No. 2017-042RC regarding the proposed Price Determination Methodology (PDM) for the EWDO	DC2022-06-0024	• Original proposal (ORCP-WR-WM-21-10) • RCC Resolution No. 2021-22

Document/Information	Description	DOE Approval	Location
12. 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 *Reference:* *RCC Resolution No. 2023-06 (06 Jun 2023)*	Amendments to update and enhance the System Operator's procedures for re-dispatch implementation, submission of system advisories and significant incident reports, and the procedures during Market Intervention/Suspension	DC2024-10-0030	• Original proposal (ORCP-WR-WM-22-14) • RCC Resolution No. 2023-06
Rules change proposals related to Reserve Market			
13. Proposed Amendments to WESM Rules and Various WESM Manuals on Implementation of Reserve Market *Reference:* *RCC Resolution No. 2021-21 (22 Nov 2021)*	Amendment to harmonize with DOE DC2021-03-0009 and DC2019-12-0018	DC2022-11-0032	• Original proposal (ORCP-WR-WM-21-11) • RCC Resolution No. 2021-21
14. Proposed Amendments to the WESM Rules and WESM Manuals on System Security and Reliability and Dispatch Protocol for the Implementation of the Reserve Market *Reference:* *RCC Resolution No. 2022-06 (20 May 2022)*	Amendment to harmonize terms, definitions and provisions with PGC 2016 to harmonize prescribe reserve categories minor clerical enhancements.	DC2022-11-0036	• Original proposal (ORCP-WR-WM-21-13) • RCC Resolution No. 2022-06
15. Proposed Revision to the Urgent Amendment to the Ancillary Services Monitoring Manual regarding the Reserve Conformance Standards and Related Enforcement Actions *Reference:* *RCC Resolution No. 2025-02 (28 May 2025)* *RCC Resolution No. 2025-05 (27 Nov 2025)* *RCC Resolution No. 2026-02 (29 April 2026)*	Amendments to address several operational and technical challenges identified in the implementation of the Reserve Conformance Standards (RCS) monitoring and enforcement process.	N/A	• Original proposal (ORCP-WR-WM-24-06B) • RCC Resolution No. 2025-02 • RCC Resolution No. 2025-05 • RCC Resolution No. 2026-02

ANNEX B – Implementation Status of WESM Design Study (WDS) Phases 1, 2, and 3

Phase	IES Recommendation	PEMC/TWG Recommendation to DOE	Implementation Status
PHASE 1	Remove Pmin constraints from the Market Dispatch Optimization Model (MDOM)	**Adopted.** TWG endorsed removal of priority-dispatch of Pmin to allow participants to manage Pmin through offers and mitigate over-generation.	**Partially Implemented / Incorporated in NMMS design.** Subsequent market reforms addressed Pmin and dispatch optimization issues, but full removal was tied to NMMS implementation.
PHASE 1	Impose market price cap/floor and offer price floor	**Adopted.** TWG recommended market price cap and floor, offer floor, and specific pricing treatment for under-generation/over-generation conditions.	**Implemented.** WESM currently operates with market and offer price limits under WESM pricing rules.
PHASE 1	Change values and priorities of selected Constraint Violation Coefficients (CVCs)	**Adopted.**	**Implemented/Operationalized** through subsequent market manual revisions and dispatch enhancements.
PHASE 1	Automate Market Re-Run (MRR) processes and eliminate PENs for CVCs	**Adopted.**	**Partially Implemented.** Elements incorporated in NMMS and market process enhancements.
PHASE 1	Improve Must-Run Unit (MRU) arrangements and compensation	**Adopted.**	**Implemented.** DOE directives and revisions to Dispatch Protocol Manual introduced MRU-related provisions.
PHASE 1	Better day-ahead information (DAP, sensitivities, Hour Ahead Dispatch)	**Adopted.**	**Implemented in part.** Market participants now receive enhanced forecasting and operational information compared with the original WESM design.
PHASE 1	Include key DU sub-transmission elements in the Market Network Model (MNM)	**Adopted.**	**Partially Implemented.** Market Network Model enhancements have progressively improved network representation; however,

Phase	IES Recommendation	PEMC/TWG Recommendation to DOE	Implementation Status
			the full integration of key DU sub-transmission elements remains ongoing.
PHASE 1	Improve short-term demand forecasting using nodal forecasts	Supported; PEMC and NGCP to conduct further studies.	**Implemented in part.** Enhancements to forecasting methodologies have been incorporated over time.
PHASE 1	Harmonize Grid Code and Market Rules	**Adopted.**	**Ongoing.** Grid Code and WESM Rules continue to undergo periodic amendments.
PHASE 1	Mandatory AGC and related Grid Code changes	**Adopted, subject to DOE policy direction.**	**Partially Implemented/Ongoing.** AGC requirements have expanded, particularly for reserve market participation.
PHASE 2	Shorter dispatch interval (replace 1-hour interval)	**Adopted.** TWG recommended review of appropriate dispatch interval by MO and SO.	**Implemented.** WESM now operates on a **5-minute dispatch interval** under the enhanced market design.
PHASE 2	Ex-ante pricing for energy and reserves; remove ex-post pricing	**Adopted.**	**Largely Implemented** through the NMMS/enhanced market systems supporting dispatch-based pricing.
PHASE 2	Settle energy using ex-ante nodal prices and metered quantities	**Adopted.**	**Implemented under enhanced market arrangements.**
PHASE 2	Shorter gate closure	**Adopted**, although TWG noted further shortening was not feasible in the then-current MMS.	**Implemented.** Gate closure was progressively shortened through subsequent market manual amendments.
PHASE 2	Reserve market implementation	**Adopted.**	**Fully Implemented.** Full Commercial Operations of the Reserve Market commenced on **26 January 2024**.

Phase	IES Recommendation	PEMC/TWG Recommendation to DOE	Implementation Status
PHASE 2	Co-optimization of energy and reserves	**Adopted.**	**Implemented.** DOE declared commercial operation of the Reserve Market and co-optimization framework.
PHASE 2	IT enhancements / NMMS	**Adopted**, subject to DOE direction and NMMS finalization.	**Implemented.** NMMS and subsequent market systems were deployed to support enhanced WESM operations and Reserve Market.
PHASE 2	Improve training of traders	TWG to support DOE direction.	**Ongoing.** Participant training remains a continuing market activity.
PHASE 3	Day Ahead Market	For consideration subject to the conduct of the review of the EWDO.	**For further study.**