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Support for Implementation of the Second Governance and Anticorruption Action Plan (Financed by the Governance Cooperation Fund)

Subproject: Support for the Establishment of An Independent Market Operator, PHI

- Supplementary Documents

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Asian Development Bank

**SUPPORT FOR IMPLEMENTATION OF THE SECOND GOVERNANCE AND
ANTICORRUPTION ACTION PLAN**

**(SUBPROJECT) SUPPORT FOR THE ESTABLISHMENT OF AN
INDEPENDENT MARKET OPERATOR, PHI**

TA-6445 (REG)

IMO AND GOVERNANCE STRUCTURE

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TABLE OF CONTENTS

SUMMARY OF KEY RECOMMENDATIONS.....	1#
1# INTRODUCTION	2#
1.1# INTRODUCTION.....	2#
1.2# RELEVANT LEGISLATION	3#
2# REVIEW OF THE WESM GOVERNANCE STRUCTURE AND SYSTEM OF PROCEDURES BASED ON THE OBJECTIVES AND REQUIREMENTS OF EPIRA AND ITS IRRS AND THE WESM RULES AND RECOMMEND MORE ADEQUATE AND EFFICIENT GOVERNANCE STRUCTURE APPROPRIATE FOR THE WESM	5#
2.1# INTRODUCTION.....	5#
2.2# GOVERNANCE PROVISIONS IN THE EPIRA AND IRR	6#
2.2.1# The EPIRA policy.....	6#
2.2.2# The EPIRA section 30 and IRR rule 9	7#
2.2.3# EPIRA “independent entity”	9#
2.2.4# The purpose of creating an Independent Entity	12#
2.2.5# EPIRA and the WESM “governing body”	13#
2.2.6# The EPIRA “voting rights” of participants	15#
2.2.7# IRR WESM “governing body”	17#
2.2.8# Summary of the legislative landscape	18#
2.2.9# The term “administering the market” and “administer the WESM”	19#
2.2.10# Summary.....	21#
2.3# IMO STRUCTURE AND GOVERNANCE PROVISIONS IN THE WESM RULES	21#
2.3.1# Background WESM MO structure and governance.....	21#
2.4# DISCUSSION ON STRUCTURE COMPONENTS	24#
2.4.1# TWO-TIERED GOVERNANCE	24#
2.4.1.1# Functions under a WESM governing body, the IMO Board	24#
2.4.1.2# The Market Committee.....	25#
2.4.2# Market Integrity Functions – Reporting Directly to the IMO Board	25#
2.4.2.1# Role of the WESM Market Monitoring Committee - Independent	25#
2.4.2.2# WESM Compliance Committee - Independent.....	26#
2.4.2.3# WESM Audit Committee - Independent.....	28#
2.4.2.4# Dispute Resolution Committee - Independent.....	28#
2.4.3# Market Participant Functions and Resonsibilities	29#
2.4.3.1# Market Committee - Stakeholdered	29#
2.4.3.2# Rules Change Committee – Stakeholdered	29#
2.4.3.3# Technical Committee.....	30#
2.4.4# Future Roles of the IMO Board.....	30#
2.4.5# Internal Functions under the IMO	31#
2.4.5.1# The Market Assessment Group (MAG).....	31#
2.4.5.2# The Enforcement and Compliance Officer (ECO).....	31#
2.4.5.3# Market Operations	31#
2.4.5.4# Corporate Services.....	32#
2.4.5.5# Information Technology	32#
2.4.5.5# Legal	32#

IMO AND GOVERNANCE STRUCTURE

2.4.5.6# Corporate Planning and Communication	33#
2.4.6# Recommended Structure - Independent IMO Board	33#
2.5# SUMMARY	37#
3# REVIEW THE WESM MANUALS VIS-À-VIS WESM RULES VIS-À-VIS EPIRA INCLUDING THE IDENTIFICATION OF INCONSISTENCIES OF THE PROVISIONS AND PROCESSES AND RECOMMEND POSSIBLE CHANGES TO RECTIFY THE INCONSISTENCIES;	38#
3.1# INTRODUCTION	38#
3.2# WESM purpose and objectives	38#
3.3# WESM Rule Changes.....	39#
3.4# REGISTRATION	41#
3.4.1# Market Participation Agreement – a deed.....	41#
3.4.2# Market Participation Agreement – dispute resolution.....	41#
3.5# WESM FUNCTIONS	42#
3.5.1# Enforcement	42#
3.5.1.1# WESM has no judicial body.....	42#
3.5.2# PEM Board power to impose sanctions under WESM	43#
3.5.2.1# PEM Board’s general obligations	43#
3.5.2.2# The ECO	44#
3.5.2.3# The ECO assists the PEM Board.....	45#
3.5.2.4# PEM Board obligation to notify ERC.....	46#
3.5.2.5# ERC has original and exclusive jurisdiction.....	46#
3.5.2.6# Summary of general WESM compliance obligations.....	47#
3.5.2.7# PEM Board power to impose sanctions	47#
3.5.2.8# Sanctions against the market operator	50#
3.5.3# WESM monitoring	50#
3.5.3.1# WESM role.....	50#
3.5.3.2# The WESM market monitoring body.....	51#
3.5.3.3# The MAG.....	51#
3.5.4# MO monitoring.....	52#
3.5.5# MAG and IMO monitoring coordination.....	52#
4# IDENTIFY WEAKNESSES AND GAPS, RELEVANT TO THE RECOMMENDED IMO AND GOVERNANCE STRUCTURES AND SERVICES, AND RECOMMEND MEASURES AND SOLUTIONS, DULY ACCEPTABLE TO DOE.....	53#
4.1# CLARIFICATION OF GOVERNANCE BORDERS	53#
4.1.1# PEMB/PEMC-MSD	53#
4.1.2# Monitoring roles.....	53#
4.1.3# MAG and ECO relationship with the WESM governing body	54#
4.2# BUDGETS AND FEES.....	55#
4.2.1# Structure and level of fees.....	55#
4.2.2# Contingency fees for software development.....	55#
4.3# COMPENSATION AWARD PROCESS.....	56#
4.4# IMO PENALTY IMMUNITY.....	57#
5# DOE’S AUTHORITY AND ROLES TOWARDS THE PEM BOARD AND ITS COMMITTEES IN THE INTERIM PERIOD AND UPON APPOINTMENT OF THE IMO;	60#

IMO AND GOVERNANCE STRUCTURE

5.1# BACKGROUND	60#
5.2# DOE ROLE	60#
5.2.1# The DOE powers and functions includes WESM component.....	61#
5.2.2# The DOE mandate	62#
5.2.3# The DOE powers and functions	62#
5.2.4# Post-EPIRA.....	62#
5.2.5# DOE's monitoring role.....	66#
5.2.6# Summary of DOE role.....	67#
5.3# THE ERC role	68#
5.3.1# Introduction – scope of role	68#
5.3.2# ERC powers and functions.....	70#
5.3.2.1# ERC budget approval	70#
5.3.2.2# ERC and WESM border functions.....	70#
5.3.2.3# ERC monitoring role.....	71#
5.3.2.4# ERC enforcement role.....	71#
5.3.2.5# ERC penalizing role	72#
5.3.2.6# ERC and generation companies	73#
5.3.2.1# ERC and distribution utilities and suppliers.....	73#
5.3.2.2# ERC and rate unbundling and universal charge.....	73#
5.3.2.3# ERC and TRANSCO privatization.....	73#
5.3.2.4# ERC exclusive jurisdiction of the grid and distribution codes	73#
5.3.3# Summary of ERC role.....	74#
 6# DEVELOP PROCEDURES AND GUIDELINES FOR THE SELECTION AND APPOINTMENT OF THE PEM BOARD MEMBERS AND ITS COMMITTEES;	 75#
6.1# IMO GOVERNING BODY	75#
6.1.1# Composition.....	75#
6.1.2# Experience and qualifications.....	75#
6.1.3# Level of independence	76#
6.2# IMO MONITORING PANEL (MSC)	76#
6.2.1# Composition.....	76#
6.2.2# Experience and qualifications.....	76#
6.2.3# Level of independence	76#
6.3# IMO COMPLIANCE COMMITTEE	77#
6.3.1# Composition.....	77#
6.3.2# Experience and qualifications.....	77#
6.3.3# Level of independence	77#
6.4# IMO AUDIT COMMITTEE	77#
6.4.1# Composition.....	77#
6.4.2# Experience and qualifications.....	77#
6.4.3# Level of independence	77#
6.5# IMO RULES CHANGE COMMITTEE	78#
6.5.1# Composition.....	78#
6.5.2# Experience and qualifications.....	78#
6.5.3# Level of independence	78#
6.6# WESM TECHNICAL COMMITTEE	78#
6.6.1# Composition.....	78#
6.6.2# Experience and qualifications.....	78#
6.6.3# Level of independence	78#

7# DEVELOP PROTOCOLS, COORDINATION ARRANGEMENTS AND REPORTING REQUIREMENTS BETWEEN AND AMONG THE DOE, ERC, PEM BOARD AND ITS COMMITTEES, IMO, THE SO, METERING SERVICE PROVIDERS, AND OTHER SERVICE PROVIDERS;	79#
7.1# PROTOCOLS, COORDINATION, AND REPORTS	79#
7.2# CURRENT PROTOCOLS	79#
7.2.1# PEMC and ERC	79#
7.2.2# The Tripartite Committee's role	80#
7.2.3# Checklist for EMC and ERC protocol	81#
7.3# REPORTING LINES	82#
7.3.1# General requirements for reporting	82#
7.3.2# WESM monitoring body, ECO and MAG	82#
7.3.3# MAG and IMO monitoring coordination	83#
7.3.4# The IMO and SO	83#
8# APPENDICES.....	84#
APPENDIX 1 CURRENT GOVERNANCE STRUCTURE	85#
APPENDIX 2 recommended IMO structure	87#
TWO-TIERED GOVERNANCE - INDEPENDENT OVERSIGHT	87#
APPENDIX 3 recommended IMO structure	89#
STRUCTURAL RELATIONSHIPS	89#
The Market Committee.....	90#
The Rules Change Committee	91#
The Technical Committee	92#
The Market Surveillance Committee.....	93#
The Compliance Committee.....	94#
The Audit Committee.....	95#
The Dispute Resolution Panel	96#
APPENDIX 4.....	97#
COMPARISON WITH FOREIGN MARKETS.....	97#
APPENDIX 5.....	4#
FURTHER DISCUSSION ON INDEPENDENCE AND GOVERNANCE	4#
JCPC discussions on EPIRA and IRR.....	5#
PEM Board as the WESM "governing body".....	6#

SUMMARY OF KEY RECOMMENDATIONS

THE FOLLOWING KEY RECOMMENDATIONS, FOR THE REASONS SET OUT, ARE IN THIS REPORT:

1. That an IMO Board:
 - a. be established:
 - b. comprises the IMO management President and 4 or 5 elected independent members:
2. That an Audit Committee, a Compliance Committee, and the Market Surveillance Committee report to the IMO Board:
3. That an interim Board is set up, the IMO Transition Board, to replace the current AGMO PEM Board, to manage an orderly transition to the IMO Board:
4. That the existing non-independent PEM Board members transfer to a stakeholder's Market Committee:
5. That the Market Committee:
 - a. recommends rule changes to the IMO Board:
 - b. in other ways provides advice and guidance to the IMO Board:
6. That the Rules Change Committee and the Technical Committee report to the Market Committee:
7. That the membership, reporting lines, functions, powers, and duties of these and associated bodies outlined in this report are reflected in the WESM Rules, Manuals, Protocols, and associated documents:
8. That the IMO Transition Board is allocated all appropriate assets and liabilities such that those are transferred to the IMO Board to enable the Board to effectively govern the WESM:
9. That working groups are established to develop a plan for improving market efficiency in the following areas:
 - a. Billing and Settlements: to reduce the billing cycle and thereby reducing prudential requirements and barriers to entry:
 - b. Dispatch: to step-wise reduce the 1 hour dispatch window in order for the market to trend toward real time dispatch.

1 INTRODUCTION

1.1 INTRODUCTION

1. This Report 1 is the output of Activity 1.
2. The objective of Activity 1 is to analyze the existing structures and the supporting legislation and to make recommendations on the appropriate Independent Market Operator (IMO) and governance structure for the Wholesale Electricity Spot Market (WESM).
3. This Report is arranged as follows:
 - Section 2 Based upon the objectives of EPIRA in creating an Independent Market Operator, recommend a preferred IMO Structure. Review the WESM governance structure and system of procedures based on the objectives and requirements of The Electric Power Industry Reform Act 2001 (RA 9136) (EPIRA) and its Implementing Rules and Regulations (IRR) and the The Wholesale Electricity Spot Market Rules (WESM) rules. Recommend a more adequate and efficient governance structure appropriate for the WESM; include analysis of various potential and appropriate IMO structures, including the appropriate mechanisms and institutional arrangements:
 - that promote good WESM governance:
 - to enhance the efficiency of the Market Place for its oversight:
 - to protect the independence of the market monitoring function:
 - to ensure fairness and transparency of the market rules development processes:
 - that promote the purposes of the WESM Rules and the WESM objectives as set out in rules 1.2.2 and 1.2.5:
 - any structure chosen should attempt to use as much as possible of the present Rules and Committee structures to minimise disruption caused by a Governance change:

IMO AND GOVERNANCE STRUCTURE

- Section 3 Based upon the recommended structure for the IMO review the WESM manuals vis-à-vis WESM rules vis-à-vis EPIRA including the identification of inconsistencies of the provisions and processes and recommend possible changes to rectify the inconsistencies:
- Section 4 Identify weaknesses and gaps, relevant to the recommended IMO and governance structures and services, and recommend measures and solutions:
- Section 5 Establish DOE's authority and role towards the PEMC Board and its Committees in the interim period and upon appointment of the IMO; including assessment of the roles of the DOE and ERC and the boundaries between their roles and those of the IMO:
- Section 6 Develop procedures and guidelines for the selection and appointment of the IMO Board members and its Committees:
- Section 7 Develop protocols, coordination arrangements and reporting requirements between and among the DOE, ERC, the Board and its Committees, IMO, the SO, Metering Service Providers, and other service providers.

1.2 RELEVANT LEGISLATION

4. The relevant legislation, including secondary and tertiary legislation and codes and manuals and guidelines, includes:
- The Electric Power Industry Reform Act 2001 (RA 9136)(EPIRA)
 - The DOE Act (RA 7638)
 - The Implementing Rules and Regulations (IRR)
 - The Wholesale Electricity Spot Market Rules (WESM rules)
 - The WESM Market Manuals
 - WESM Guidelines
 - Protocol between the ERC and the PEMC for both Compliance and Monitoring of the WESM

- Joint resolutions of the WESM Tripartite Committee

- The Grid Code

- The Distribution Code

- Competition Guidelines (ERC)

2 REVIEW OF THE WESM GOVERNANCE STRUCTURE AND SYSTEM OF PROCEDURES BASED ON THE OBJECTIVES AND REQUIREMENTS OF EPIRA AND ITS IRRS AND THE WESM RULES AND RECOMMEND MORE ADEQUATE AND EFFICIENT GOVERNANCE STRUCTURE APPROPRIATE FOR THE WESM

2.1 INTRODUCTION

5. This is Section 2 and is divided into 5 subsections:

- subsection 2.1 is this introduction:
- subsection 2.2 analyses the EPIRA and IRR provisions so far as they relate to WESM governance and the IMO:
- subsection 2.3 analyses the WESM rules so far as they relate to WESM governance and the IMO (at a high level here but in more detail in the other Sections of this Report):
- subsection 2.4 develops WESM governance and IMO structure options based on the fundamental elements distilled from the analysis under subsections 2.2 and 2.3 and contains a review of various IMO structures and governance structures across North American and Asian Electricity Market Operators. These markets closely match the design of the WESM:
- subsection 2.5 contains the summary of this section and recommendations.

6. The product of Section 2 of this Report is a recommendation on a more appropriate and efficient governance structure for the WESM. To achieve this it is first necessary to analyse the existing relevant legislation to distil from it those elements of the governance and IMO structure that are already established therein. The relevant legislation is the EPIRA and the IRR. The EPIRA is the foundation stone of the WESM. The IRR contains regulations that enable the EPIRA requirements to be realised. Using the elements distilled from the legislative analysis, we can propose several appropriate potential governance and IMO structures. Each proposition will be further developed and refined in the context of the WESM rules and best practice and comparisons made between each proposition.

7. The analysis and output of this Section 2 provides the context to develop further detail and refinements to the governance and IMO structure propositions, including

recommended consequential modifications or additions to any WESM rules, manuals, protocols, and processes for the preferred alternative. These details and refinements are developed in Sections 3, 4, 5, 6, and 7 of this Report.

2.2 GOVERNANCE PROVISIONS IN THE EPIRA AND IRR

8. The Electric Power Industry Reform Act of 2001 (RA 9136) (EPIRA) underpins the electric power industry reform and established a new regulatory environment and governance structure for the sector. The Implementing Rules and Regulations (IRR) were enacted to enable the provisions of the EPIRA and finally the WESM Rules were a jointly created set of Market Rules, by the DOE and Market Participants, under the guidance of the IRR and EPIRA.
9. To provide guidance on the creation of an IMO a hierarchical structure was used in terms of creating a level of importance for the relevant Legislation and documentation. Of most importance is the EPIRA and its intentions, then the IRR and finally the WESM rules which in and of themselves are an interpretation of the intentions of the EPIRA and IRR and are a consensus view of the DOE and the stakeholders.

2.2.1 The EPIRA policy

10. Section 2 of the EPIRA declares the following policy of the State:
 - (a) *To ensure and accelerate the total electrification of the country:*
 - (b) *To ensure the quality, reliability, security and affordability of the supply of electric power:*
 - (c) *To ensure transparent and reasonable prices of electricity in a regime of free and fair competition and full public accountability to achieve greater operational and economic efficiency and enhance the competitiveness of Philippine products in the global market:*
 - (d) *To enhance the inflow of private capital and broaden the ownership base of the power generation, transmission and distribution sectors:*
 - (e) *To ensure fair and non-discriminatory treatment of public and private sector entities in the process of restructuring the electric power industry:*
 - (f) *To protect the public interest as it is affected by the rates and services of electric utilities and other providers of electric power:*

- (g) *To assure socially and environmentally compatible energy sources and infrastructure:*
- (h) *To promote the utilization of indigenous and new and renewable energy resources in power generation in order to reduce dependence on imported energy:*
- (i) *To provide for an orderly and transparent privatization of the assets and liabilities of the National Power Corporation (NPC):*
- (j) *To establish a strong and purely independent regulatory body and system to ensure consumer protection and enhance the competitive operation of the electricity market:*
- (k) *To encourage the efficient use of energy and other modalities of demand side management.*

2.2.2 The EPIRA section 30 and IRR rule 9

11. Section 30 of the EPIRA sets out the requirements for the establishment of the AGMO:

The wholesale electricity spot market shall be implemented by a market operator in accordance with the wholesale electricity spot market rules. The market operator shall be an autonomous group, to be constituted by DOE, with equitable representation from electric power industry participants, initially under the administrative supervision of the TRANSCO. The market operator shall undertake the preparatory work and initial operation of the wholesale electricity spot market.

12. Jointly with the electric power industry participants, the DOE was required to formulate the detailed rules for the WESM. The rules should, amongst other things, provide procedures for the formation of the WESM governing body and also for amending the rules. **This has been done.** The WESM and its interim governing body the PEM Board and the interim market operator the PEMC have been in place and operational in WESM for more than five years. The interim market operator is an autonomous group, constituted by DOE, with equitable representation from electric power industry participants. This is the PEM Board and PEMC structure currently.

13. Section 30 also sets out the requirements to transition to an independent entity after the WESM has been established and the initial Market Rules have been agreed to between the DOE and electric power representatives:

Not later than one (1) year after the implementation of the wholesale electricity spot market, an independent entity shall be formed and the functions, assets and liabilities of the market operator shall be transferred to such entity with the joint endorsement of the DOE and the electric power industry participants. Thereafter, the administrative supervision of the TRANSCO over such entity shall cease.

14. The current market operator is, as noted in paragraph 12, currently the PEM Board and PEMC from which the functions, assets and liabilities will transfer to the independent entity. The IRR refers to this independent entity interchangeably as the Independent Market Operator (IMO) or the Market Operator. The AGMO was required to be constituted by the DOE, with equitable representation from the electric power industry participants, initially under the administrative supervision of the TRANSCO. **This has been done.** The AGMO was established on the initiative of the DOE under the authority of the EPIRA and the IRR. The establishment of the AGMO was achieved with the formation of the PEMC.
15. The WESM has been implemented since June 2006 (over 5 years) and is presently overseen by a interim Stakeholder Board, with equitable representation from industry participants and the DOE and is presently called the PEM Board.
16. The EPIRA states that no later than 1 year after the implementation of the WESM an independent entity must be formed and the functions, assets, and liabilities of the interim entity, presently the PEMC, including the PEM Board, are to be transferred to the independent entity with the joint endorsement of the DOE and the electric power industry participants.
17. The purpose of this Report is to recommend a governance structure and structure for this independent entity that takes into account the policy of State as set out in Section 2 of the EPIRA and other relevant legislation. The establishment of the WESM rules and the initial operation of the Market Operator **has been done.** The remaining task is to transfer these functions, assets, and liabilities, which are presently under the direction of a stakeholdered board, to an independent entity, the yet to be created Independent Market Operator.

2.2.3 EPIRA “independent entity”

18. What is the meaning of “independent entity”? This term is used in section 30 of the EPIRA but is not defined explicitly in the EPIRA.
19. Section 45 of the EPIRA provides clues as to what Independent means. Section 45 of the EPIRA deals with cross ownership, market power abuse, and anti-competitive behavior and provides a useful guide to what are the prerequisites required for an entity to be classified as “independent”. Section 45 prohibits market participants or their affiliates from holding any interest directly or indirectly in TRANSCO or its concessionaire. The term ‘affiliates’ is defined as “*any person which, alone or together with any other person, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with another person*”. The term ‘control’ is defined to mean “*the power to direct or cause the direction of the management policies of a person by contract, agency, or otherwise.*”
20. THE IRR, while it makes use of the word ‘Independent’ in many clauses, provides no definition of Independent. Therefore the IRR must take its definition from the EPIRA.
21. In the WESM Rules, the term “Independent”, which has been **defined in agreement by both the DOE and Stakeholders**, has the meaning at its simplest to be independent of the Philippine electric power industry. *WESM Rule 1.4.2.7 reads:*

For the purposes of this clause 1.4.2, a person is deemed to be independent of the Philippine electric power industry if that person:

(a) Is not an employee, contractor, agent, manager, director or shareholder of a WESM Member;

(b) Is not a relative of a person, within the fourth civil degree of consanguinity or affinity, of an employee, contractor, agent, manager, director or shareholder of a WESM Member;

(c) Is not an employee, contractor, agent, manager, director or shareholder of a company, affiliate or any other entity related to or associated with a WESM Member, where:

(1) A related company or body, is a parent or holding company of the WESM Member, a subsidiary or affiliate of the WESM

Member or a subsidiary of a holding company of the WESM

Member; and

(2) An associate is a person who is a director, manager or shareholder of that related company or entity or a relative of such a person;

(d) Has not been employed by any electric power industry participant, or a company or body related to or associated with a WESM Participant (as defined in clause 1.4.2.7 (c)) within two years prior to the nomination date; and

(e) Agrees not to be employed by and does not accept employment with any electric power industry participant, or a company or body related to or associated with a WESM Member (as defined in clause 1.4.2.7 (c)) within one year after the person ceases to be a Director.

22. It is reasonable, for the purpose of establishing the scope of the term 'independent' as that term is used in the EPIRA to describe the nature of the market operator, to use section 45 of the EPIRA as an indication of the principles to apply to the scope of the term 'independent' used in the Act:

Section 45No generation company, distribution utility, or its respective subsidiary or affiliate or stockholder or official of a generation company or distribution utility, or other entity engaged in generating and supplying electricity specified by ERC within the fourth civil degree of consanguinity or affinity, shall be allowed to hold any interest, directly or indirectly, in TRANSCO or its concessionaire.

23. Therefore, applying these principles, an "independent entity" means that certain classes of person or their affiliates cannot hold any interest directly or indirectly in the IMO. In addition those persons should not themselves become an affiliate of the IMO by controlling the IMO or, in other words, having the power to direct or cause the direction of the management policies of the IMO by contract, agency, or otherwise.

24. The question then is who the intended “certain classes of person” are that the IMO is to be independent from? Again, section 45 of the EPIRA provides a useful guide where it refers to those classes as being:

(1) a “generation company, distribution utility, or its respective subsidiary or affiliate or stockholder or official of a generation company or distribution utility, or other entity engaged in generating and supplying electricity specified by the ERC within the fourth civil degree of consanguinity or affinity” and

(2) “the TRANSCO, or its concessionaire or any of its stockholders or officials or any of their relatives within the fourth civil degree of consanguinity or affinity”.

These classes of person also represent the stakeholders in WESM and can be considered to fairly represent those persons defined in the EPIRA as an “electric power industry participant”.

25. Furthermore, there are other relevant considerations when defining the scope of IMO “independence”. The IMO fulfils a unique role where its actions and decisions impact on electric power industry participants. Some of these actions or decisions may not be in the interests of a particular electric power industry participant even though it will be in the interests of the WESM as a whole. This means that electric power industry participants should not be able to unduly influence the IMO and that their presence on a governing body over an IMO would provide an opportunity to exercise such influence.
26. At the same time EPIRA is explicit that the DOE has a responsibility to ensure that the policy of State is carried out in respect of, amongst other things, the electricity sector. Refer to the discussion in Section 5 of this Report. To fulfil its role the DOE is required to maintain oversight of the WESM operation. This oversight is high-level where it sits at the policy end of the spectrum and also acts as the ultimate guardian of the WESM Rules (and as such it retains the final sign-off on amendments to them). Therefore its involvement with the WESM must be close enough to understand the key issues that the WESM is grappling with at any particular time but not so close that it’s national policy perspective is narrowed due to a too close involvement with the day to day WESM operations. Although the IMO should be independent of the DOE (this is confirmed in the JCPC deliberations of the IRR drafting), the independence of the DOE is not the key point here. The key is that the DOE is sufficiently informed and detached to enable it to have the widest policy perspective. This detachment, while offering independence from the IMO, also enables the DOE to be the most effective ultimate guardian of the WESM Rules.

27. If the above interpretations from EPIRA and the WESM Rules and observations are applied it would mean that—
- (a) The IMO must be independent of electric power industry participants as all IMO actions and decisions must be made in the interests of the WESM as a whole without undue influence, perceived or real, from stakeholders; and
 - (b) Some actions and decisions of the IMO may be a detriment or a benefit to a particular electric power industry participant; and
 - (c) No particular electric power industry participant should be able to unduly influence the actions and decisions of the IMO; and
 - (d) The presence of electric power industry participants in the IMO governing body provides, in reality or perception, an opportunity for stakeholders to exercise an undue influence on IMO actions and decisions; and therefore
 - (e) The IMO governing body should be independent of electric power industry participants; and
 - (f) THE IMO governing body should be independent of the DOE; and
 - (g) The IMO governing body should not be unduly influenced by participants. It should be recognised that at the same time participants hold a key role in ensuring the success of the WESM by both providing recommendations and advice to the Governing Board of the IMO.

2.2.4 The purpose of creating an Independent Entity

28. The creation of an Independent entity follows the original purpose of the State as set out in EPIRA Section 2 where several Policy statements re-iterate the necessity for independence and full and transparent accountability in decisions regarding the administration and operation of the WESM:

To ensure transparent and reasonable prices of electricity in a regime of free and fair competition and full public accountability to achieve greater operational and economic efficiency and enhance the competitiveness of Philippine products in the global market:

To enhance the inflow of private capital and broaden the ownership base of the power generation, transmission and distribution sectors:

To ensure fair and non-discriminatory treatment of public and private sector entities in the process of restructuring the electric power industry:

To protect the public interest as it is affected by the rates and services of electric utilities and other providers of electric power:

To establish a strong and purely independent regulatory body and system to ensure consumer protection and enhance the competitive operation of the electricity market:

2.2.5 EPIRA and the WESM “governing body”

29. What is the intended fate of the AGMO governing body (the PEM Board) that was established through the WESM rules once the “independent entity” is established to replace the AGMO? The PEM Board is referred to in the IRR as the AGMO governing body, which is not the WESM governing body referred to in section 30 of the EPIRA. Section 7(d) of Rule 9 of the IRR states the AGMO governing body is to govern the operation of the WESM until the formation or the selection of an IMO. This means that the PEM Board is a transitional governing body pending the introduction of the IMO.
30. Section 2 of EPIRA declares the policy of State so far as it relates to the scope of the EPIRA, including:
 - (a) Section 2(c) states that EPIRA includes the objective to ensure transparent and reasonable prices of electricity in a regime of free and fair competition and full public accountability to achieve greater operational and economic efficiency and enhance the competitiveness of Philippine products in the global market:
 - (b) Section 2(d) states that EPIRA includes the objective to enhance the inflow of private capital and broaden the ownership base of the power generation, transmission and distribution sectors:
 - (c) Section 2(j) states that EPIRA includes the objective to establish a strong and purely independent regulatory body and system to ensure consumer protection and enhance the competitive operation of the electricity market.
31. In addition to the specific provisions in the EPIRA regarding the WESM governing body found in section 30, the above objectives are relevant when considering the appropriate form and structural arrangements for the WESM governing body. The critical component is the independence of both the regulatory body and the system.

32. While the EPIRA does not directly promote a self-governing WESM it does allude to it in the statement on policy that it is necessary to establish a “purely independent... system to enhance the competitive operation of the electricity market”:

To establish a strong and purely independent regulatory body and system to ensure consumer protection and enhance the competitive operation of the electricity market:

33. The EPIRA does not directly promote a self-governing WESM in its declaration of policy nor does it do so within its other provisions. It does, however, provide for market participants and the DOE to jointly formulate the detailed rules. This sensibly utilizes the expertise within an emerging market to contribute to market and rule development. **This has been done.** The EPIRA and IRR had been drafted to utilize industry expertise in the initial phase of the WESM. The benefit of this approach was considered sufficient to not require the interim market operator, the AGMO, to be independent.
34. The AGMO is required to be constituted by the DOE with equitable representation from the electric power industry participants. This autonomous group, the AGMO and the AGMO governing body, were both established under one umbrella corporate structure, through the establishment of the PEMC controlled by the PEM Board.
35. The PEMC 's primary purpose is stated in its articles of association to “manage, govern and administer an efficient, competitive, transparent and reliable market for the wholesale and purchase of electricity and ancillary services in the Philippines ... (the WESM) in accordance with the Republic Act No 9136 ...”.
36. Section 30 of the EPIRA continues:

Not later than one (1) year after the implementation of the wholesale electricity spot market, an independent entity shall be formed and the functions, assets and liabilities of the market operator shall be transferred to such entity with the joint endorsement of the DOE and the electric power industry participants.

37. In other words after the establishment of the Market and the WESM Rules by both stakeholders and the DOE, the next step in the process was to turn the Market Operator (refer section 30 of the EPIRA which states this is the autonomous group, constituted by the DOE, with equitable representation from electric power industry participants) over to an independent entity that would take over the functions of the

present PEM Board and PEMC. At the same time as this independent entity is put in place, under section (7) of the IRR, the AGMO governing body, the PEM Board, ceases to govern the operation of the WESM.

2.2.6 The EPIRA “voting rights” of participants

38. Section 30 of the EPIRA requires the DOE to formulate detailed rules for the WESM jointly with the electric power industry participants, and requires those detailed rules to include procedures for administering the market including voting rights of the participants:

The rules shall provide, among others, procedures for ...

(c) Administering the market, including criteria for admission to and termination from the market which includes security or performance bond requirements, voting rights of the participants, surveillance and assurance of compliance of the participants with the rules and the formation of the wholesale electricity spot market governing body;

(e) Amending the rules.

39. What is the nature of the voting rights to which section 30 refers? Is it a reference to the right to vote in the WESM governing body, or to the rule-making body, or to something else? Does it imply participants *will* have a right to vote on something at all?
40. Rule 9 section 1 of the IRR states that, pursuant to section 30 of the EPIRA, all WESM participants shall comply with the WESM rules. It does not state that the rules will become the terms and conditions of a contract entered into by the WESM participants. So, the WESM Rules are both a creature of legislation (via the EPIRA and IRR) and a creature of contract (via members' agreement upon registration to comply with the WESM Rules).
41. An example of a pure self governing market is a multi-lateral contract created and controlled by its members alone and where the rules of the market are the terms of a contract agreed to by each member. The governing body may be composed of the stakeholders in that market or any other manner agreed by the members. The governing body brings rules into force through an approval process after consultation with the parties to the contract, much like any contractual process where the parties must agree on the contract and any amendments to it. Each market participant agrees to be bound by the contract, including the obligation to meet any penalties imposed.

- Each participant would sign an agreement that brings them into the contract as a party to it. Disputes will be resolved within the market system without initial recourse to the public (Court) system.
42. However, this is not the WESM model. The WESM model is a regulatory/contractual hybrid where members have both regulatory and contractual rights and obligations. Rule 9 section 1 of the IRR imposes a regulatory requirement for participants to comply with the rules. Also the EPIRA and IRR give the ERC the regulatory authority to enforce the rules and regulations governing the operations of the WESM and the activities of the market operator. Within the WESM system members sign a compliance agreement. This agreement forms the contractual basis for enforcement within the WESM. This WESM enforcement regime works in conjunction with the regulatory regime where the ERC has overarching authority as the energy sector regulator.
 43. That participants sign an agreement upon registration is advantageous by creating a mechanism contractually tying the participant to obligations in the rules. It creates an efficient mechanism of partial self-regulation. It provides for example, certainty whether and when a participant has become a WESM member, it elicits an express agreement regarding the participant's willingness to follow the dispute resolution procedures in the rules, it creates the basis for an internal enforcement system including penalties, and it creates a contractual obligation for participants to comply with the confidentiality requirements even after they have ceased to be a WESM member.
 44. Notwithstanding that the WESM is not a self governing body in a pure sense, it does contain the key elements. WESM formulates, but not makes (the DOE does this by order), its own rules and those rules contain enforcement provisions to which the members are contractually (as well as regulatorily) bound. Our recommended IMO structure contains the key elements of self-governance.
 45. Whether members have a vote on decisions of the WESM governing body does not affect the level, and is not a key element, of self governance described above. The key elements are that the WESM is governed independently of the government, that its members can formulate and recommend changes to its rules, and that it has its own independent check on the system.
 46. In the case of our recommended IMO structure, the participants do not have a vote in the WESM governing body but do have a right to formulate and recommend WESM

rule changes to the Independent Market Operator Board. The WESM will be a self governing system as it has a governing board independent of government, it formulates its own rules, and the WESM Rules are enforced, to a large extent, within the WESM system. The voting rights referred to in EPIRA, in its widest sense, refers to right of participants to contribute equitably and meaningfully within the system. This will be achieved under the recommended IMO structure.

2.2.7 IRR WESM “governing body”

47. The IRR fills many of the interpretational ‘gaps’ referred above regarding the ‘independent entity’ and the WESM ‘governing body’. The IRR was the spring board for the establishment of the PEM Board and PEMC structure.
46. Rule 9 of the IRR provides the details of the WESM structure. Section 7 of Rule 9 deals with the constitution of the AGMO. Under sections 7(a) and (b) the AGMO is governed by a body that comprises stakeholder and independent members chaired by the DOE Secretary.
48. The AGMO governing body established under IRR section 7 is referred to there as the AGMO governing body. Its functions include governing the operation of the WESM.
49. Section 7(d) provides that the AGMO governing body, amongst other things, governs the operation of the WESM until the IMO is put in place at which time the functions, assets and liabilities of the AGMO are transferred to the IMO.
50. Section 7(e) of the IRR requires the AGMO to transfer its functions, assets, and liabilities to the IMO. There is no reference to a transfer of the “powers and duties” of the AGMO governing body at the same time, but that does not mean that the AGMO governing body retains any powers and duties. Section 7(d) is clear that the power and duty of the AGMO governing body to govern the operation of the WESM ceases once the IMO is in place.
51. The intention of the drafters of the IRR around the AGMO transition to the IMO appears to be as follows:
 - (a) the DOE would constitute the AGMO, which will include a majority stakeholder board thereby facilitating the EPIRA requirement for the DOE to formulate rules jointly with the electric power industry participants;

- (b) this AGMO structure would provide the mechanism to allow the interim market (ie until the transition to IMO) to separate the market operation functions from the rule-making functions;
 - (c) when the IMO is put in place it would receive the functions, assets, and liabilities of the AGMO and the AGMO's power to govern the WESM will cease.
52. The IRR states that the AGMO will govern the operation of the market until the selection of the IMO at which time its power to govern will expire. When that happens a body will already have been established (the WESM governing body), and been provided with the requisite power to govern, under the rules to take over this role and govern the market. From an efficiency of management point of view this can be construed as simply the IMO Board which can have responsibility both to the WESM Rules and the Governance of the Market Operator and this is how it is laid out in our recommended structure.

2.2.8 Summary of the legislative landscape

53. In summary the situation is as follows:
- (a) Section 30 of EPIRA requires the establishment of an AGMO. Section 30 clearly states that the AGMO is the interim market operator. The composition of the AGMO must include the DOE and stakeholders. This is supported in Rule 9 section 7 of the IRR for the DOE to establish the AGMO: **This has happened**
 - (b) Section 30 of EPIRA requires the procedures for a WESM governing body to be established in the WESM rules. **This has happened**. Section 7 of Rule 9 of the IRR created the concept of an AGMO governing body which was to be established in accordance with WESM rules. The AGMO governing body was to comprise stakeholder and independent members to be chaired by the DOE Secretary. This composition accords with the EPIRA requirements for the AGMO: **This has happened**
 - (c) The IRR sets out that when an IMO is established the functions, assets, and liabilities of the AGMO are transferred to the IMO and the power and duty of the AGMO to govern the operation of the WESM terminates. The EPIRA is explicit that the market operator is to be an "independent entity". A definition of Independent can be constructed from the EPIRA and the WESM Rules. **These are to be done.**

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- (d) Section 30 of the EPIRA requires the establishment of the WESM governing body through the WESM rules. This is not the AGMO governing body established under the IRR. The AGMO governing body established under the IRR is transitional until the WESM governing body, required under EPIRA, is implemented with the introduction of the IMO:
- (e) Under Rule 9 section 7(d) of the IRR the AGMO has functions that include not only to operate the market (in subsection (iv)) but also to govern the operation of the WESM until the formation of the IMO (in subsection (i)):
- (f) All the activities of the AGMO governing body specified under Rule 9 section 7(d) of the IRR are written as “powers and duties” lasting only up until the IMO is introduced into the WESM system. They are not included as the AGMO’s functions which are specified in Rule 9 section 6(c) of the IRR:
- (g) Therefore, once the IMO is put in place, the PEMC and the PEM Board, the AGMO, no longer holding functions, assets or liabilities, or duties or powers, simply become redundant; a shell corporation. As an interim or transitional measure the AGMO governing body concept has been a useful device to manage the AGMO process. However, once the IMO is put in place, the interim AGMO becomes redundant and the WESM governing body is required under EPIRA to be put into place. The WESM governing body, the IMO as it is recommended, will be established and empowered through the WESM Rules.

2.2.9 The term “administering the market” and “administer the WESM”

54. Finally it is necessary for completeness to compare and review the provisions in section 30(c) of the EPIRA and Rule 9 section 6(c)(i) of the IRR where the terms “administering the market” and “operate and administer the WESM” are respectively used.
55. Section 30(c) of the EPIRA uses the term “administering the market” to include the rules that provide procedures for the formation of the WESM governance body.
56. Rule 9 section 6(c)(i) of the IRR uses the term “operate and administer the WESM” to describe one of the functions of the market operator. However it is silent on what “administer” means. Does it include the function of “governing”? If it does then it will also mean that the IRR implies it is a function of the IMO to “govern” the WESM. In

short the answer is “no”, and our recommendation does not rely on this interpretation of the IRR to support the IMO structure, which includes a governing board.

2.2.10 Rule 9 Section 6 IRR Proviso

57. Section 6(a) of Rule 9 of IRR contains the proviso that the IMO shall be financially and technically capable, with proven experience and expertise of not less than 2 years as a leading independent market operator of similar or larger size electricity market.
58. PEMC has operated the WESM for over 5 years as the AGMO. We have analysed its systems and its financial accounts.
59. Our review of the financial condition of PEMC and its likelihood of operating as an Independent Market Operator reveals financial capability. The Company’s auditors are the world class accounting firm of Ernst and Young and have given the Company a clean opinion.
60. Our review of the personnel, applicable technical specifications, and services and assurance practices of PEMC reveals technical capability and expertise in operating an electricity market.
61. We considered the proviso requiring the IMO to be a “leading independent market operator of similar or larger size electricity market”. The JCPC refers to the term ‘independent’ in reference to the electricity market system as the means to ensuring consumer protection and to enhance the competitive operation of the electricity market. The JCPC considered (refer January 17 2002 meeting) that the move from the AGMO to the IMO was similar to the Transco provision in Section 21 of EPIRA, except in that provision it refers to the requirement for proven “domestic and/or international” experience and expertise as a leading transmission system operator. The AGMO IMO transition was treated differently to the Transco transition and did not refer to “domestic” expertise and experience because, as Senator Osmena states, “[I]n this country we do not have such an animal yet”.
62. It is now over 5 years that the WESM has been operational and AGMO has operated it. The AGMO governing body is stakeholdered and is not independent. The AGMO market operator is not stakeholdered and is independent as an operations group. The reference in Section 6(a) of Rule 9 of IRR that the IMO has experience and expertise as a leading ‘independent’ market operator was merely an acceptance that no market operator with expertise and experience existed in the Philippines. Now that situation

- has changed and PEMC does have that experience and expertise. The members of the IMO Board, although not identified yet, will have significant experience in not only markets but other disciplines also. In addition, the Market Committee structure will exist to provide substantial input to it.
63. The recommended IMO structure will put significant emphasis on, and constantly test, the dynamics between the IMO and market participants and government. The best qualified IMO to manage these dynamics is not a foreign board but one that is composed of national expertise and experience.
64. Initially the JCPC considered whether to require market operation experience of three years but agreed that a requirement for two years was preferable in order not to be too limiting. Two years is not a long time for a market operator to gain experience in its own market let alone to apply that limited experience in another.
65. PEMC has developed and maintained communication channels and relationships with many foreign market operators and is well placed to continue to operate the WESM. It is not the expertise or the experience of the WESM market operator that is limiting market maturity but, rather, it is the structure. The movement of the integrity functions into an independent IMO will provide the next growth of the market market maturity.

2.2.11 Summary

66. As laid out in EPIRA and interpreted from the WESM Rules the IMO should be independent of the stakeholders (ie the electric power industry participants) and the government, and should not be under the direction of any stakeholdered governing body.

2.3 IMO STRUCTURE AND GOVERNANCE PROVISIONS IN THE WESM RULES

2.3.1 Background WESM MO structure and governance

67. The principle oversight mechanisms applicable to the electricity sector are established, at a high level, under the EPIRA. So far as WESM is concerned oversight is provided by the Department of Energy (DOE), the Energy Regulatory Commission (ERC), and the Market Participants. The scope of this oversight by each body is discussed in Section 5.
68. The WESM is first and foremost a spot market. The WESM is not a definable legal entity and is an amorphous concept. The WESM comprises a group of members

- whose total membership consists of a finite and definable group of legal entities. All these members participate, one way or other, in the business of the spot market. Membership is achieved by a formal registration process which includes the signing of an agreement by each participant member. Registration is the mechanism by which a market participant becomes a WESM member. Once registered, a WESM member acquires certain rights and obligations, the majority of which are set out in the WESM Rules. In order for the WESM to function as a spot market it needs a mechanism to perform the administration and operational tasks required of a spot market. That mechanism is set out in the EPIRA which provides that the WESM is to be administered and operated by an independent entity.
69. The Philippines Electricity Market Board Corporation (PEM Board and PEMC) is the body that currently performs the functions of the market operator and the keeper of the Rules. It performs these functions temporarily until such time as the market operator functions are transferred to an independent entity, the Independent Market Operator (IMO). The PEM Board and PEMC is an interim, or transitional, market operator and is called the Autonomous Group Market Operator (AGMO). The AGMO comprises two parts, one that operates the market and the other that governs it. Refer to Appendix 1 for an overview of the current structure.
 70. The PEM Board was established as the governing arm of the AGMO. The PEM Board regulates the membership and activities and operation of the spot market. Like the PEMC, the PEM Board, as part of the AGMO, is an interim body and has the power to govern only until an IMO is established.
 71. As required under the IRR, and before the WESM Rules were developed, the DOE constituted the AGMO as the market operator. The IRR requires that the AGMO governing body be equitably represented by stakeholders selected in accordance with the WESM Rules, including some independent membership and chaired by the Secretary of the DOE.
 72. Consequently the PEM Board and the PEMC were incorporated as the AGMO. The WESM rules were then developed by the DOE and electric power industry participants through the AGMO.
 73. Through this process WESM rules were made that establishes that the WESM is to be governed by the PEM Board and also establishes (in rule 1.4.3.2) that, when the IMO assumes its duties, the PEM Board would remain as the WESM governing body

retaining its stakeholder status. **This is contrary to our recommended IMO structure.**

74. From a governance perspective the stakeholder membership of the PEM Board is a structure that has been tried in other markets. For example in the voluntary market in New Zealand the Board was majority stakeholder but the Chair was independent. That is now changed and the Board is totally independent. In CAISO the Board was stakeholder but this was changed after the crisis in the California market. In NYISO the Board members have no business, financial, operating or other direct relationship to any Market Participant or stakeholder of Directors and stakeholder Management Committee. In Ontario, initially the Board was comprised of both stakeholders and independents but was changed to being totally independent. In other US States, for example in the NYISO Board, the MISO Board, the ISO-NE Board, the PJM Board, and the SPP Board, the boards are all independent. Refer to Appendix 4 for a summary of comparison with other foreign electricity markets. By far the vast majority of Market Operators (10 of 12) have an Independent Board and a not for profit structure (11 of 12). Those that have stakeholders on the Board (2 of 12) have their Market Integrity Functions (Market Surveillance and Compliance) reporting to a different entity with the ability to effect change if issues are found. Our recommended IMO structure is consistent with international trends.
75. An internet review was undertaken to discern the Independence of Boards in other Electricity markets. Appendix 4 of this Report surveys the Independence and Governance of all the North American and Asian Electricity markets. In all but two cases, ERCOT and Australia, these Market Boards are structured as being independent of the Market Participants. In both of these cases with stakeholder boards the Monitoring and Surveillance of these markets is left with an Agency not reporting to the ISO Board but able to effect change and is Independent of all market participants.
76. It may be argued that, rather than assessing one particular board membership composition as being better or worse than another, it is only necessary to assess whether the principles of good governance are achieved by the particular structure under review. That is to argue that it cannot be assumed that a stakeholder board is inherently a bad option. For instance it might be argued that the present WESM stakeholder board structure is equitably represented, has an independent Chair, and also ensures that the Board has a wealth of knowledge and understanding of the electricity sector in each member. This argument for retaining a stakeholder board within WESM, however, does go against the current trends in other electricity markets.

What is apparent in a stakeholdered Board is that Surveillance of this market does not report to the Board, rather another Regulatory Agency to remove the conflict of interest associated with stakeholders monitoring themselves: *Quis custodiet ipsos custodes?* - who will Guard the Guards?.

2.4 DISCUSSION ON STRUCTURE COMPONENTS

2.4.1 TWO-TIERED GOVERNANCE

77. Based on its analysis the Project Team had initially developed 3 proposals as IMO structure options. The purpose for designing 3 proposals was to provide a scope of potential options for discussion and analysis, each focusing on providing the most effective solution within particular criteria. The recommended option of the Project Team is represented in Appendix 2.
78. The options covered a wide range of potential structures with some subtle variations between them. Elements of one option could be transferrable to another option so, even though there were 3 options analysed, permutations were created by transferring elements such as contracting out the IMO concession or elements of the concession to service providers between options which effectively provided more than 3 options for analysis purposes.
79. The optimum governance and IMO structure was recommended based on analysis taking into consideration all relevant circumstances.

2.4.1.1 Functions under a WESM governing body, the IMO Board

80. The recommended IMO structure is designed to employ a two-tiered governance model to assure that it operates neutrally and independently in managing the electricity grid and markets. The structure is represented in Appendix 2. The first tier being the Independent Board and its Governance of the Market and Market Operations and the second tier being the Market Participants and their advice and guidance to the Independent Board on the Market and its Rules setting.
81. Independence and neutrality are at the core of the proposed business operations by creating a two-tiered governance structure – the IMO Board and the Market Committee – ensures independent decisions.
82. The IMO Board is charged with ensuring that the IMO operates the Market efficiently including the setting of WESM Rules and creates and operates a fair energy market.

To establish neutrality, Board members can have no personal affiliation or ongoing professional relationship with, or any financial stake in, any WESM participant.

83. The Board ensures that no member or group of members has undue influence. The Board is required to prevent the undue exercise of market power by any market participant. To support this goal of Market oversight, the IMO Board employs both a Market Surveillance Committee and Compliance Committee which report to the Board.

2.4.1.2 The Market Committee

84. The second level of governance in the market is the Market Committee (refer Appendix 3); a committee comprised of stake holders tasked with:
- (a) providing advice to the IMO Board:
 - (b) voting on whether Rules will be recommended by it to the IMO Board for its decision (note: the Board will still decide on the outcome of Rule change proposals that are not recommended by the Market Committee, but a failed Committee vote must carry weight).
85. The DOE will have, as is the case now, the final approval decision with regard to rule change proposals. Currently the WESM Rules are worded such that the DOE only considers proposed changes, but not proposals that are rejected. We recommend that the DOE is given the authority and discretion to request the IMO Board to reconsider proposals that are rejected by the IMO Board on its own account or if the Market Committee makes a request to the DOE for it to reconsider rejected proposals and provided that the DOE considers the request is reasonable and satisfies the overall objectives of the WESM.

2.4.2 Market Integrity Functions – Reporting Directly to the IMO Board

2.4.2.1 Role of the WESM Market Monitoring Committee - Independent

86. The WESM market monitoring body must be independent to shield it from stakeholder influence (refer Appendix 3). This is a key structural component of a well-governed market.
87. The general principle is that the market monitoring function is structured to ensure the data collected, analysis conducted, and information provided by the market monitoring

- body is free of bias. To promote this the market monitoring body must be independent and the market monitoring process must, and must be seen to, promote objectivity.
88. The WESM monitoring body must be able to conduct real time monitoring. In this respect there is an advantage for the monitor to be close to or have ready access to the market's day to day operations. This can be achieved by giving the monitoring body access to assistance from the IMO monitoring unit.
89. The WESM monitoring body is currently called the Market Surveillance Committee (MSC) and its roles and responsibilities and composition are established under Chapter 1.6 of the WESM Rules and are not expected to change (except for removal of compliance related functions). The monitoring unit assisting the MSC will be the Monitoring and Assessment Group ("MAG").
90. If the WESM governing body is independent, which we recommend, then it is desirable and appropriate that the market monitoring body sits under it.
91. The WESM monitoring body can be a group formally selected under detailed provisions set out in the WESM rules or, alternatively, may be one or more independent expert market adviser/s. The latter option is utilized by some electricity markets, for example NYISO has an both an internal market monitor and an independent adviser and so too does ISO-NE. The Southwest Power Pool (SPP), not yet a market, uses an external independent market monitor (Boston Pacific). In the IESO the Monitoring Body, the Market Surveillance Panel reports to the Ontario Energy Board, the Regulator of the market and in Alberta the monitoring is undertaken by a separate Company the Market Surveillance Administrator.
92. If the WESM governing body is not independent then another structure or tier would need to be created that can appropriately harbor the independent functions necessary for good governance. The WESM monitoring and compliance bodies are a prime example of a body that performs an independent function that would need to be so harbored, adding cost and complexity to the structure.

2.4.2.2 WESM Compliance Committee - Independent

93. The WESM Compliance Committee must be independent to shield it from stakeholder influence in applying the rules (refer Appendix 3). This is a key structural component of a well-governed market.

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94. The PEM Board is currently responsible for initiating compliance investigations and for imposing sanctions on participants for breaches of the WESM rules. Sanctions are imposed in accordance with a detailed penalty process prescribed under the WESM Rules and in accordance with a protocol with the ERC which sets out the boundary line between the 2 different but compatible enforcement processes.
 95. Presently the day to day management of the enforcement process is handled by the Enforcement and Compliance Officer (ECO) which is within the AGMO and established with its roles and responsibilities under Chapter 7 of the WESM Rules. The effect of having Market Participant compliance enforcement reporting directly or indirectly to a stakeholder board is both a perceived and real conflict.
 96. The enforcement Market Manual requires the MSC to review the ECO Investigation Report prior to it going to the PEM Board. This step adds little, if anything, to the process and imposes an extra and unnecessary layer and complexity to the process. The skill-set of the members of the WESM monitoring body will not necessarily match the skill-set requirements for reviewing and approving enforcement matters. It is recommended that the ECO report directly to a compliance body which sits under the WESM governing body without going through the MSC or its equivalent under the new structure. The ECO budget will also be approved by the Compliance Committee.
 97. It is recommended that a Compliance Committee sits under the WESM governing body responsible for receiving and deciding whether it agrees with ECO recommendations on findings of breach of the WESM Rules and making recommendation on breach and sanctions on participants for breaches to the Board. The Compliance Committee is a standing Committee of the Board, composed of Board members, with its functions specified in the by-laws of the Board. It is recommended, under this process, that the ECO be able to initiate fact finding immediately the IMO receives notice of any potential breaches and then reports to the Compliance Committee at the next Committee meeting. At this point the Committee may decide not to pursue a matter, setting out its reasons, or to direct ECO to begin an investigation, or to seek further information. The Committee will not oversee investigations and so will be able to objectively assess ECO's final Investigation Report including ECO's recommendation on breach including relevant considerations for penalty in cases where a breach has occurred. The Committee will then provide its own recommendation on breach and, if relevant, on penalty to the Board. If a party disagrees with the decision of the IMO Board on breach or on penalty then the matter may be taken to the ERC who will decide whether to exercise its original jurisdiction to hear a matter. Essentially the Compliance

Committee, who are composed of Board members, will act as a filtering mechanism for the Board and also to ensure that the Board is sufficiently apprised of the compliance activities conducted on behalf of the market.

98. The Chair of the Compliance Committee will be a senior attorney or a similarly qualified person with a deep strategic and philosophical understanding of enforcement and at least 2 other members who, in combination, will ideally provide in-depth knowledge of electricity markets from both economic and electrical engineering perspectives. The Compliance Committee will comprise only Board members. The Committee will be supported by the Corporate Secretary (not the market administration unit) so as to keep monitoring and compliance information streams separate.

2.4.2.3 WESM Audit Committee - Independent

99. The audit body, the Audit Committee, will sit under the WESM governing body (refer Appendix 3) and will be responsible for managing the WESM audits including the IMO annual audit conducted by an independent auditor (including software audits), the annual WESM audit, and reviewing the IMO's internal audits, including any software updates.
100. This Audit Committee may also be responsible for monitoring the performance of market operation services under any future outsourced market operator functions.
101. The Philippines Market Auditor role already exists under the WESM Rules in Chapter 1.5 and it is not envisaged that its roles and responsibilities will change.

2.4.2.4 Dispute Resolution Committee - Independent

102. The Dispute Resolution body will report to the WESM governing body for any resolution approvals (refer Appendix 3). It will be an outsourced function. Its roles and responsibilities are under Chapter 7.3 of the WESM Rules. It will comprise a panel of independent members who can provide mediation and arbitration services to disputants. In other Markets while this Body reports to the Board of Directors typically it is an outsourced service provided by Dispute Resolution Experts, typically with a Legal background.
103. The ruling of the Dispute Resolution Committee is considered final within the WESM system. The participants have a final recourse via the WESM Rules 7.13.11 and 7.3.12

from the Dispute Resolution process to approach the ERC or the Courts if it is a matter of Law.

2.4.3 Market Participant Functions and Resonsibilities

2.4.3.1 Market Committee - Stakeholdered

104. As a reflection of the dual Governance role of the IMO and the Market Participants, the Market Committee will be composed of Market Participants and, by virtue of their presence in the market, oversee and monitor the IMO'S conduct of market operations, including key reliability functions directly related to market operations (refer Appendix 3). It regularly interfaces with the IMO.
105. The Market Committee, on which each member/customer has a representative, provides advice to the Board by proposing and voting on changes and new programs. The Committee is composed of four voting sectors representing power generators, transmission owners, electric distributors and consumers. Regularly scheduled Market Committee meetings with the Board facilitate more direct communication from the membership to the Board on key issues. The voting rights must not be designed around electricity traded volume as this will lead to an imbalance of representative votes. It must also include membership of Visayas and future potential membership of Mindanao.
106. While the Market Committee provides an integrated view it is also responsible for:
- (a) supervising and reviewing work of the other IMO Market Participant committees, the Rules Change Committee and the Technical Committee and whatever Ad Hoc Market Participant Committees as may be struck:
 - (b) developing positions on IMO operations, policies, rules, and procedures:
 - (c) making recommendations to the other committees and the Board:
 - (d) reviewing and making recommendations to the Board with respect to Market Rule changes proposed by the Rules Change Committee:
 - (e) such other functions and powers conferred on it by the IMO Board.

2.4.3.2 Rules Change Committee – Stakeholdered

107. The Rules Change Committee is made up of both Stakeholders and Independents and presently recommends Rule changes to the PEM Board, who may or may not take their

- advice to enact Rule changes (refer Appendix 3). In turn the DOE as the “owner” of the Rules may determine if such Rule changes are appropriate to meet the purposes of the electricity market. Presently the Rules Change Committee sits under the PEM Board.
108. The Rules Change Committee must include input from experts in the market place and those impacted by the Rules themselves, the market participants. The interaction of these two groups leads to Market Rules that are crafted to ensure the correct incentives within the marketplace.
109. The Rules Change Committee will report to a Stakeholder Committee (ie the Market Committee). It is a recommending body and while it can recommend, the IMO Board will decide. The Rules Change Committee has been constituted in Chapter 8 of the WESM Rules and it is envisaged its composition will mirror the Market Committee and neither its roles or responsibilities will change.

2.4.3.3 Technical Committee

110. The Technical Committee has been established in Chapter 1.7 of the Market Rules and it is envisaged that neither its composition, roles or responsibilities will change. It will sit under the Market Committee providing advice (refer Appendix 3).

2.4.4 Future Roles of the IMO Board

111. Once established as an independent body, the IMO, in consultation with the DOE, may consider the potential for outsourcing component functions by way of one or more Service Agreements. Naturally any decision would be guided by such principles as being cost-effective and providing enhanced capabilities to market participants. Any final decision to outsource component functions of the market operation (ie not a concession) must be agreed between the DOE and the IMO Board, so too the decision regarding the person who will provide those services and any contract regarding those services. Where outsourcing is in the nature of a concession (being in the nature of a monopoly of State controlled functions by terms such as the outsourcing agreement is longer than 10 years and the functions are the whole of the market operator functions) the DOE will have the final power to decide the policy and approve any Concessionaire engagement.
112. Any Concessionaire Engagement may be a contract between the WESM governing body and an outsourced separate for-profit company to manage the Market Operation services of the IMO. It is essentially a service contract but involves the whole of the

market operator functions and may be referred to as a concession due to its unique nature as a monopoly position that is controlled, ultimately, by the State.

113. Similarly it is possible, as has been done with Market Operators in other jurisdictions, to simply outsource components of the Market Operation. Outsourcing components as service agreements would be done if it can be justified as a cost-effective solution that enhances or at least maintains efficiency.
114. Such decisions would be undertaken jointly by the DOE and the IMO Board subject to the limitations set out above.

2.4.5 Internal Functions under the IMO

2.4.5.1 The Market Assessment Group (MAG)

115. The Market Assessment Group (MAG) serves as the primary support unit of the Market Surveillance Committee for the purpose of implementing an effective governance system for the WESM. MAG monitors, assesses, and prepares reports on the performance of the WESM and behaviour of its members to ensure that the market is functioning effectively and efficiently. The MAG also provides advisory support to Department of Energy and Energy Regulatory Commission.

2.4.5.2 The Enforcement and Compliance Officer (ECO)

116. The Enforcement and Compliance Officer (ECO) serves as the technical and investigative arm of the WESM Compliance Committee. The ECO establishes mechanisms to promote consultation and voluntary compliance by participants to the WESM Rules, but shall also conduct investigations of possible breaches of the WESM Rules and make recommendations regarding the compliance of WESM Members.
117. ECO shall continuously develop systems and procedures to deter breaches of the WESM Rules and further evolves enforcement of penalties consistent with the objectives of the WESM.

2.4.5.3 Market Operations

118. The Market Operations group manages, directs, and coordinates real-time operation of the WESM 24-hours a day. It is responsible for the daily trading operations, development of market operating systems, procedures and business processes, market documentation, market report publication, participant and client support, market

forecast and projections, dispatch scheduling and pricing, analysis of market outcome, facilitation of market re-run and interface with the system operator.

119. Market Operations staff may act as resource experts in the area of Trading Operations as may be required in public consultations, ERC hearings, and investment forums.

2.4.5.4 Corporate Services

120. The Corporate Services group develops policies, provides administrative support and guidance, and implements programs at the corporate level in the areas of Finance, Human Resources and Administration, and Billing and Settlement, ensuring consistency of implementation across the corporation.

2.4.5.5 Information Technology

121. The IT group is mainly responsible of ensuring an uninterrupted and continuous 24/7 market operations, efficient and reliable software applications, databases, and computer hardware and communication equipment.
122. The IT group is further tasked to manage and supervise the development and implementation of the Corporate IS/IT policies and procedures. Such would cover Corporate IS Plan, Corporate Security, IT security risk management plans, E-Mail and Internet Access, IS/IT Standards, in-house and off-the shelf systems and facilities.
123. Further duties of the IT group are to coordinate with various groups and units, both internal and external on matters related to IS/IT with regard to the operation of the WESM; and to manage the evaluation of proposals and contract negotiations for the development and implementation of the MMS IS/IT infrastructure to support the WESM.

2.4.5.5 Legal

124. The Legal group shall provide overall legal assistance to various PEMC internal business units and stakeholders and represent PEMC in various courts and ensure timely filing of applications and pleadings. Legal group also acts as the legislative liaison office of PEMC and conducts workshops on regular legal updates for WESM participants.
125. Legal monitors compliance of PEMC with WESM Rules, ERC decisions and orders, and other pertinent rules and regulations of government agencies and analyzes legal

implications to PEMC of policies, orders, and decisions by relevant government agencies.

126. Legal also assists in the review of PEMC procedures and the formulation of various market manuals.

2.4.5.6 Corporate Planning and Communication

127. Corporate Planning and Communication develops, manages, and monitors the overall business and annual operational plans of the corporation. It ensures synergy across the corporation's performance measures and alignment of corporate goals and activities with regulatory compliance and government agency policies. Corplan conducts risk management activities and formulates the risk management plan.
128. The group manages overall training and communications plan. It develops and implements strategies and programs related to the dissemination of corporate broadcasts, management of relationships with media and stakeholders, and supervises holding of corporate events.

2.4.6 Recommended Structure - Independent IMO Board

129. Refer to Appendix 2 for the diagram representing our recommended IMO structure – Independent IMO Board.
130. This proposal for an Independent IMO Board promotes the highest level of structural independence to the market and at the same time provides the appropriate level of involvement by the stakeholders and the government. The level of structural independence is the most conducive, of all the options considered in our analysis, for creating favourable conditions for enhancing confidence in the WESM both from consumers and other Market participants and to enhance the inflow of private capital and broaden the ownership base of the power generation, transmission, and distribution sectors; a policy expressed in section 2(d) of the EPIRA.
131. The recommended IMO structure is designed to employ a two-tiered governance model to assure that it operates neutrally and independently in managing the electricity grid and markets. Independence and neutrality are at the core of the proposed business operations by creating a two-tiered governance structure – the IMO Board and the Market Committee – ensures independent decisions. To be judged as an

- Independent, members of the Board must satisfy the Market Rule Test defined in the WESM Rules (MR 1.4.2.7).
132. The IMO Board is the WESM Rules governing body; it is independent of all stakeholders and of the government. This option represents the highest level of self governance achievable compared to all other options reviewed.
133. The IMO Board is charged with ensuring that IMO operates the Market efficiently and creates and operates a fair energy market. To establish neutrality, Board members can have no personal affiliation or ongoing professional relationship with, or any financial stake in, any WESM participant. The Board ensures that no member or group of members has undue influence. The Board is required to prevent the undue exercise of market power by any market participant (note: this is slightly different to, but compatible with, ERC's role to take enforcement action when there is or suspected to be an undue exercise of market power). To support this goal of Market Oversight, the IMO employs both a Market Surveillance Committee and Compliance Committee which report directly to the Board.
134. The IMO will be non-stock and non-profit and can be viewed as a transfer from the present PEMC except the new Board of the IMO is independent. The IMO Board will continue to have the Board Obligations as set out in the WESM Rules (MR 1.4.5).
135. The IMO Board will be directly responsible for the following standing committees (refer Appendix 3):
- (a) Market Surveillance Committee:
 - (b) Compliance Committee:
 - (c) Audit Committee:
 - (d) Dispute Resolution Committee.
136. The standing committees report directly to the IMO Board on all matters concerning both Market Participants and the IMO.
137. The Board will take guidance from these committees on appropriate actions required to maintain the integrity of the market by a continual review of Participant conduct, including the IMO.
138. The Board as part of its mandate will approve rule changes, audit reports and compliance and surveillance matters. In terms of compliance and surveillance matters the Board may recommend to the IMO and its Rules Committee the formulation of new

- rules to deal with issues that may be leading to unintended consequences within the WESM Rules.
139. The DOE selects the initial members of the IMO Board; to be judged as an Independent, members of the Board must satisfy the Market Rule Test defined in the WESM Rules (refer MR 1.4.2.7).
140. As a transition mechanism, the present Independents on the PEM Board can provide the foundation for the new IMO Board. The qualifications of the members must be prescriptive to minimize the potential for inappropriate appointments.
141. There will be 5 or 6 members on the Board (including the President as a permanent member). Of the 4 or 5 non-permanent members one member rolls off each year. Thus on an annual basis there would be one new Board member. If the President is a non-voting member then there will need to be 5 independent members (so there will be 6 members on the Board including the non-voting President) selected and the term will shift to a 5 year term.
142. After the DOE has made the initial IMO Board selection, the process might work along the following lines.
- Board will provide the DOE with a slate of candidates for it to choose 2 of the Board members. The Market Committee will be provided with a slate from the Board and from the DOE to select two Board members. DOE will select the first IMO Board members with the following terms - A (1 year), B (2 years), C (3 years), and D (4 years).
- Example:
- Member A -- chosen by the Market Committee from a slate provided by the Board
Member B -- chosen by the Market Committee from a slate provided by the DOE
Members C and D -- chosen by the DOE from a slate provided by the Board
- In each option the MC will only have a limited time in which to choose from the slate of candidates – it is recommended to have less than a 24 hour turn around for its selection.
143. The members can come from many disciplines but it will ideally include members who have expertise and experience in corporate leadership at the senior management or board of directors level, and in the professional disciplines of finance, economics, accounting, engineering, or utility law and regulation. Certain of the Directors, will have

- expertise and experience in the operation of electric transmission systems, or expertise and experience in electric generation or shall have expertise and experience in commercial markets and trading, and associated risk management
144. One of the functions of the IMO Board is to ensure that the relevant expertise will reside within the Board for the continued success of the WESM.
145. The dual role of the governance structure will include a substantial stakeholder presence via a Market Committee composed of the stakeholder community which will provide advice and recommendations on appropriate market changes to enhance the effectiveness of the WESM.
146. In addition to consumer representation, the Market Committee will have the same structure and representation as is presently included in the PEM Board, but including Viasayas and Mindanao when it enters the market, and will represent the following sectors:
- (a) Distribution:
 - (b) Generation:
 - (c) Transmission:
 - (d) Supply
 - (e) Consumer.
147. Reporting to the Market Committee will be the presently constructed Rules Change Committee and the Technical Committee. This differentiation in committee structure is made to include skill sets from different levels of technical and management skills in providing the best advice and recommendations to the IMO Board.
148. The Market Committee will recommend Rule changes to the IMO Board as well as be the liaison between the stakeholder committees and community and the IMO Board.
149. In turn the IMO Board would have the Right to accept the proposed Rule Change or reject it with a documented rationale to the Market Committee as to why it was rejected.

2.5 SUMMARY**150. Our recommended governance and IMO structure**

151. Our recommended IMO structure has the highest degree of self governance to all other options we analysed. The IMO Board structure is the most highly dissociated both from the government and stakeholders. Self governance does not mean stakeholders are involved in the WESM governing body.

152. In comparison to the other options analysed, the level of structural independence in our recommendation creates the most favourable conditions to enhance the inflow of private capital and broaden the ownership base of the power generation, transmission, and distribution sectors; a policy expressed in section 2(d) of the EPIRA.

3 REVIEW THE WESM MANUALS VIS-À-VIS WESM RULES VIS-À-VIS EPIRA INCLUDING THE IDENTIFICATION OF INCONSISTENCIES OF THE PROVISIONS AND PROCESSES AND RECOMMEND POSSIBLE CHANGES TO RECTIFY THE INCONSISTENCIES;

3.1 INTRODUCTION

153. This Section reviews the WESM rules and Manuals in light of the context provided by the EPIRA and IRR.

3.2 WESM PURPOSE AND OBJECTIVES

154. The key policy elements driving the establishment of the WESM are found in section 2 of the EPIRA which is replicated in section 2 of this Report.

155. The purpose and objectives of the WESM are consistent with the EPIRA policy.

156. The purpose of the WESM rules is stated in rule 1.2.2 to implement the provisions of the EPIRA, its IRR, and other related laws as well as to:

- (a) promote competition:
- (b) provide an efficient, competitive, transparent, and reliable spot market:
- (c) ensure efficient operation of the WESM by the Market Operator in coordination with the System Operators a way which:
 - (i) minimizes adverse impacts on system security:
 - (ii) encourages market participation:
 - (iii) enables access to the spot market:
- (d) provide a cost-effective framework for resolution of disputes among WESM Participants, and between WESM Participants and the Market Operator:
- (e) provide for adequate sanctions in cases of breaches of the WESM rules:
- (f) provide efficient, transparent and fair processes for amending the WESM rules:
- (g) provide for the terms and conditions to which entities may be authorized to participate in the WESM:

- (h) provide the authority and governance framework of the PEM Board:
 - (i) encourage the use of environment-friendly renewable sources of energy in accordance with the Act.
157. The objectives of the WESM rules are stated in rule 1.2.5 to establish a competitive, efficient, transparent, and reliable market for electricity where:
- (a) a level playing field exists among *WESM Participants*:
 - (b) trading of electricity is facilitated among *WESM Participants* within the *spot market*:
 - (c) third parties are granted access to the *power system* in accordance with the *Act*.
 - (d) prices are governed as far as practicable by commercial and market forces:
 - (e) efficiency is encouraged.

3.3 WESM RULE CHANGES

158. Chapter 1 of the WESM rules deals with governance. These rules will need to be amended to align with the accepted structure to apply to the WESM.
159. If Option 1 is accepted then:
- (a) The rules are amended to substitute the PEM Board with the IMO Board and include the new Market Committee and Compliance Committee:
 - (b) Rule 1.4.2, is amended to remove stakeholder participation and to insert more prescription for qualifications and experience:
 - (c) Rules 1.4.3 and 1.4.4 are amended to align with rule 1.4.2:
 - (d) Rule 1.4.5 is amended to substitute the PEM Board with the IMO Board:
 - (e) Rule 1.4.6 is amended to include the the IMO Compliance Committee:
 - (f) Rules 1.4.7 and 1.4.8 are deleted, however ensuring the MAG and ECO are established by the IMO under the rules:
 - (g) Rules 1.4.9 and 1.4.10 are amended to cover the committees and the IMO:

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- (h) Rule 1.5 is amended to substitute the PEM Auditor with Audit Committee:
 - (i) Rule 1.6.1 is amended by amending the MSC with more prescription of qualification and experience:
 - (j) Rules 1.6.2 and 1.6.3 are amended to transfer this compliance functions and powers and duties to the Compliance Committee:
 - (k) Rules 1.7.1 and 1.7.2 Technical Committee appointed by Market Committee with independent members on it and include responsibility to Market Committee.
160. Chapters 2, 3, and 4 need minimal changes if any.
161. Chapter 5:
- (a) Rule 5.3 Exceptions (Confidentiality):
 - (b) Rule 5.3.2 to include standing committees.
162. Chapter 6:
- (a) General: Consider whether Market Committee should be engaged when there are decisions made regarding intervention and market suspension for example in rule 6.2.3 regarding the Administered Price Cap.
163. Chapter 7:
- (a) Rule 7.2 Enforcement: review these rules to include Compliance Committee, remove ECO decision re breach, consider removing MSC involvement at rule 7.2.4.3, consider Board decision if above a specified threshold penalty.
164. Chapter 8:
- (a) General: Review roles to insert Market Committee in process:
 - (b) Rule 8.2 Rules Change Committee: review these rules to include Market Committee in the process: includes revision of rules 8.2.1 to 8.2.6 and 8.2.9.
 - (c) Rule 8.3 (Referral of matters to RCC) needs to be addressed; Rule 8.3.1 review who receives rule change proposal Rule 8.4 (Consideration of proposal); 8.4.7 Insert Market Committee as the maker of recommendation to Board; Rule 8.5 (Consideration of proposal); 8.5.1 to 8.5.3.2 to include Market Committee

process; Rule 8.6 Approval by DOE; Rules 8.6.4 and 8.6.5 review to include Market Committee; Rule 8.7 review Indemnity;

165. Chapter 9 and 10 require minimal change of any.

166. Chapter 11:

- (a) General: Review all definitions to incorporate transition changes for example inclusion of Compliance Committee and Market Committee.

3.4 REGISTRATION

3.4.1 Market Participation Agreement – a deed

167. Membership in the WESM is achieved by a formal registration process. This process requires that each applicant for WESM membership as a direct WESM member signs an agreement with PEMC essentially agreeing to be bound by the rules. This agreement is called the Market Participation Agreement (MPA).

168. Once registered, the rights and obligations set out in the WESM rules apply to the WESM member.

169. Under Option 1 the MPA will be an agreement signed between the applicant and the IMO.

170. It is recommended that the agreement be considered to be made as a deed rather than a simple contract. The introduction to the current MPA includes a statement that it is made “in consideration of the mutual covenants set forth herein and of other good and valuable consideration, the receipt and accuracy of which is hereby acknowledged, the Parties agree as follows: ...”. The MPA is constructed and has the formalities that make it appear to be a deed. However the wording quoted implies that the agreement is not made as a deed as it affirms the existence of valuable consideration which, if it is a deed, is not a required element. The preference for the MPA to be a deed is only motivated by the extended limitation period that may be applicable for a deed.

3.4.2 Market Participation Agreement – dispute resolution

171. The MPA incorporates the dispute resolution process in rule 7.3. This means that a WESM member is obligated to comply with rule 7.3 both as a contracting party under the MPA and also under the IRR provision in Rule 9 section 1 which states that, pursuant to section 30 of the EPIRA, all WESM participants shall comply with the WESM rules.

172. The ERC has agreed to coordinate with WESM around the disputes resolution process and its own processes. This is achieved through the PEMC-ERC protocol which is referred to in Section 7 of this Report. This is important as it allows parties to settle their dispute in a manner that they have previously agreed. It will prevent one party to a dispute attempting to derail the dispute resolution process by seeking another body to determine the matter. A court will usually not step in to resolve a dispute if the parties have not first exhausted their contractual rights and obligations to resolve a matter between them. The MPA assists with this, of course, by establishing that contractual relationship.
173. For these reasons it is recommended that these provisions in the protocol remain and that the dispute resolution conditions contained in the MPA remains.

3.5 WESM FUNCTIONS

3.5.1 Enforcement

174. The PEM Board may impose administrative penalties, which means those penalties that relate to the lesser order of breaches than market power abuse or similar. The more serious breaches cover market power abuse and anti-competitive and discriminatory behavior and are enforced by the ERC.
175. Under this enforcement arrangement the WESM governing body is able to enforce most of the breaches that will arise in market. It is recommended this process is retained.

3.5.1.1 WESM has no judicial body

176. Neither the PEM Board nor the PEMC have judicial authority. This will also apply in the case of the IMO Board. It will continue to have, however, the tools and the opportunity both to 'discover' and to 'fix' WESM day to day operational issues. Of course there are limits to the ability that the IMO will have to do this, one such limit being the enforcement of market power issues. WESM will recognize the role of and defer to the ERC in these matters.
177. The EPIRA establishes the ERC as a quasi-judicial body. In this and other respects (refer monitoring roles) the WESM and the ERC roles can be seen to be complementary rather than overlapping or duplicative. This is consistent with the

- EPIRA's allocation of prime responsibility to ERC of monitoring and enforcement of market power related issues.
178. The WESM model is constrained by its administrative scope when enforcing the WESM rules and the ERC should assume responsibility for those matters for which a judicial function is the more appropriate resolution mechanism.
179. Therefore one seam or boundary where the ERC and WESM interacts will be at that point where an enforcement matter escalates to a level whereby its resolution is most appropriately dealt with by a judicial body, at which time the matter should transfer to the ERC.
180. However, having a boundary line should not preclude the ERC from receiving information from the WESM as to the performance of the WESM enforcement regime. It is advantageous for efficiency to promote seamlessness or continuity so in this respect is important that the ERC is kept informed of matters about which it has overarching responsibility. In this respect it may be useful to view the WESM and ERC bodies as working in complementary spheres albeit in an arms-apart relationship.
181. Co-ordination is required by the WESM governing body with the ERC because the WESM governing body's enforcement powers are exercisable without prejudice to the ERC's wide authority to impose fines and penalties in respect of any WESM-related matter. It is therefore incumbent upon the WESM governing body to take preventive steps to ensure no such prejudice occurs for want of an adequate process.
182. Apart from Rule amendment decisions made by the IMO Board (which may be reviewed by the DOE), appeals from decisions made by the IMO Board will often be appropriately made to the ERC.

3.5.2 PEM Board power to impose sanctions under WESM

3.5.2.1 PEM Board's general obligations

183. The purpose of WESM, amongst other things, is to provide for adequate sanctions in cases of breaches of the WESM rules. This is stated in clause 1.2.2(e) of the WESM rules.
184. The PEM Board has the obligation, under rule 7.2.1, to do all things reasonably necessary to ensure that all WESM members comply with the WESM rules.

185. The WESM is governed by the PEM Board. The PEM Board has all the powers necessary to perform its functions (refer rule 1.4.1.2). It has a wide discretion to perform such functions as it deems reasonably necessary to promote the WESM objectives and improve the operation of WESM and the rules (refer rule 1.4.5). The PEM Board has the power to determine compliance or non-compliance with the WESM rules (refer rule 1.4.5.1(d)).
186. The PEM Board has the power to impose sanctions on any participant for breaches of the WESM rules (refer rule 7.2.5.2). However this latter power of the PEM Board must not diminish the ERC's authority to impose fines and penalties under section 46 of the EPIRA. It is to be noted that this rule also does not specifically provide the power for the Board to impose a penalty in respect of breaches related to market power abuse.

3.5.2.2 The ECO

187. The ECO:
- (a) Investigates potential breaches of the WESM rules:
 - (b) Monitors WESM rules compliance:
 - (c) Reports to the governance body.
188. In the WESM, similar to the Ontario electricity market, a formula based mechanism has been established to objectively assess penalties, sanctions, and fines. This provides an efficient system for enforcement and alleviates the need to overuse a WESM governing body to make these decisions for the market. It will allow the IMO to employ objective standards to assess and impose sanctions for breaches (perhaps subject to approval of the WESM governing body) of the operational rules and thereby reduce the cost and timeliness of administering operational compliance.
189. The ECO will not investigate market power type issues, which will be investigated by ERC. The ECO may do so under a delegation from ERC to assist the ERC in the exercise of its functions.
190. There is scope to increase the effectiveness and efficiency of the compliance monitoring and investigation processes within WESM by empowering ECO to commence investigations upon receiving a complaint rather than by waiting for the WESM governing board direction to do so. Under the IMO Board structure this process should be developed and provide for the Compliance Committee to be made aware of

all initiated compliance matters at each of its meetings. Once the Compliance Committee receives an initial fact finding report for the first time from ECO that Committee should be able to dismiss a matter, for reason, if it considers it in the interests of the market to do so.

191. It is recommended that ECO reports to a standing Compliance Committee instead of to the Board on enforcement matters. The MSC should not be involved in the ECO process, except for the provision of requested information.

3.5.2.3 The ECO assists the PEM Board

192. The ECO is established by the WESM rules to, amongst other things and as stated in rule 1.4.8(c), continuously develop systems and procedures to deter breaches of the WESM rules and further evolve enforcement of penalties consistent with the objectives of WESM.
193. The ECO is required, in its investigation notice under rule 7.2.2.4, to specify any sanctions that may be applicable in the particular case. In addition the ECO may, under rule 7.2.2.8, recommend to the PEM Board that a participant be suspended from the market.
194. Rule 1.6.2(d)(3) of the WESM rules provides that the MSC may be requested by the PEM Board or the ECO to assist it to investigate suspected or alleged anti-competitive behavior. However, rule 1.6.2(d)(3) should be amended to align with the ERC's investigation process and to accurately represent the PEM Board's (and ECO's) lack of authority to investigate matters such as anti-competitive behavior. It may be possible for the WESM to "inquire" into or monitor potential anti-competitive behaviors for purposes other than enforcement such as reviewing WESM structure or rule design issues; or via a protocol to assist the ERC in its investigations.
195. Rule 1.6.2(d)(3) may have been originally based on a tenuous assumption that the PEM Board had the power to investigate anti-competitive behavior. This power is not expressed anywhere in the WESM rules and might be considered inconsistent or in conflict with the ERC mandate. The problem is compounded by an amendment to the same WESM rule 1.6.2(d)(3) and requires the MSC to assist the ECO to investigate anti-competitive behavior, however the ECO also had not itself been given a specific power to investigate anti-competitive behavior.

196. Under current practice the ECO investigates, under authority of the relevant Market Manual, matters such as suspected or alleged anti-competitive behavior. The MSC reviews any ECO report arising from such an investigation, and then it is lodged with the PEM Board. In light of the ERC responsibility to investigate such matters as outlined in this paper, a clearer description is needed in the Manual of the ECO's roles in respect of these kinds of investigations. It is preferable that the ECO will hand over its investigation of these issues to the ERC; the ERC may of course seek assistance from ECO under a pre-agreed protocol.
197. It is recommended that this provision in rule 1.6.2(d)(3) be removed from the rules. Also it is recommended that the Market Manual be amended so as to remove the necessity for the ECO to have its Investigation Report reviewed by the MSC. The ECO should report directly to the Compliance Committee.

3.5.2.4 PEM Board obligation to notify ERC

198. The PEM Board has an obligation, under rule 1.4.5, to notify the ERC of any potential breaches of the WESM rules and recommend to the ERC any action to be taken. The ERC has also the authority under rule 1.2.3.2 to enforce the WESM rules and the activities of market participants for the purpose of ensuring greater supply and rational pricing of electricity.
199. Even though both the ERC and the PEM Board each have powers to enforce the WESM rules these powers do not necessarily conflict with each other.
200. It is recommended that rule 1.4.5 is amended to provide the WESM governing body the power to take enforcement action but limited to deciding whether a breach that is within the scope for administrative penalties has occurred and imposing an administrative penalty where appropriate. This merely reflects the existing practise.

3.5.2.5 ERC has original and exclusive jurisdiction

201. The ERC's power to impose fines and penalties and to enforce the WESM rules is not diminished by any power the PEM Board has to impose sanctions or in respect of WESM enforcement generally. The IMO Board should retain these powers.
202. Refer to rule 7.2.5 which states the ERC has original and exclusive jurisdiction over contesting cases and also that the PEM Board powers do not prejudice the ERC authority.

203. Refer to section 45 of the EPIRA which states the ERC shall, *motu proprio*, monitor and penalize any market power abuse or anti-competitive or discriminatory act or behavior by any participant in the electric power industry.

3.5.2.6 Summary of general WESM compliance obligations

204. In summary:

- (a) The PEM Board has the power to determine compliance or non-compliance with the WESM rules (refer rule 1.4.5.1(d)). The IMO Board should retain this:
- (b) The PEM Board has the power to impose sanctions on any participant for breaches of the WESM rules (refer rule 7.2.5.2). However this power of the PEM Board in no way diminishes the ERC's authority to impose fines and penalties under section 46 of the EPIRA (refer rule 7.2.5.2). The IMO Board should retain this:
- (c) The PEM Board has the obligation, under rule 7.2.1, to do all things reasonably necessary to ensure that all WESM members comply with the WESM rules. The IMO Board should retain this:
- (d) The purpose of WESM, amongst other things, is to provide for adequate sanctions in cases of breaches of the WESM rules. This is stated in clause 1.2.2(e) of the WESM rules. The IMO Board should retain the power and duty to fulfil this:
- (e) ECO may, under rule 7.2.2.8, recommend to the PEM Board that a participant be suspended from the market. The ECO should retain this:
- (f) The PEM Board has an obligation, under rule 1.4.5, to notify the ERC of any potential breaches of the WESM rules and recommend to the ERC any action to be taken. The IMO Board should have this obligation only for serious breaches.

3.5.2.7 PEM Board power to impose sanctions

205. The PEM Board has the power, under clause 6.5.1.1(d) of the Market Surveillance, Compliance and Enforcement Manual, to impose the appropriate penalties for acts and omissions constituting a breach, abuse of market powers, or anti-competitive behavior.

206. This provision in the Manual however is subject to rule 7.2.5 and cannot in any way prejudice the authority of the ERC to impose fines and penalties pursuant to section 46 of the EPIRA.
207. The Market Manuals are approved by the PEM Board so sit at the lower end of the WESM legislative hierarchy. The ERC does not have a formal input into the drafting or approval of any Market Manual provision.
208. The provision in the Manual that provides the power for the PEM Board to impose a penalty for abuse of market power or anti-competitive behavior has no authority under the WESM rules or the EPIRA. There is no ambiguity in section 45 of the EPIRA that the ERC shall, *motu proprio*, monitor and penalize any market power abuse or anti-competitive or discriminatory act or behavior by any participant in the electric power industry. It is likely that, given the clear legislative intent expressed in the EPIRA, the provision in clause 6.5.1.1(d) is not effective without the ERC's clear and unambiguous delegation of its relevant enforcement function to the PEM Board.
209. It is recommended that this clause 6.5.1.1(d) is amended to make it the ERC responsibility to investigate and penalize any market power abuse or anti-competitive or discriminatory act or behavior by any participant in the electric power industry.
210. The ECO has the responsibility for reporting to the PEM Board in respect of its Non-Compliance Report, under clause 9.2.7 of the Manual, and recommending any penalties, remedial actions, or preventive measures to be imposed. This is reviewed by the MSC and forwarded to the PEM Board for its decision. The PEM Board may impose a penalty under clause 9.4.
211. It is recommended that the ECO reports directly to the Compliance Committee, under the IMO Board structure, without being required to undergo a review of their Non-Compliance Report first.
212. The ECO has the responsibility for reporting to the PEM Board in respect of its Investigation Report, under clause 10.6.2(d) of the Manual, and recommending any penalties to be imposed. This is reviewed by the MSC and forwarded to the PEM Board for its decision. The PEM Board may impose a penalty under clause 10.8.2. This process should be simplified by requiring the ECO only to report to the WESM Compliance Committee.

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213. It is recommended that the ECO reports directly to the Compliance Committee without being required to undergo a review of their Investigation Report first.
214. The Market Manual contains the procedures required to be followed in respect of penalty, including the circumstances when a penalty may be considered and the relevant considerations for establishing the level of penalty. The minimum financial penalties is P5,000.
215. The MSC was given the task by the PEM Board to design the penalty levels and the appropriate range of penalties, for breaches and non-compliance of WESM rules, anti-competitive behavior and market abuse.
216. This process is provided for in rule 1.6.3. The MSC developed the Penalty Scheme to be applied under the WESM rules. The Penalty Scheme is used to establish the appropriate financial penalty to apply in any instance of a breach of a WESM rule by a member of WESM. The Penalty Scheme is separate to any compensation resolution process.
217. The penalty levels and ranges designed by the MSC were introduced into WESM as an amendment to the Market Surveillance, Compliance and Enforcement Manual and followed the process for Manual amendments as set out in the Rules Change Manual.
218. The Market Surveillance Committee (MSC) developed the Penalty Scheme in consultation with the WESM traders, the Disputes Resolution Group, and the RCC.
219. The ECO use the Penalty Scheme as its reference point in its penalty recommendations to the PEM Board. It is recommended the ECO continue to use the Penalty Scheme in the same way when it reports to the Compliance Committee.
220. Appendix B of the Manual contains the guidelines for imposition of fines and penalties, or suspension or deregistration of a participant. This should be amended to include the Penalty Scheme.
221. As stated above these provisions in the Market Manual must align with the functions and powers of the ERC in the primary legislation. There is no authority for the Market Manual to provide the power to the PEM Board to impose penalties to the extent it does.
222. The PEM Board's enforcement powers are limited to administrative sanctions. As stated, these provisions in the Market Manual must not limit the ERC's jurisdiction and

primary responsibility to monitor and penalize market power abuse or anti-competitive or discriminatory act or behavior by any participant in the electric power industry.

223. It is recommended that the Penalty Scheme address by way of amendment or ERC protocol or memorandum of understanding regarding the Scheme so far as it purports to penalize market power abuse or anti-competitive or discriminatory act or behavior by any participant in the electric power industry.

3.5.2.8 Sanctions against the market operator

224. Consideration should be made to how most effectively to incentivize the market operator not to breach the rules. If it receives a financial penalty then this may merely be able to be recouped through the market fees and so be an ineffective penalty mechanism.
225. Ideally the IMO will have access to a performance bonus mechanism. It will be through this mechanism that incentives will be most effectively managed such that any breaches will reduce the bonus available in any given year.

3.5.3 WESM monitoring

3.5.3.1 WESM role

226. The WESM governing body is responsible for ensuring that, subject to State regulated monitoring and enforcement of WESM's activities, it monitors and enforces the rules as a responsible WESM governing body. To fulfil this responsibility it must:
- (a) monitor the market for compliance with its rules, including (and in addition to the ERC's own monitoring) monitoring for market power use (any possible abuse found is immediately reported to ERC who will initiate an investigation) and potential anti-competitive or discriminatory acts or behaviors within WESM:
 - (b) enforce compliance of the WESM rules by WESM participants in accordance with the WESM rules:
 - (c) penalize such breaches as are permitted by the WESM rules or delegated by the ERC:
 - (d) assist the ERC in its activities as far as is reasonably practicable and so far as the law allows or permits.

227. In addition the WESM governing body also must ensure the efficiency of the market and market design and structure are monitored. Through the MSC and RCC processes the WESM governing body ensures that the WESM rules remain a current representation of the operation of the market and that the market design and structure are continuously reviewed for improvement, but subject to the EPIRA and the DOE's overriding policy mandate.

3.5.3.2 The WESM market monitoring body

228. The rules that define the functions and scope of the WESM monitoring body (currently called the Market Surveillance Committee (MSC)) will need to be amended to align with the finally determined IMO and WESM governing body structure.

229. Both the DOE and the ERC require information from the WESM on an ongoing basis, including copy furnished reports. However these reports are provided after the fact (usually quite some time later) and further information transfer should take place to enable all parties to carry out their respective functions adequately and efficiently (ie without unnecessary duplication of tasks).

230. The dual function of the WESM monitoring body should remain as monitoring to prevent market power or anti-competitive behavior and monitoring the WESM design, structure, and efficiency in order to continually promote the goals of the EPIRA.

231. The ERC is the principle monitor and enforcer of market power and anti-competitive behavior and so the proposed IMO and WESM governance responsibilities will need to reflect this so that no duplication of process occurs.

3.5.3.3 The MAG

232. The MAG:

- (a) Monitors, on behalf of the WESM monitoring body, market power and its use:
- (b) Monitors, on behalf of the WESM monitoring body, market efficiency, design, and structure issues:
- (c) Reports to the WESM Monitoring Panel:
- (d) Provides secretariat support to the WESM governing body committees and the WESM monitoring body.

233. In the US task of monitoring market power abuse is the prime responsibility of the FERC, through its Office of Market Oversight and Investigation (OMOI). Under EPIRA it is the function of the ERC to also monitor for market power abuse and to undertake enforcement action when it is suspected to occur. A protocol currently exists between the PEM Board and the ERC (refer Section 7 of this Report) regarding the monitoring activities each undertakes. It is recommended that protocols between the ERC and the WESM bodies continue to coordinate their respective roles.

3.5.4 MO monitoring

234. Section 6(c) of Rule 9 of the IRR establishes that the MO is to have the function and responsibility to monitor daily trading activities in the market. Rule 1.3.1.2 provides further details as to the MO's monitoring function. The MO is required to:

- (a) determine whether trading is performed in accordance with the rules;
- (b) identify any significant variations in and between trading intervals;
- (c) identify any apparent or suspected incidents of anti-competitive behavior by any WESM member.

3.5.5 MAG and IMO monitoring coordination

235. The MO monitoring function and the MAG functions are separate activities under the rules. Under rule 1.4.7.1 the MAG monitoring role is distinct from the monitoring role of the MO detailed under rule 1.3.1.2.

236. It is recommended that the activities performed by these two groups are coordinated, to the extent that is appropriate, to maximize efficiency.

4 IDENTIFY WEAKNESSES AND GAPS, RELEVANT TO THE RECOMMENDED IMO AND GOVERNANCE STRUCTURES AND SERVICES, AND RECOMMEND MEASURES AND SOLUTIONS, DULY ACCEPTABLE TO DOE.

4.1 CLARIFICATION OF GOVERNANCE BORDERS

4.1.1 PEMB/PEMC-MSC

237. Because the PEM Board is a stakeholder board there are complex mechanisms in place to alleviate any conflicts that do or could arise. For example in section 3.1 of the Manual the President (PEMC) acts on behalf of the PEMB to monitor the performance of the MSC, and may make recommendations to the PEMB regarding any variations to the honoraria received by the MSC and regarding termination or removal of a MSC member. This and many other provisions in the Manual will not be suitable or required if the WESM governing body is to be non-stakeholder. This will be unnecessary under the IMO Board structure recommended as Option 1.

238. The WESM monitoring body members should be selected and appointed by the independent WESM governing body and accountable to it.

239. The WESM monitoring body should conduct its business independently of IMO but be supported by the MAG. This relationship should be reflected in the Market Manual.

4.1.2 Monitoring roles

240. Broadly, in terms of WESM monitoring, the following summarises the different focus each of the three overseers have:

- (a) the DOE monitoring activities and functions will be aligned and compatible with its mandate as the national body responsible for administering and co-ordinating the State energy portfolios and its national energy policy perspective;
- (b) the ERC monitoring activities and functions will be aligned and compatible with its administrative and enforcement mandate and its regulatory perspective;
- (c) the WESM monitoring activities and functions will be aligned and compatible with its market operation perspective.

4.1.3 MAG and ECO relationship with the WESM governing body

241. Both the MAG and ECO perform vital functions for the effective governance of the WESM.
242. The MAG and ECO will be a part of the IMO. Should the MAG and the ECO be structured as separate groups within the IMO? In some jurisdictions it is the case that the monitoring and compliance functions are contained within a single group. However, the conduct of the group's activities is carefully proceduralized to manage potential conflicts of interest. It is recommended that these remain as two separate groups. We have already recommended that their respective information flows are kept separate to promote the integrity of each process.
243. Operationally, the MAG and MSC will have a close relationship. A significant portion of the MAG activity will be focused on supporting the WESM monitoring body functions and processes. Because of the nature of the WESM monitoring body activities there is no conflict if MAG reports to the IMO President both administratively and functionally. The MAG will, however, need a high degree of autonomy providing the services to the WESM monitoring body and should have an unrestricted channel to that body.
244. The ECO reporting lines should ensure that any conflicts are appropriately managed. Conflict will arise when the ECO is investigating potential breaches that involve market operations. The penalty immunity provided to the MO now no longer applies so the IMO will be liable for penalty for breaches or, if the rules are amended, liable to reduction of its performance bonus. The IMO Board, however, will be independent and will be in a position to provide objective oversight of the market operations functions.
245. The ECO will report to the President administratively but functionally it is ring-fenced and reports directly to, and its budget is approved by, the Compliance Committee which sits under the WESM governing body.
246. The Market Manual will need to be amended to reflect the reporting lines of ECO and MAG to the Compliance Committee and the MSC respectively.

4.2 BUDGETS AND FEES

4.2.1 Structure and level of fees

247. Section 30 of the EPIRA provides that the cost of administering and operating the WESM shall be recovered by the MO through a charge imposed to all market members: provided that such charges are filed with and approved by the ERC.
248. Rule 2.11 outlines the requirement for the submission of an annual budget statement to the PEM Board for approval, and copy furnished to the ERC. This process should be retained so the IMO Management will report its annual budget to the IMO Board for approval. The IMO should also undergo the same reporting requirements currently in rule 2.12.
249. All the funding for the WESM governance and IMO activities will be sourced from the market fees and be approved by the ERC.
250. Currently under rule 2.10.1 the AGMO files the market fees charge with the ERC for approval. The market fees structure and level was published pursuant to rule 2.10.5 upon ERC approval dated 22 June 2006. The market fees level for the 2006 calendar year was approved for P433,624,276. This was levied upon generators as transaction fees and apportioned based on the gross kWh trade by the participant for the billing year. This amount and mechanism for apportionment and collection was carried over for 2007 except from November 2007 to October 2008 the amount increased to P461,238,249 (which was raised to P520,857,506 on appeal). In 2009 the ERC set a fixed rate for market fees based on P0.0144/kWh.
251. As this history attests, the structure and level of market fees remains uncertain. If this situation continues, the IMO, if it is to consider the options later for concessioning with an investor who assumes normal commercial risks, will not have the required level of certainty regarding the fees calculation to be able to make such an option commercially viable. This is not an urgent issue for the transition to the IMO Board structure but it is relevant for the Board further down the track to consider.

4.2.2 Contingency fees for software development

252. At times the IMO will need to upgrade or otherwise develop its software to improve efficiency or to facilitate WESM innovation. If the cost of upgrading software is directly related to its functions as the IMO then a process needs to be established that allows

- for the IMO to seek a 'top up' if the upgrade has not been budgeted for in the relevant annual cycle.
253. It is recommended the IMO Board is given a discretionary pool of funds to meet contingency costs each year such as the IMO cost to implement software changes. The process should contain the criteria to be applied before the WESM governing body will exercise its discretion.
254. In order provide this discretion to the IMO the Board must have a guarantee that it can recoup the cost. It is recommended that such a guarantee is provided by an ERC pre-approval. The ERC could approve a level of contingency fees above the annual budget approved by the ERC for the IMO, up to a maximum value, that the WESM governing body may collect as an additional market fee to distribute to the IMO for a specific purpose. The specific purpose must be directly related to the WESM. Beyond the maximum value approved by the ERC, an application will need to be made to the ERC. The pre-approved allocation only represents a power in the WESM governing body to collect the allocation, perhaps as a transaction fee. The allocation is only an ERC approval to collect and is not actually realised until the WESM governing body approves an amount as a contingency software fee. The ERC may review each 'top up' approval in the following annual budget approval cycle. The alternative may be some form of an agreed tariff from the market participants. Both options should be considered by the IMO Board.

4.3 COMPENSATION AWARD PROCESS

255. Compensation claims are notoriously litigious. Unless a very robust judicial process is used to consider compensation claims and awards it is best left to the courts to resolve. Even so, compensation would still be relevant in the rules because the payment of compensation will be a factor taken into account when determining the penalty on a matter. This therefore retains an incentive for breaching parties to make-good parties' losses from errors or breaches, or in other words an incentive for a party to settle with other parties. This incentive can have a perverse consequence however if the breaching party did not receive any benefit, for example any misallocated funds that was wrongly distributed because of the breach or error.
256. The provision regarding demands for compensation payment by the PEMB on behalf of the market against MO is problematic for the above reasons but also because it is usually in situations where compensation is sought from service providers that unjust

results can occur. Usually the service provider responsible for the error or breach did not receive any of the money that represents the compensation claim.

257. It is recommended that compensation payable by a service provide (including the IMO) is at least capped if not totally indemnified.

4.4 IMO PENALTY IMMUNITY

258. The transition rules that applied immunity have expired and the System and the Market Operator are now liable for fines and compensation.

259. The IMO Board structure will be a non-stock non-profit organization. This is relevant to the consideration regarding any possible immunity being provided to the IMO for penalty and compensation and, if so, to what extent.

260. In New Zealand the System Operator and the Market Operator are both liable for penalty.

261. The MO roles of Clearing and Settlement and Pricing are undertaken by a private for-profit organization. Other functions of market operation are undertaken by the non-profit non-stock Electricity Commission. The role of SO (including scheduling) is undertaken by Transpower.

262. Under their model the Grid Owner can be fined except in respect of breaches relating to metering standards or the provision of metering information. The Grid Owner may, however, be made to pay compensation in respect of these and any other kind of breach. All participants' liability in respect of these types of breach is limited to \$200,000 each year (includes fines and compensation).

263. The SO can be liable for each event up to \$200,000 (fines and compensation) for each breach and no more than an aggregate of \$2,000,000 each year.

264. Compensation cannot be ordered from any party in respect of a breach that relates to or affects final price. All Service Providers have liability limited to some extent, ranging from the Clearing function limit of \$5M for each event and \$10M aggregate, Reconciliation of \$500K and \$2M, Registry of \$50K and \$1M, Market Administration of \$50K and \$500K, and Pricing of \$200K and \$5M. In Australia NEMMCO is the SO and MO. It, and network service providers, are provided immunity from incurring any civil monetary liability unless the act is done in bad faith or through negligence. Civil

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- monetary liability includes fines and compensation. NEMMCO's liability is also capped in any event.
265. The objective of imposing a monetary penalty in a market is to create an incentive for participants to comply with the rules. This incentive should reduce the risk to the market of systemic issues arising in participants' business units and promote participant responsibility to utilize internal processes for taking corrective and preventive actions. It may not be appropriate to impose financial penalties on a non-profit IMO organization for these reasons:
- (a) There is a risk that the compliance regime will promote a culture within the IMO of reluctance to make critical real time decisions:
 - (b) The IMO should be treated fairly and its exposure to penalty should be mitigated taking into account it is required to make complex decisions in real time:
 - (c) The IMO insurance costs will increase to meet the IMO's exposure to these potential penalties and will be reflected in the fees collected;
 - (d) the ultimate payer of these costs may not derive economic value from numerous and high cost punitive investigations or any associated high penalties.
266. A monetary incentive may be argued to be appropriate to use against the IMO because imposing a monetary penalty is perceived by participants as transparent and equitable and providing an alternative enforcement mechanism may weaken the perception of transparency and parity. In other words an alternative enforcement mechanism for the IMO could be perceived as weak enforcement.
267. The fundamental basis for imposing an equal penalty and compensation regime across all participants in the market is that it will promote a perception of fairness and thereby contributes to market integrity. In regards to liability for compensation the arguments for imposing no limitation on the IMO's exposure are tenuous.
268. The IMO, as a service provider, faces an inherent risk that it will breach the WESM rules or make an error. A breach or error by the IMO can result in funds being distributed erroneously, for example by overpaying a participant. If this happens it is often difficult for the IMO or a party who should have received those funds to force the receiver to hand the funds to them. The risk is that a party who is unjustly enriched does not return the funds which may, if the IMO is exposed and the event was caused

- by an IMO breach of the rules, require the IMO to pay compensation to another party without itself having received any benefit.
269. This scenario will produce an unjust result against the IMO if there is no limit to its liability in such circumstances. It will also raise the insurance the IMO will need to secure and that would raise the IMO fee requirements and consequently flow back to consumers.
270. It is recommended that a form of indemnity or cap is put in place to limit the IMO exposure to penalty liability. It is recommended that a form of indemnity or cap is put in place to limit the IMO exposure to compensation liability. However, any indemnity or cap from liability should not subsist where the actions of the IMO are carried out negligently or where breaches are incurred intentionally. There is justification for imposing financial penalties in respect of breaches that are caused wilfully or by negligence. The most appropriate and effective financial penalty will be a reduction of a performance bonus.

5 DOE'S AUTHORITY AND ROLES TOWARDS THE PEM BOARD AND ITS COMMITTEES IN THE INTERIM PERIOD AND UPON APPOINTMENT OF THE IMO;

5.1 BACKGROUND

271. The high level governance mechanisms applicable to the electricity sector are established under the EPIRA. So far as WESM is concerned oversight is provided by the Department of Energy (DOE), the Energy Regulatory Commission (ERC), and the WESM governing body. In this Section both the DOE and ERC roles are reviewed to establish the appropriate scope of each role and to provide relevant material for determining the appropriate IMO structure and level of interaction between it and the WESM governance body and the DOE and ERC.
272. The boundaries of responsibility within the electricity sector are defined primarily by the provisions contained in the DOE Act and the EPIRA. The WESM rules are mandated by an Act of Congress (EPIRA) and developed and introduced with assistance from the DOE but, of course, they are sub-ordinate to the DOE Act and the EPIRA. Even so, the WESM rules establish the operational structure within which the electricity sector carries out its day to day activities and, as such, are an essential reference point for defining the various delineations of responsibility between it and the DOE and ERC.
273. The DOE is the official overseer and implementer of national energy policy. The ERC is the energy regulator.
274. This Section reviews the salient features pertaining to the relevant functions of each of the bodies and will contribute to the basis for the recommended IMO structure under Section 1 and also the recommended protocols under Section 7.

5.2 DOE ROLE

275. The Department of Energy Act of 1992 (RA 7638) created the Department of Energy (DOE). The DOE Act provided the platform for the development of the EPIRA which in turn established a new structure for governance for the sector.
276. Section 2 of the DOE Act states the declared policy of State as follows:
- (a) to ensure a continuous, adequate, and economic supply of energy with the end in view of ultimately achieving self-reliance in the country's energy requirements through the integrated and intensive exploration, production, management, and

development of the country's indigenous energy resources, and through the judicious conservation, renewal and efficient utilization of energy to keep pace with the country's growth and economic development and taking into consideration the active participation of the private sector in the various areas of energy resource development; and

- (b) to rationalize, integrate, and coordinate the various programs of the Government towards self-sufficiency and enhanced productivity in power and energy without sacrificing ecological concerns.
277. This policy statement predates the EPIRA. Even though EPIRA now exists and the WESM is an operating market, the policy of State referred in section 2 of the DOE Act has continuing relevance to the electricity sector. The policy statement is a strategic national policy on energy which includes electricity.
278. The DOE therefore has a responsibility to ensure that the policy of State is carried out in respect of, amongst other things, the electricity sector. This is a continuous obligation. This Report is referring to this responsibility when it states that DOE is implementing national policy.

5.2.1 The Doe powers and functions includes WESM component

279. The DOE was created to carry out the policy declared in section 2 of the DOE Act. It has the mandate, referred in section 4 of the DOE Act, to prepare, integrate, coordinate, supervise, and control all plans, programs, projects, and activities of the Government relevant to energy exploration, development, utilization, distribution, and conservation.
280. The WESM was established by Congress through the EPIRA which was in turn developed by the DOE. As such the WESM is a key element of a particular program of the Government.
281. The unique feature of the government program brought about through the EPIRA is that it created the WESM. National energy policy therefore is directly linked to the creation and the high level outputs of the WESM.
282. From a policy perspective the outputs of the WESM will be a significant measure of the efficacy of the government program brought about through the EPIRA.

283. So, in respect of the reform program brought about through the EPIRA, the DOE has the obligation and mandate to oversee the operation, development, outputs, and impacts of the EPIRA to enable it to prepare, integrate, coordinate, supervise, and control all plans, programs, projects, and activities of the Government relative to energy exploration, development, utilization, distribution, and conservation. This is relevant in the analysis of the governance of and over the IMO and the WESM governing body and the structure within which they operate.

5.2.2 The DOE mandate

284. The development of the EPIRA was overseen by the DOE. In accordance with its mandate contained in section 37 of the EPIRA (and as inserted into section 5 of the DOE Act (RA 7638)) the DOE, jointly with the electric power industry participants, established the wholesale electricity spot market and formulated the detailed rules governing its operations.

285. The EPIRA, through section 37(l), amended the DOE powers and functions contained in the DOE Act so as to align it with the EPIRA reform program. The DOE has the over-riding responsibility for ensuring there exist optimum conditions within the WESM including conditions such as market certainty, transparency, competition, and economic efficiency.

286. The DOE has the over-arching responsibility to ensure that all the policy of State enunciated in the EPIRA is carried out. Therefore the DOE has an obligation to monitor whether the structures created by, and the activities performed under, the EPIRA are meeting that policy directive.

5.2.3 The DOE powers and functions

287. The DOE powers and functions are contained in section 5 of the DOE Act. Section 5 of the DOE Act was amended at the time the EPIRA, which mandated the DOE to supervise the restructuring of the electricity industry, was introduced. So, with the introduction of the EPIRA in 2001, Section 37 of the EPIRA amended section 5 of the DOE Act.

5.2.4 Post-EPIRA

288. Section 5 of the DOE Act of 1992 was amended by section 37 of the EPIRA of 2001. As a consequence of that amendment, section 5 of the DOE Act is significantly

changed from the old provision and now confers upon the DOE the following powers and functions:

- (a) Formulate policies for the planning and implementation of a comprehensive program for the efficient supply and economical use of energy consistent with the approved national economic plan and with the policies on environmental protection and conservation and maintenance of ecological balance, and provide a mechanism for the integration, rationalization, and coordination of the various energy programs of the Government;¹
- (b) Develop and update annually the existing Philippine Energy Plan, hereinafter referred to as 'The Plan', which shall provide for an integrated and comprehensive exploration, development, utilization, distribution, and conservation of energy resources, with preferential bias for environment-friendly, indigenous, and low-cost sources of energy. The plan shall include a policy direction towards the privatization of government agencies related to energy, deregulation of the power and energy industry, and reduction of dependency on oil-fired plants. Said Plan shall be submitted to Congress not later than the fifteenth day of September and every year thereafter;²
- (c) Prepare and update annually a Power Development Program (PDP) and integrate the same into the Philippine Energy Plan. The PDP shall consider and integrate the individual or joint development plans of the transmission, generation, and distribution sectors of the electric power industry, which are submitted to the Department: *Provide, however,* That the ERC shall have exclusive authority covering the Grid Code and the pertinent rules and regulations it may issue;³
- (d) Ensure the reliability, quality and security of supply of electric power;⁴
- (e) Following the restructuring of the electricity sector, the DOE shall, among others:
 - (i) Encourage private sector investments in the electricity sector and promote development of indigenous and renewable energy sources;⁵

¹ No change

² Philippine Energy Plan replaces Philippine energy program, refer pre-EPIRA functions and powers above paragraph (b).

³ PDP is now a subset of the Plan. Grid Code is ERC responsibility. DOE role is to co-ordinate external submitted plans for transmission, generation, and distribution

⁴New

⁵New

IMO AND GOVERNANCE STRUCTURE

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- (ii) Facilitate and encourage reforms in the structure and operations of distribution utilities for greater efficiency and lower costs;⁶
 - (iii) In consultation with other government agencies, promote a system of incentives to encourage industry participants, including new generating companies and end-users to provide adequate and reliable electric supply; and⁷
 - (iv) Undertake in coordination with the ERC, NPC, NEA and the Philippine Information Agency (PIA), information campaign to educate the public on the restructuring of the electricity sector and privatization of NPC assets.⁸
- (f) Jointly with the electric power industry participants, establish the wholesale electricity spot market and formulate the detailed rules governing the operations thereof;⁹
 - (g) Establish and administer programs for the exploration, transportation, marketing, distribution, utilization, conservation, stockpiling, and storage of energy resources of all forms, whether conventional or non-conventional;¹⁰
 - (h) Exercise supervision and control over all government activities relative to energy projects in order to attain the goals embodied in Section 2 of RA 7638;¹¹
 - (i) Develop policies and procedures and, as appropriate, promote a system of energy development incentives to enable and encourage electric power industry participants to provide adequate capacity to meet demand including, among others, reserve requirements;¹²
 - (j) Monitor private sector activities relative to energy projects in order to attain the goals of the restructuring , privatization, and modernization of the electric power sector as provided for under existing laws: *Provided, That the Department shall*

⁶ New

⁷ New

⁸ New

⁹ New

¹⁰ No change, refer pre-EPIRA functions and powers above paragraph (c)

¹¹ No change, refer pre-EPIRA functions and powers above paragraph (d)

¹² New

endeavor to provide for an environment conducive to free and active private sector participation and investment in all energy activities;¹³

- (k) Assess the requirements of, determine priorities for, provide direction to, and *disseminate* information resulting from energy research and development programs for the optimal
- (l) development of various forms of energy *production* and utilization technologies;¹⁴ Formulate and implement programs, including a system of providing incentives and penalties, for the judicious and efficient use of energy in all energy-consuming sectors of the economy;¹⁵
- (m) Formulate and implement a program for the accelerated development of non-conventional energy systems and the promotion and commercialization of its applications;¹⁶
- (n) Devise ways and means of giving direct benefit to the province, city, or municipality, especially the community and people affected, and equitable preferential benefit to the region that hosts the energy resource and/or the energy-generating facility: *Provided, however*, That the other provinces, cities, municipalities, or regions shall not be deprived of their energy requirements;¹⁷
- (o) Encourage private enterprises *engaged in energy* projects, including corporations, cooperatives, and similar collective organizations, to broaden the base of their ownership and thereby encourage the widest public ownership of energy-oriented corporations;¹⁸
- (p) *Formulate* such rules and regulations as may be necessary to implement the objectives of this Act; and ¹⁹
- (q) Exercise such other powers as may be necessary or incidental to attain the objectives of this Act.²⁰

¹³ Focus on monitoring private sector rather than regulating it but maintain objective of DOE to endeavor to provide for an environment conducive to free and active private sector participation and investment in all energy activities, refer pre-EPIRA functions and powers above paragraph (e)

¹⁴ No change, refer pre-EPIRA functions and powers above paragraph (f)

¹⁵ No change, refer pre-EPIRA functions and powers above paragraph (g)

¹⁶ No change, refer pre-EPIRA functions and powers above paragraph (h)

¹⁷ No change, refer pre-EPIRA functions and powers above paragraph (i)

¹⁸ No change, refer pre-EPIRA functions and powers above paragraph (j)

¹⁹ No change, refer pre-EPIRA functions and powers above paragraph (k)

²⁰ No change, refer pre-EPIRA functions and powers above paragraph (l)

289. The EPIRA inserted 9 new provisions (including paragraph (j) (above)) which changed the focus of the old paragraph (e) from regulating to monitoring to expand the DOE powers and functions and to align the DOE powers and functions with the introduction of the EPIRA and the WESM. These new provisions are in paragraphs (c), (d), (e), (f), (i) and (j) of section 5 of the DOE Act. Awareness of these changes provides a useful insight on how the DOE's role has changed with the introduction of the EPIRA in respect of the electricity sector. This is relevant in the analysis of the governance of and over the IMO and the WESM governing body and the structure within which they operate.
290. These powers and functions necessitate the DOE to oversee the operation, development, outputs, and impacts of the EPIRA in order to properly fulfil its mandate as described in section 5 of the DOE Act and section 4 of the DOE Act to carry out the policy of State. This is relevant in the analysis of the governance of and over the IMO and the WESM governing body and the structure within which they operate.

5.2.5 DOE's monitoring role

291. The DOE must monitor activities within WESM in order to attain knowledge of whether the goals of the restructuring, privatization, and modernization of the electric power sector are met as provided for under EPIRA.
292. In attaining the above-stated goals of the restructuring, privatization, and modernization of the electric power sector, the DOE must endeavor to provide for an environment conducive to free and active private sector participation and investment in all energy activities.
293. The DOE must also monitor its own performance regarding its ongoing EPIRA-related responsibilities:
- (a) Ensuring the reliability, quality and security of supply of electric power:
 - (b) Encouraging private sector investments in the electricity sector and promote development of indigenous and renewable energy sources:
 - (c) Facilitating and encouraging reforms in the structure and operations of distribution utilities for greater efficiency and lower costs:

- (d) In consultation with other government agencies, promoting a system of incentives to encourage industry participants, including new generating companies and end-users to provide adequate and reliable electric supply:
 - (e) Developing policies and procedures and, as appropriate, promote a system of energy development incentives to enable and encourage electric power industry participants to provide adequate capacity to meet demand including, among others, reserve requirements:
 - (f) Preparing and updating annually a Power Development Program (PDP) and integrate the same into the Philippine Energy Plan.
294. The DOE monitors the market in its role as the national policy adviser, it ensures that WESM is effective and efficient (by monitoring WESM governance including transparency and operations), it monitors the ERC processes and outputs because those processes and outputs have significant potential national energy policy implications, and is required to be available and ready to take the lead in an emergency situation.

5.2.6 Summary of DOE role

295. The DOE is responsible for initiating, developing, and overseeing energy policy so far as that relates to the national interest of the Philippines, including facilitating reform of the electric power industry introduced through the EPIRA. To fulfil this responsibility it must:
- (a) monitor the WESM high level outputs to determine if the WESM is producing the desired policy effect (for example in the areas of investment, capacity, price, transmission, demand-side participation, minimal entry barriers, and so on):
 - (b) continuously collate and analyze information about the market to enable it to decide whether it has a policy concern, including with market design or structural or efficiency issues:
 - (c) be informed about the WESM so that it is aware as soon as a matter arises that might have a national policy implication:
 - (d) be able to rely on the ERC and WESM processes – but, as the national energy policy body and political advisers, it must have access to information regarding market power abuse, including not only current investigations but also those

areas of concern identified by the ERC and the WESM and being monitored at the time:

- (e) be able to advise both the ERC and the WESM of any concerns it has that it wishes to be investigated – not only in terms of market power abuse but also anything that relates to national policy outcomes.
296. To fulfil its role the DOE is required to maintain oversight of the WESM operation. This oversight is high-level where it sits at the policy end of the spectrum and also acts as the ultimate guardian of the WESM Rules (and as such it retains the final sign-off on amendments to them). Therefore its involvement with the WESM must be close enough (arm's length) to understand the key issues that the WESM is grappling with at any particular time but not so close that it's national policy perspective narrows for loss of detachment from the day to day WESM operations.
297. The DOE is therefore required to have a depth of current knowledge on the WESM. With this depth of knowledge the DOE will be less likely to intervene precipitously and more likely to assist appropriately when needed. The DOE has a significant responsibility as a backstop should – in the unlikely event and for whatever reason – the WESM must stand down or be suspended for any length of time. The reasons for such an extraordinary event are wide and varied, ranging from extremely volatile prices over an extended period, an extreme supply crisis, an act of God, to extreme commercially unviable prudential risk.
298. The DOE should maintain a significant connection with the WESM operations. This means it will at least receive sufficient and timely WESM information and data to enable it to assess the efficiency and effectiveness of the WESM governance and market processes and the ERC regulatory processes.

5.3 THE ERC ROLE

5.3.1 Introduction – scope of role

299. The ERC is, as stated in section 38 of the EPIRA, an independent quasi-judicial regulatory body.
300. The EPIRA sets out, in sections 43 and 45, the functions of the ERC. Broadly the ERC is required to promote competition, encourage market development, ensure customer

choice and penalize abuse of market power in the restructured electricity industry. In pursuance of these goals it has the following key functions:

- (a) Enforce the Implementing Rules and Regulations (IRR):
- (b) Promulgate and enforce the National Grid Code and the Distribution Code:
- (c) Enforce the rules and regulations governing the WESM for the purpose of ensuring a greater supply and rational pricing of electricity:
- (d) Determine the level of cross subsidies in the retail rate:
- (e) Amend or revoke any person's authority to operate if that person fails to comply with the EPIRA, the IRR, or any order or resolution of the ERC:
- (f) Establish and enforce a methodology for setting transmission and distribution wheeling rates and retail rates for the captive market of a distribution utility:
- (g) Ensure limited cross subsidies of charges of Transco and Distribution Utilities:
- (h) Review and approve changes to conditions of service of Transco or any Distribution Utilities:
- (i) Allow Transco to charge user fees for ancillary services:
- (j) Set a lifeline rate for marginalized end-users:
- (k) Monitor and take measures to penalize abuse of market power, cartelization, and anti-competitive or discriminatory behavior:
- (l) Impose fines and penalties for any non-compliance with or breach of the EPIRA, the IRR, and the rules and regulations which the ERC promulgates and administers:
- (m) Take any other action delegated to it:
- (n) Provide annual reports to the President and Congress and publish its decisions:
- (o) Monitor the activities in the generation and supply of the electric power industry to promote free market competition:

- (p) Issue certificates, licenses, and permits or modify and revoke them as appropriate:
- (q) Act on applications for cost recovery and return on demand side management projects:
- (r) Act against any person in the energy sector for violations of any law, rule, or regulation governing that person;
- (s) Exercise its inspection powers as a quasi-judicial body to determine the existence of any anti-competitive behavior and/or market power abuse and any other violations:
- (t) Perform such other regulatory functions to ensure the successful restructuring and modernization of the electric power industry:
- (u) Have original and exclusive jurisdiction over all case contesting rates, fees, fines, and penalties imposed by it.

5.3.2 ERC powers and functions

5.3.2.1 ERC budget approval

301. Section 30 of the EPIRA provides that the cost of administering and operating the WESM shall be recovered by the MO through a charge imposed to all market members: provided that such charges are filed with and approved by the ERC.
302. ERC therefore has the function of approving the budget of the market operator. The applicable process within the WESM rules for budget approvals are set out in rules 2.10 and 2.11.

5.3.2.2 ERC and WESM border functions

303. ERC has a wide scope of functions some of which bring its activities to the border of activities conducted by the IMO and the WESM governance body. These functions and associated activities are relevant in the analysis of the governance of and over the IMO and the WESM governing body and the structure within which they operate. Some of these relevant functions of the ERC include:
- (a) enforcing the WESM rules:
 - (b) imposing fines and penalties for breaches of the WESM rules:

- (c) monitoring and penalizing abuse of market power, cartelization, or anti-competitive behavior or discriminatory behavior.

5.3.2.3 ERC monitoring role

304. The ERC has the function of:

- (a) Monitoring and taking measures to penalize abuse of market power, cartelization, and anti-competitive or discriminatory behaviour:
- (b) Monitoring the activities in the generation and supply of the electric power industry to promote free market competition.

305. The EPIRA and the IRR give to the ERC the responsibility for monitoring and enforcement of market power related issues within the WESM. The WESM rules do not contradict this responsibility lies with the ERC.

306. The ERC and the WESM governance mechanisms must be developed and performed in a co-ordinated manner so that both the ERC and the WESM activities are complementary so far as practicable.

5.3.2.4 ERC enforcement role

307. The following sections in the EPIRA define the powers and functions of the ERC relevant to enforcement:

- (a) Section 46 of EPIRA sets out the range of fines and penalties that may be imposed by the ERC for any violation or non-compliance with the EPIRA or IRR. The range is Minimum of P50, 000 to maximum of P50, 000,000;
- (b) Section 4(a) of Rule 3 of the EPIRA IRR reiterates the ERC has the responsibility of promoting competition, encouraging market development, ensuring customer choice, and penalizing abuse of market power;
- (c) Section 4(b) of the IRR also provides the ERC with the power to promulgate rules and regulations pursuant to sections 43 and 45 of EPIRA (such as the Competition Rules) and to impose fines and penalties for non-compliance with those promulgated provisions and any other rules which it administers;
- (d) The requirement for ERC to establish Competition Rules referred above is further referred to and explained in section 8 of Rule 11 of the IRR. The Competition

Rules will prescribe the penalties and other remedies for any unreasonable restriction to competition;

- (e) Section 7(a) of Rule 11 of the EPIRA IRR provides the ERC responsibility for enforcing competitive safeguards to promote true market competition and prevent harmful monopoly and market power abuse;
- (f) Section 7(d) of Rule 11 of the IRR, provides the ERC the power to penalize electric power industry participants for market power abuse or anti-competitive or unduly discriminatory act or behavior or any unfair trade practice that distorts competition or harms consumers. Such penalties are imposed under ERC's judicial authority. The scope of enforcement powers available to the ERC under this section is very wide and includes, in addition to the penalties provided for under section 46 of EPIRA, power to impose price or bid controls and the issuance of injunctions. The complaints procedure followed by the ERC will follow due process and such procedures of the judicial body are to be promulgated;
- (g) Sections 4(i) and (n) of Rule 3 of the IRR provide the ERC with responsibility for enforcing the rules and regulations governing the operations of WESM to ensure greater supply and rational pricing of electricity, including the power to suspend spot market operations in cases of national or international security emergencies or natural calamities.

5.3.2.5 ERC penalizing role

308. ERC has the following penalty-related functions:

- (a) Amending or revoking any person's authority to operate if that person fails to comply with the EPIRA, the IRR, or any order or resolution of the ERC;
- (b) Imposing fines and penalties for any non-compliance with or breach of the EPIRA, the IRR, and the rules and regulations which the ERC promulgates and administers;
- (c) Issuing certificates, licenses, and permits or modifying and revoking them as appropriate;
- (d) Having original and exclusive jurisdiction over all case contesting rates, fees, fines, and penalties imposed by it;

5.3.2.6 ERC and generation companies

309. Section 4(m) of Rule 5 of the IRR provides that the ERC may impose fines and penalties for non-compliance by the generation companies (Gencos) of numerous specified standards but excludes a large portion of the standards contained in the WESM rules. The specified standards includes those contained in the Grid Code, environmental standards, COC requirements, unbundling standards, and the membership criteria prescribed under the WESM rules.

5.3.2.1 ERC and distribution utilities and suppliers

310. A similar enforcement empowering provision for the ERC as provided for Gencos is contained in section 4(s) of Rule 7 and section 4(g) of Rule 8 of the IRR in respect of the Distribution Utilities (DUs) and suppliers. However, the scope of enforcement by ERC against DUs and suppliers includes all of the WESM rules. In addition the ERC may suspend, revise, or revoke a supplier's license for non-compliance.

5.3.2.2 ERC and rate unbundling and universal charge

311. Section 5(v) of Rule 15 of the IRR provides that, when unbundling and determining the rate base, management inefficiencies such as penalties shall not be included in the rate base calculation.

312. Section 8 of Rule 18 of the IRR provides for the imposition of fines and penalties by the ERC under section 46 of the EPIRA for non or late payment of the universal charge.

5.3.2.3 ERC and TRANSCO privatization

313. Section 11(b) of Rule 22 of the IRR provides the power for the ERC to impose sanctions or penalties for failure by TRANSCO or any successor-in-interest to comply with the Grid Code and the TDP.

5.3.2.4 ERC exclusive jurisdiction of the grid and distribution codes

314. Rule 3 of Part 1 of the IRR states that the ERC has exclusive jurisdiction over the Grid Code and the Distribution Code. This is relevant to the development of WESM enforcement policy and indicates that a WESM governing body's oversight of these 2 Codes is limited.

315. The Grid Code provides standards for the MO, SO, and the GO. The Grid Management Committee (GMC) is established by the Grid Code and is responsible for the day to day monitoring of those standards. The ERC enforces the standards and is

empowered under section 2.5.2 of the Grid Code to impose fines and penalties for non-compliance with the standards.

316. The Distribution Code provides standards for the operation of the distribution system. The Distribution Management Committee (DMC) is established by the Distribution Code and is responsible for the day to day monitoring of those standards. The ERC enforces the standards and is empowered under section 2.5.2 of the Distribution Code to impose fines and penalties for non-compliance with the standards.

5.3.3 Summary of ERC role

317. The ERC will monitor market power and anti-competitive behavior in the WESM. The ERC has the prime responsibility in these matters and does not have a secondary monitoring role to WESM in respect of those matters. The IMO Board is primarily focused, in this respect, on the prevention of market power abuse through market design.
318. The ERC decides whether there has been an abuse of market power or whether a particular activity within the WESM has amounted to anti-competitive behavior.
319. The ERC may be informed of market power issues by any person, including by WESM or its participants.
320. The ERC has the over-arching responsibility for enforcing the provisions of the EPIRA and all legislation created by and under the authority of the EPIRA. To fulfil this responsibility it must:
- (a) monitor the operation and activities of the WESM in such a manner as to provide an assurance that the WESM is functioning in accordance with the EPIRA and all related legislation including the WESM rules;
 - (b) monitor and penalize as set out in the EPIRA, including to, motu proprio, monitor and penalize any market power abuse or anti-competitive or discriminatory act or behavior within WESM;
 - (c) hear WESM-related matters that require a semi judicial forum.

6 DEVELOP PROCEDURES AND GUIDELINES FOR THE SELECTION AND APPOINTMENT OF THE PEM BOARD MEMBERS AND ITS COMMITTEES;

6.1 IMO GOVERNING BODY

6.1.1 Composition

321. The Board of Directors of the IMO will consist of five members, plus the President (if the President is a non-voting member, otherwise there will be four independent members plus the President) The Board may exercise all of the powers of a non-stock, not-for-profit corporation and do all lawful acts and things (including the adoption of such rules and regulations for the conduct of its meetings, the exercise of its powers, and the management of the IMO) as it may deem proper and consistent with applicable law, the EPIRA, the Transmission Tariff, the Articles of Incorporation, and the Bylaws. The President is a permanent member of the Board, who may be a non-voting member or a voting member. The Board will be more appropriately distanced from the market operations activities and accountabilities if the President was a non-voting member. The President is a non-voting, ex officio member of the Audit committee of the IMO Board.

322. The Chair and Vice Chair are elected annually by majority vote of the Directors but the President cannot be either.

323. If appropriate and consistent with the EPIRA, the Board should recommend amendments to the Company's Bylaws, in order to provide for a different Board size than may be set forth therein. Consistent with the Company's Bylaws, the Board does not limit the number of terms that an individual may serve as a Director. In addition, there are no age limits that govern.

324. Director eligibility. As an alternative to term limits, the Board can continue to evolve and adopt new viewpoints through the evaluation and nomination process described in these guidelines and in the Bylaws. The Company's Directors are elected to staggered terms with actual elections conducted on an annual basis.

6.1.2 Experience and qualifications

325. Of the four non-permanent Directors, two shall have expertise and experience in corporate leadership at the senior management or board of directors level, or in the professional disciplines of finance, accounting, engineering, or utility laws and

regulation. Of the other two Directors, one shall have expertise and experience in the operation of electric transmission systems, one shall have expertise and experience in electric generation or expertise and experience in commercial markets and trading, and associated risk management. One of the members must be sufficiently qualified to Chair the Compliance Committee.

6.1.3 Level of independence

326. A Director shall not be, and shall not have been at any time within two years prior to or subsequent to election to the Board, a Director, Officer, or employee of a Member, User, or an affiliate of a Member or User. At all times while serving on the Board, and for two years thereafter, a Director shall have no material business relationship or other affiliation with any Member or User, or an affiliate of a Member or User. (Refer rule 1.4.2.7)

6.2 IMO MONITORING PANEL (MSC)

327. Oversees and monitors the Company's and Participants conduct of market operations, including key reliability functions directly related to market operations. It regularly interfaces with the *IMO's* market monitor.

6.2.1 Composition

328. At least 3 members.
329. Should not include member of the IMO governing body.

6.2.2 Experience and qualifications

330. Expert Members of the committee should have experience in Electrical Utilities, Economics, Finance.

6.2.3 Level of independence

331. A Committee Member shall not be, and shall not have been at any time within two years prior to or subsequent to election to the Board, a Director, Officer, or employee of a Member, User, or an affiliate of a Member or User. At all times while serving on the Committee, and for one year thereafter, a Committee Member shall have no material business relationship or other affiliation with any Member or User, or an affiliate of a Member or User. (Refer rule 1.4.2.7)

6.3 IMO COMPLIANCE COMMITTEE**6.3.1 Composition**

332. At least 3 members.
333. Chair is senior attorney.
334. Will be selected from members of the WESM governing body.

6.3.2 Experience and qualifications

335. Expert mixed law, economics, electrical engineering.

6.3.3 Level of independence

336. A Committee Member shall not be, and shall not have been at any time within two years prior to or subsequent to election to the Board, a Director, Officer, or employee of a WESM Member, User, or an affiliate of a Member or User. At all times while serving on the Committee, and for one year thereafter, a Committee Member shall have no material business relationship or other affiliation with any Member or User, or an affiliate of a Member or User. (Refer rule 1.4.2.7)

6.4 IMO AUDIT COMMITTEE**6.4.1 Composition**

337. At least 3 members.
338. May include a member of the WESM governing body as chair.

6.4.2 Experience and qualifications

339. Expert mix economics, IT, electrical engineering.

6.4.3 Level of independence

340. A Committee Member shall not be, and shall not have been at any time within two years prior to or subsequent to election to the Board, a Director, Officer, or employee of a Member, User, or an affiliate of a Member or User. At all times while serving on the Committee, and for one year thereafter, a Committee Member shall have no material

business relationship or other affiliation with any Member or User, or an affiliate of a Member or User. (Refer rule 1.4.2.7)

6.5 IMO RULES CHANGE COMMITTEE

6.5.1 Composition

341. Members represent stakeholders and IMO.

6.5.2 Experience and qualifications

342. They will be put forward by their respective participant companies.

6.5.3 Level of independence

343. Minimal.

6.6 WESM TECHNICAL COMMITTEE

6.6.1 Composition

344. Chair is independent.

345. Members independent and IMO and may include consultants.

6.6.2 Experience and qualifications

346. Expert electrical engineering.

6.6.3 Level of independence

347. High level per rule 1.4.2.7

7 DEVELOP PROTOCOLS, COORDINATION ARRANGEMENTS AND REPORTING REQUIREMENTS BETWEEN AND AMONG THE DOE, ERC, PEM BOARD AND ITS COMMITTEES, IMO, THE SO, METERING SERVICE PROVIDERS, AND OTHER SERVICE PROVIDERS;

7.1 PROTOCOLS, COORDINATION, AND REPORTS

348. This Section reviews the requirements for protocols, coordination, and reporting between various bodies. For example it will review any potential boundary issues that could arise in the interactions between the DOE, the ERC, and the WESM bodies.

7.2 CURRENT PROTOCOLS

349. Currently under the WESM the following protocols exist:

7.2.1 PEMC and ERC

- (a) This protocol is dated 31 January 2008 and signed as a memorandum of agreement between the ERC and PEMC.
- (b) The protocol sets out agreed processes to manage the border activities between the PEMC and ERC.
- (c) The protocol refers in clause 2.1 to the sanctions, fines, and penalties imposed by the PEMC through the PEM Board as being in the nature of contractual penalties imposed between private parties. This is an interesting proposition in light of the IRR provision in Rule 9 section 1 which states that, pursuant to section 30 of the EPIRA, all WESM participants shall comply with the WESM rules. With this provision the rules can be interpreted as being as much the nature of regulation as contract.
- (d) In a truly self governing market the rules of the market would be in the nature of a contract. The governing body brings rules into force through an approval process after consultation with the parties to the contract, much like any contractual process where the parties agree on the terms. Each market participant agrees to be bound by the contract, including the obligation to meet any penalties imposed. Each participant would sign a deed that brings them into the contract as a party to it. However, in the case of WESM this is not necessary because the EPIRA and IRR, through the abovementioned IRR provision in Rule 9 section 1, impose

a regulatory requirement for participants to comply with the rules. This does not reduce the efficacy of participants entering a contract upon registration as a mechanism to tie that participant to the obligations in the rules as it is a useful tool as already discussed under subsection 2 of this Report in the discussion of the “voting rights” issue.

- (e) Self governing is, in the case of the WESM, limited to mean the participants sign a contract upon registration to be members of the WESM and also formulate, but not necessarily make, their own rules. Currently the participants can be said to make their own rules because the PEM Board is composed of representative stakeholders, but it still falls short of being a market established purely by contract where the parties to the contract are stakeholders in the WESM. Under option 1 participants may continue to sign a contract upon registration to be members of the WESM and also to formulate their own rules but the rules will be made by an independent WESM governing body. In each case the WESM can be said to be self governing because participants formulate the rules applicable to them.
- (f) In the protocol the parties agree that, under clauses 2.2 to 2.4, ECO will initiate investigations and Reports will be copy furnished to the ERC. This does not include investigations of market power abuse which will remain at the ERC’s discretion how the investigation will be handled.
- (g) Clauses 2.5 and 2.7 of the protocol do not satisfactorily deal with double jeopardy issues. It is recommended that this provision is reviewed to provide, if possible, clearer process and one that will ensure a participant cannot be penalized twice for the same set of circumstances.
- (h) Clause 5 of the protocol establishes a process for MAG and the ERC to coordinate their monitoring functions involving at minimum quarterly meetings between them.

7.2.2 The Tripartite Committee’s role

350. There is currently a coordination body established for the benefit of the WESM referred to as the Tripartite Committee composed of the DOE, the ERC, and the AGMO. This Committee was set up by agreement between the member parties in recognition of the need to co-ordinate their activities with respect to price volatility mitigation.

351. The Tripartite Committee is not a creation of legislation but arose from need.
352. It is recommended that the Tripartite Committee's role and scope of activities be reviewed with consideration being given to incorporating those activities into the existing WESM processes through the WESM rules to institutionalize the solution(s). For example if the Tripartite Committee has been established to fill a perceived gap in the WESM processes for mitigating price volatility and situations such as market power abuse where mitigation measures may be necessary during or after the fact, then it is recommended that the RCC reviews the processes for WESM to incorporate a mechanism to resolve the mitigation issues that are likely to arise, and thereby obviating the need for having an ad hoc body such as the Tripartite Committee.
353. The WESM rules should provide the appropriate mechanism for determining adequate mitigation measures. It will provide the IMO with a clearer mitigation process within which to manage price volatility.

7.2.3 Checklist for EMC and ERC protocol

354. The PEMC and ERC protocol need to agree:
- (a) the scope of the WESM monitoring function to ensure compatibility with the ERC monitoring function;
 - (b) the limits of the WESM enforcement function to exclude findings or penalizing of the serious behavioural breaches;
 - (c) the powers of the WESM enforcement function, including description of the scope of the WESM to penalize its members;
 - (d) a description of the ERC function to monitor and enforce the serious behavioural breaches;
 - (e) a clear description of the level of assistance the ERC will expect from the WESM and conversely that the WESM will expect from the ERC, especially where the assistance could involve more than the information transfer arrangements;
 - (f) recognition that the DOE is to be provided ongoing information about the day to day issues arising within the spheres of operational responsibility of the WESM and, so far as it relates to enforcement matters, the ERC;

- (g) acceptance of the ongoing involvement of the DOE in the WESM processes to enable it to maintain a significant depth of knowledge of the market's operation including currency regarding the issues facing the market, as is appropriate for the national policy body.

7.3 REPORTING LINES

7.3.1 General requirements for reporting

355. There must be clarity around reporting obligations:

- (a) which group is provided information and by whom:
- (b) description of the information to be provided:
- (c) purpose for which information is to be provided to another group:
- (d) timing of the transfer of information:
- (e) conditions applicable to provision of the information.

7.3.2 WESM monitoring body, ECO and MAG

356. The Manual provides direct reporting lines between the PEMB and MSC. Under Option 1 the WESM monitoring body will report directly to the WESM governing body.

357. Currently the following reports are furnished to the PEMB by the MSC:

- (a) non-compliance reports (ECO) (this should cease):
- (b) monthly monitoring reports (MAG):
- (c) investigation reports (ECO) (this should cease):
- (d) over-riding constraint reports (MAG):
- (e) weekly or monthly market assessment reports (MAG).

358. The following are furnished to the PEMB by the MSC and are subject to PEMB review and approval before being furnished by the PEMB to the DOE and ERC:

- (a) intervention situation reports (MAG):

-
- (b) market suspension reports (MAG).
359. Under the proposed structure options these reporting lines will need to be amended as appropriate. For example under Option 1:
- (a) The WESM monitoring body reports to the WESM Board:
 - (i) monthly monitoring reports (MAG):
 - (ii) over-riding constraint reports (MAG):
 - (iii) weekly or monthly market assessment reports (MAG).
 - (b) The WESM monitoring body reports to the WESM Board for review and approval before being furnished by the Board to the DOE and ERC:
 - (i) intervention situation reports (MAG):
 - (ii) market suspension reports (MAG).
 - (c) The WESM compliance body (ECO) reports to the Compliance Committee:
 - (i) non-compliance reports (ECO):
 - (ii) investigation reports (ECO).

7.3.3 MAG and IMO monitoring coordination

360. The MO monitoring function and the MAG functions are separate activities. Under rule 1.4.7.1 the MAG monitoring role is distinct from the monitoring role of the MO detailed under rule 1.3.1.2. The MO monitoring is focused on monitoring for significant variations in and between trading intervals. MAG monitoring is wider than that.
361. It is recommended that the activities performed by these two groups are coordinated as much as possible to maximize efficiency.

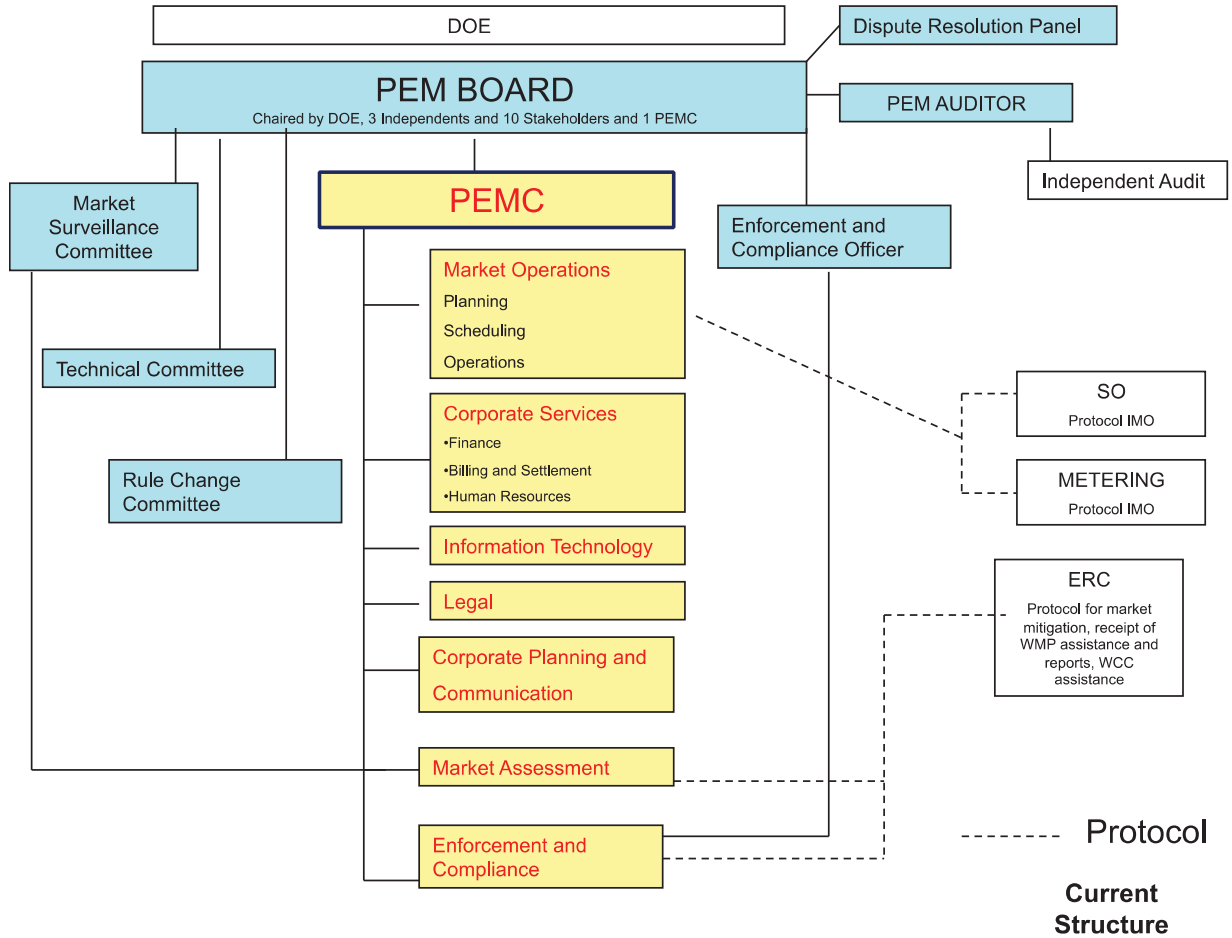
7.3.4 The IMO and SO

362. The MO should be engaged in constructive discussions to reduce the dispatch window from 1 hour to be as close to real time as is reasonably practicable. It is recommended that such discussions are formally promoted under the IMO structure.

8 APPENDICES

APPENDIX 1

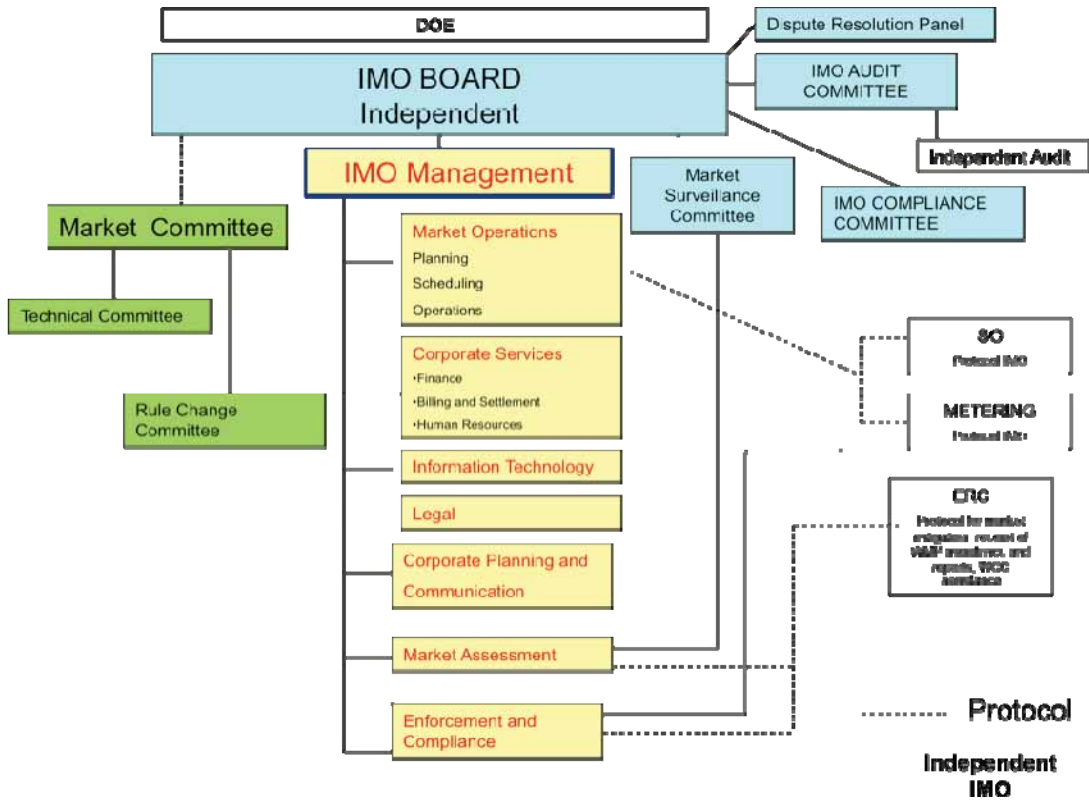
CURRENT GOVERNANCE STRUCTURE



APPENDIX 2 RECOMMENDED IMO STRUCTURE

TWO-TIERED GOVERNANCE - INDEPENDENT OVERSIGHT

GOVERNANCE AND IMO STRUCTURE



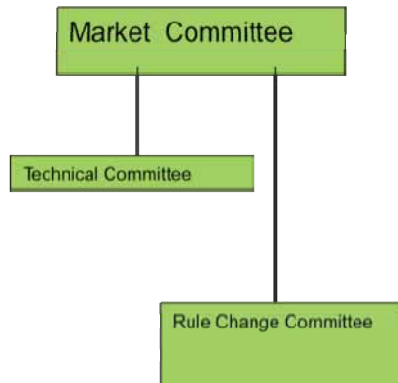
APPENDIX 3 RECOMMENDED IMO STRUCTURE

STRUCTURAL RELATIONSHIPS

GOVERNANCE AND IMO STRUCTURE

The Market Committee

Market Committee (NEW)



Purpose: Responsible to provide Stakeholder Input Into Board Decisions

- Provide Advice to IMO Board via Regular Meetings
- Provide a slate of potential Independent candidates to the Board alternatively will select from a slate provided to it
- Receive Recommended Rule Changes
- Recommend Rules changes to the Board
- Review Advice of other Committees
- Stand alone

Composition:

One (1) Member representing the Market Operator;

One (1) Member representing Transmission Service Provider;

Four (4) Members from Distribution Utilities, provided that:

Two (2) are from Electric Cooperatives; and

Two (2) are from by Distribution Utilities

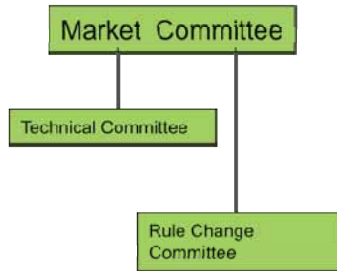
One (1) Member from Customers, including but not limited to Suppliers;

Four (4) Members from Generation Companies

Two (2) Consumers

The Rules Change Committee

Rules Change Committee (Established)



Purpose: Responsible for reviewing proposed Rule changes and provide advice to the Markets Committee on these changes

- Provide advice whether proposed Rule Changes warrant further study
- Provide Advice to Market Committee via Regular Meetings
- Recommend Rules changes
- Can create special Working Groups with expertise to review proposed Rule Changes

Composition:

One (1) Member representing the IMO ;

One (1) Member representing Transmission Service Provider;

Four (4) Members from Distribution Utilities, provided that:

Two (2) are from Electric Cooperatives; and

Two (2) are from by Distribution Utilities

One (1) Member from Customers, including but not limited to Suppliers;

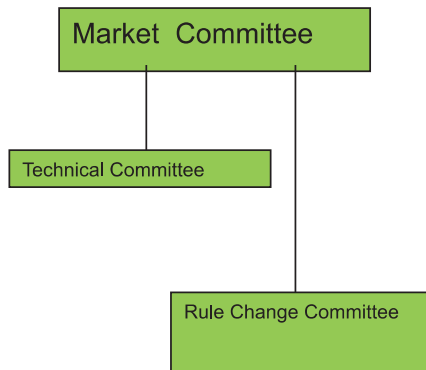
Four (4) Members from Generation Companies

Two (2) Consumers

Four (4) Independents

The Technical Committee

Technical Committee (Established)



Purpose: Responsible for reviewing the technical performance of the MMS and other related systems and for recommending upgrades/changes

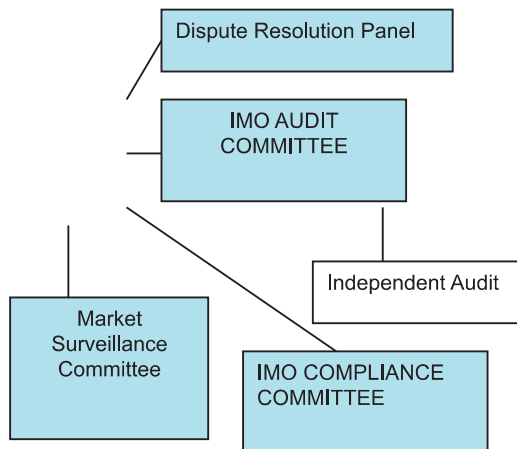
- Monitor Technical Matters related to the WESM
- Provide Technical Reports to MC
- Provide Technical Expertise to MC on
 - IT
 - Metering
- Provide advise if requested to RC
- Provide Technical advise to the IMO
- Create Special Working Groups if required.

Composition:

One (1) Member representing the Market Operator;
 One (1) Member representing Transmission Service Provider;
 Four (4) Members from Distribution Utilities, provided that:
 Two (2) are from Electric Cooperatives; and
 Two (2) are from by Distribution Utilities
 One (1) Member from Customers, including but not limited to Suppliers;
 Four (4) Members from Generation Companies
 Four (4) Independents

The Market Surveillance Committee

IMO Market Surveillance Committee (Established)



Purpose: Responsible to provide Independent Advice on Participant Behaviours and anti-competitive behaviour

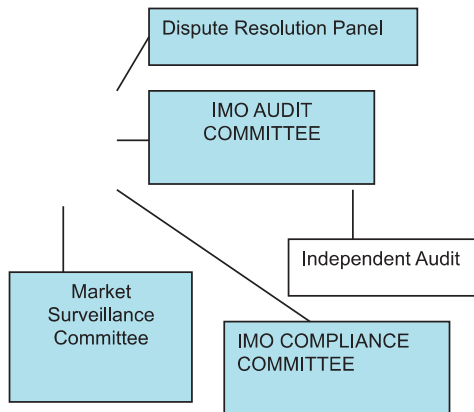
- Provide Advice to IMO Board via Regular Meetings
- Provide Advice on Participant Behaviour
- Provide Advice on Anti-Competitive Behaviour
- Review Advice of other Committees
- Matters Concerning the Spot Market that should be submitted to IMO Board, ERC and DOE
- Recommend Rules changes to the Board to create correct market incentives and / or enhance the ability to meet the WESM objectives

Composition:

Four (4) Members are Independent appointed by the IMO Board

The Compliance Committee

IMO Compliance Committee (Established)



Purpose: Responsible to provide Independent Advice on Breaches of the Market Rules

- Provide Advice to IMO Board on Sanctions against the System Operator, Market Operator and Participants
- Review Participant Behaviour against the WESM Rules
- Provide a Mechanism to promote Compliance with the Rules
- Recommend Rules changes to the Board to create correct market incentives and / or enhance to ability to meet the WESM compliance objectives

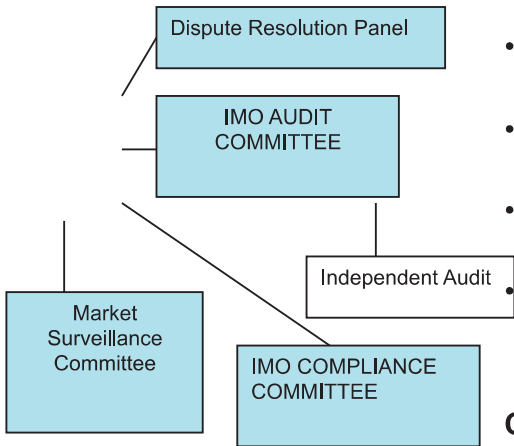
Composition:

Three (3) Independent Members consisting of:

- One (1) lawyer
- Two experts in Electrical Generation and or other affiliated fields

The Audit Committee

**IMO Audit Committee /
IMO Auditor
(Established)**



Purpose: Responsible to Conduct Annual Audits of the Market Operator and Provide advice to the IMO Board

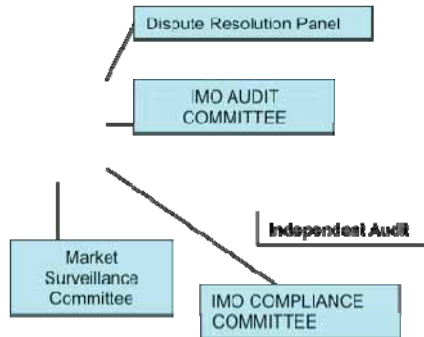
- Provide Advice to IMO Board via Regular Meetings
- Conduct Annual Audits on the Market Operator and Settlement Systems
- Test new software being provided by the IMO to participants
- Review IMO Procedures and Manuals at the direction of the Board
- Recommend Rules changes to the Board due to Audit, test, check or other review
- Review Advice of other Committees

Composition:

The Market Auditor is appointed by the Imo Board and is Independent

The Dispute Resolution Panel

IMO Dispute Resolution Panel (Established)



Purpose: Responsible to provide a Dispute Resolution mechanism for members of WESM

- Resolve participant disputes about payments
- Resolve participant disputes about Final Statements
- Resolve participant disputes about Contracts between parties wrt application of WESM Rules
- Resolve participant disputes about non-compliance with the WESM Rules

Composition:

All members of the Panel are independent and approved by the Board - an outsourced function

APPENDIX 4

COMPARISON WITH FOREIGN MARKETS

GOVERNANCE AND IMO STRUCTURE

	Independent Board *	For Profit	Rule Change Process	Budget / Fee's / Monitoring
New England ISO	Yes	No	Members Vote on Rule Changes, outcome not binding to the Board	Budget is set by NE-ISO and Fee's recovered via a FERC governed Tariff. Internal Market Monitoring and External
New York ISO	Yes	No	Members Management Committee (MC) votes on Rules 58% required for pass to go to Board	Budget is set by NYISO and Fee's recovered via a FERC governed Tariff. MC works with NYISO on Budget Internal Market Monitoring and External
PJM ISO	Yes	No	Members Committee – provides advice to the Board and recommendations to the Board.	Budget is set by PJM and Fee's recovered via a FERC governed Tariff. Monitoring Undertaken by an outsourced company Monitoring Analytics
MISO ISO	Yes	No	Advisory Committee made up of members can provide advice to the Board on Rule changes	Budget is set by MISO and Fee's recovered via a FERC governed Tariff. Internal Market Monitoring and External

	Independent Board *	For Profit	Rule Change Process	Budget / Fee's
ERCOT ISO	No - mix of Independents plus Participants	No	Members - Technical Advisory Committee (TAC) makes recommendations to the Board. PUCT has final approval	Budget is set by ERCOT Public Utilities Commission (PUCT) approves fees PUCT has Market Oversight
CAL ISO	Yes	No	Committees struck as required to provide advice to the Board	Budget is set by CALISO and Fee's recovered via a FERC governed Tariff. Internal and External Monitoring
Ontario IESO	Yes	No	Members Technical Panel Recommends Rule Changes to Board, Vote recorded	Budget set by IESO Approved by Ontario Energy Board) Market Surveillance Panel Reports to the OEB (Regulator)
Alberta AESO	Yes	No	Consultation by AESO with Members	Reviewed by Alberta Utilities Commission (AUC) if complaints. The Monitoring Authority is a separate not for profit providing input to the AUC

	Independent Board *	For Profit	Rule Change Process	Budget / Fee's
Singapore EMC	Yes – Independent of Stakeholders	Yes, joint venture between Gov't and Software supplier	Members Rule Committee (RCP) recommends Rule Changes to the Board	Fees Approved by Energy Market Authority (Gov't Agency) Market Surveillance Compliance Panel Reports to the EMC and the EMA (Regulator)
Australia (NEM)	Stakeholders plus Government Majority of Board is Independent	No	Rules set by AEMC (Gov't Agency)	Set by member agreed Tariff. Market Monitoring reporting to a constituent of the Australian Competition Commission
Western Australia IMO	Yes	No	Members Market Advisory Committee (MAC) recommends Rule Changes to the Board	Set by the IMO and approved by the State Minister for Energy The Economic Regulation Authority a separate Gov't Organisation monitors the Market
New Zealand	Yes	No, outsourced to service providers	Ad Hoc Working Groups reporting to the Board	Collected by the Gov't of New Zealand

APPENDIX 5

FURTHER DISCUSSION ON INDEPENDENCE AND GOVERNANCE

JCPC discussions on EPIRA and IRR

363. Further clues on the intended meaning of the term 'independent entity' in section 30 of the EPIRA is found in the Joint Congressional Power Commission (JCPC) deliberations on the drafting of the IRR.
364. Refer to JCPC meeting on January 17 2002. Several references are made in this meeting to the "independent entity" being the "independent market operator". On page 195 Mr De Dios refers to the market operator as being just the generic of the AGMO and the independent market operator. Also at page 124 Senator Osmena refers to the independent market operator as being the entity referred to in section 30 of the EPIRA.
365. At page 311 there is discussion regarding the EPIRA requirement to "form" the independent entity. Rep Ledesma referred to the EPIRA provision observing that it requires the independent entity to be formed, that "we are forming something, we are not bidding something". Mr Perez responded as follows after "Mr. Chairman, in the California experience, all the participants created the independent market operator. It's not the government. Because it's supposed to serve all of them to ensure that the independent market operator is fair. The government does not take part in the independent market operator." The Chairman (Sen Cayetano) then responded that the JCPC would interpret the word "form" liberally and does not mean it has to be organized and established.
366. Refer to JCPC meeting on February 7 2002. At page 88 Mr Perez responds to Sen Osmena's comment which provides a gloss on the intentions around the governance of the IMO. Sen Osmena states "the word in red says "The independent market operator. The entity jointly endorsed by the DOE and the electric power industry participants to assume the functions, assets, liabilities from the AGMO." To which Mr Perez replies "I think that is not inconsistent, Senator. It just means that it's the one that bought, all parties agreed to assume, jointly endorsed, but it's a separate entity from the industry participants. Meaning, everybody endorses him to be the successor of AGMO, this person." This continues a few pages further when Sen Osmena states "The industry participants is part of the MO whether it is an AGMO or an IMO", to which Mr Perez replies "Not... We don't believe we understood... No, in the AGMO, yes. But the..." Sen Osmena states "Yeah. But the AGMO metaphorsizes into an IMO, it just changes its color." Mr Perez replies "No, no, we're gonna get... We were gonna find a, well,

experienced market operator with foreign experience. We discussed that earlier, it's independent." This comment reflects an intention that the IMO is independent from industry participants.

367. Refer to JCPC meeting on February 7 2002. At page 91 Mr Perez explains that the 'joint endorsement' means that the DOE and the electric power industry participants are saying "he is the guy, we endorse him". To this Sen Osmena took this to mean simply getting the blessing of the DOE and the electric power industry participants.

368. Refer to JCPC meeting on February 7 2002. At page 119 Sen Osmena states that the DOE cannot supervise the IMO. Although it is ambiguous here whether the Senator is referring to DOE's supervision of WESM or just the IMO.

369. In summary the JCPC, during its deliberations on the drafting of the IRR, appear to have agreed on the following points regarding the following aspects of section 30 of the EPIRA:

- (a) That the independent entity shall be 'formed' does not mean it needs to actually be created from scratch, but rather it is intended that it be filled by an experienced operator (at the JCPC IRR deliberations it was informed of the DOE intent that this will be a foreign operator obtained through a transparent bidding process):
- (b) That the independent entity is independent of the government and market participants:
- (c) That the independent entity is intended to be an experienced foreign market operator:
- (d) That the independent entity is jointly endorsed means it has the blessing of the DOE and the electric power industry participants.

PEM Board as the WESM "governing body"

370. It may be argued that the PEM Board structure that currently exists is intended to be both the AGMO governing body and also the WESM governing body that replaces the AGMO governing body. If this is the case then it is worth reflecting on the level of transparency around how such a WESM governing body has come into being. The EPIRA requires that the WESM rules provide procedures to form the WESM governing body. The EPIRA is silent on the composition of the WESM governance body but

explicitly requires the market operator be independent after the transitional AGMO phase. The IRR does not reveal the explicit intention that the AGMO governance body will also be the WESM governance body that is referred to in the EPIRA.

371. If it is accepted that the PEM Board is both the AGMO governing body as referred in the IRR and the WESM governing body as referred in the EPIRA the result would be that once the IMO is put in place the WESM governance body continues to exist through the PEM Board and which is composed of majority stakeholders. In achieving this outcome there would be justifiable criticism of the process that delivered this result, including, arguably, insufficient transparency around the process that produced it.
372. The arguments against the present PEM Board being the WESM governing body are:
- (a) The provision in Rule 9 section 7(d)(i) of the IRR that the AGMO governing body governs the operation of the WESM lasts only until the formation of the IMO after which time that power and duty no longer exists. There is no power contained in the IRR to govern after that time:
 - (b) There is no explicit intention in the EPIRA that the transitional AGMO would institutionalize itself to be the WESM governing body, and thereby maintain the stakeholder status of the AGMO, after the transition period:
 - (c) There is no policy directive or specific provision within the EPIRA that the WESM would be governed by a stakeholder constituted body:
 - (d) The independence of the IMO is tainted if a stakeholder WESM governing body sits above it; it is inconsistent with the intentions expressed in the JCPC deliberations on the drafting of the IRR where it was understood that the IMO would be independent of stakeholders:
 - (e) Having a stakeholder WESM governing body is inconsistent with the explicit intention that the market operator is independent; a stakeholder governing body taints that independence through its control of the IMO service contract and its influence over the performance of the services under that contract; each stakeholder is impacted by the operational decisions of the IMO; the costs and added market complexity to manage these conflicts is not justified:
 - (f) There is no discernible benefit to the WESM for a stakeholder governing body but there is a discernible cost to the WESM to continue with stakeholder control once

an IMO is put in place. Most of the governance functions would have to be shifted from a stakeholder Board to another structure to protect the independence of the IMO and of key governance functions. For example WESM monitoring and also WESM enforcement activity are imbued with such conflicts of interest should they be governed by stakeholders that they will need to be established under an alternative structure imposing an unnecessary cost and complexity in the WESM system:

- (g) The WESM self-governing system will have greater integrity if the stakeholders are not within the WESM governing body.
373. The argument for the PEM Board being the WESM governing body is that the AGMO established valid rules setting out the governance of the WESM and in accordance with the EPIRA requirement to establish the WESM governing body through the WESM rules. In other words, even though the IRR states that the AGMO governing body (which is the PEM Board) ceases to have a power to govern the operation of the WESM once the IMO is put in place, the PEM Board then acquires a new mandate under the WESM rules to govern the operation of the WESM.
374. This argument for continuing with the status quo stakeholder controlled AGMO is not based on policy or principle (ie arguing that a stakeholder board is in principle the best option) but rather on procedure (ie the PEM Board is mandated by the WESM rules). If the argument is sustained, it carries a potential paradox in the result. Generally speaking the paradox results in the unintentional privatization of public policy; for example, if a temporary government-partnered institution such as the PEM Board is empowered to, and does, recreate itself into a permanent non-governmental institution that can only be terminated by it. If it transpires later that government believes it is in the best interests of the WESM that the PEM Board is independent the DOE must be able to make that change as a matter of national policy.

**SUPPORT FOR IMPLEMENTATION OF THE SECOND GOVERNANCE AND
ANTICORRUPTION ACTION PLAN**

**(SUBPROJECT) SUPPORT FOR THE ESTABLISHMENT OF AN
INDEPENDENT MARKET OPERATOR, PHI**

TA-6445 (REG)

IMO SERVICES AND ASSURANCE

Prepared for

2010

TABLE OF CONTENTS
SECTIONS

1	INTRODUCTION	1
1.1	BACKGROUND	1
1.2	RELEVANT DOCUMENTS	1
2	IDENTIFY THE FUNCTIONS AND RESPONSIBILITIES OF THE IMO UNDER THE EPIRA, IRR, AND THE WESM RULES	2
2.1	INTRODUCTION	2
2.1.1	IMO requirements	2
2.1.2	IMO functions and responsibilities	2
2.2	REGISTRATION AND REGISTRY	3
2.3	FEES AND BUDGETS	3
2.4	SOFTWARE	4
2.4.1	Market Network Model	4
2.4.2	Market Trading Nodes	4
2.4.3	Market Dispatch Optimization Model (MDOM)	4
2.5	MARKET OPERATIONS	5
2.5.1	Pre-schedule information	5
2.5.2	Scheduling	7
2.5.3	Pricing	9
2.5.4	Publication	10
2.6	BILLING AND SETTLEMENTS	11
2.6.1	Settlement preparation	12
2.6.2	Billing and Disputes	13
2.6.3	Prudential Requirements	14
2.7	METERING	14
2.8	RULES DEVELOPMENT	15
2.9	MONITORING	15
2.9.1	Compliance & Suspension	15
2.10	MARKET INFORMATION	16
2.11	MARKET DEVELOPMENT	16
2.11.1	Market Dispatch Optimization Model (MDOM)	16
2.11.2	Ancillary Services	17
2.11.3	Financial Transmission Rights (FTR)	17
2.11.4	Administering open access and retail competition	17

2.11.5	Renewable energy implementation	17
2.11.6	Extending WESM scope	18
3	FORMULATE PERFORMANCE BENCHMARK FOR IMO SERVICES INCLUDING MECHANISMS FOR INCENTIVES AND PENALTIES	19
3.1	INTRODUCTION	19
3.2	POSSIBLE METRICS	19
3.3	MECHANISM FOR INCENTIVES	21
4	DEVELOP THE PERFORMANCE INDICATORS AND PERFORMANCE CONTRACT OF THE IMO AND A SET OF MONITORING STRATEGIES	23
4.1	PERFORMANCE INDICATORS	23
4.1.1	Effective Use of Funds	23
4.1.2	Operational Effectiveness:	23
4.1.3	Evolving the Market	25
4.1.4	Customer Satisfaction	26

1 INTRODUCTION

1.1 BACKGROUND

1. This Report is the output of Activity 2 whose objective is to define the services that are to be performed by the IMO and to establish mechanisms for measuring the level of performance.

1.2 RELEVANT DOCUMENTS

2. The relevant legislation, including secondary and tertiary legislation and codes and manuals and guidelines, includes:
 - The Electric Power Industry Reform Act 2001 (RA 9136)(EPIRA)
 - The Implementing Rules and Regulations (IRR)
 - The Grid Code
 - The Distribution Code
 - Competition Guidelines (ERC)
 - The Wholesale Electricity Spot Market Rules (WESM Rules)
 - The WESM Market Manuals
 - WESM Guidelines

2 IDENTIFY THE FUNCTIONS AND RESPONSIBILITIES OF THE IMO UNDER THE EPIRA, IRR, AND THE WESM RULES

2.1 INTRODUCTION

3. Section 6 of Rule 9 of the IRR contains the provisions setting out the requirements of the IMO and the functions it is to perform.

2.1.1 IMO requirements

4. Section 6(a) of Rule 9 of the IRR requires that the IMO:
 - a. is independent;
 - b. has transferred to it the functions, assets, and liabilities of the AGMO;
 - c. is jointly endorsed by the DOE and electric power industry participants;
 - d. is financially and technically capable;
 - e. has proven experience and expertise;
 - f. is a leading market operator of similar or larger size electricity market.

2.1.2 IMO functions and responsibilities

5. Section 6(c) of Rule 9 of the IRR establishes that the IMO is to have the following functions and responsibilities:
 - a. Operate and administer the WESM and allocate resources to enable it to operate and administer the market, in accordance with the WESM rules;
 - b. Determine the dispatch schedule of all facilities in accordance with the WESM rules. Such schedule shall be submitted to the grid operator of the TRANSCO or its buyer or concessionaire;
 - c. Monitor daily trading activities in the market;
 - d. Oversee transaction billing and settlement procedures;
 - e. Maintain and publish a register of all WESM participants and update and publish the register whenever a person becomes or ceases to become a WESM participant.
6. Rule 1.3.1.1(b) of the WESM rules mirrors section 6(c)(i) of Rule 9 of the IRR except that the rule requires the market operator to allocate resources to enable it to operate and administer the WESM on a non-profit basis. It is recommended that this rule is amended to accommodate the possible entry of a commercial IMO.

-
7. Rule 1.3.1.2 details the extent of the IMO's monitoring responsibility which is to:
 - a. Determine whether trading is performed in accordance with the rules;
 - b. Identify any significant variations in and between trading intervals;
 - c. Identify any apparent or suspected incidents of anti-competitive behavior by any WESM member.
 8. Rules 1.3.1.3 to 1.3.1.5 develop further the IMO's monitoring obligations with respect to significant variations such as developing guidelines and reporting.
 9. Rule 1.3.1.6 requires the IMO to develop procedures, processes, and systems as required by the rules and in accordance with the purpose of the WESM rules as set out in rule 1.2.2.
 10. Rule 1.3.1.7 are general requirements on the IMO to comply with all relevant legislation and obligations including the rules and Grid Code, and also to ensure it can recover costs of any liability from damage or injury caused by it.
 11. Finally under these generic rules in Chapter 1 of the rules, rule 1.3.1.8 requires the IMO to prepare dispatch schedules that comply with any constraints notified by the SO under rule 6.6.1.

2.2 REGISTRATION AND REGISTRY

12. The IMO is responsible for all processing and administrative aspects of registering and deregistering WESM members.
13. The IMO shall publish and keep current a list of registered WESM members in accordance with Section 5.2.3 of the WESM Rules.

2.3 FEES AND BUDGETS

14. The IMO is responsible for WESM cost recovery and also submitting its budget and the budget of the IMO Governing Body to the ERC. During the course of ERC's evaluation, however, the IMO is not expected reply to enquiries pertaining to the budget of the IMO Governing Body. In such instances, the IMO Governing Body shall make the necessary responses.

2.4 SOFTWARE

2.4.1 Market Network Model

15. The IMO shall maintain, publish and continuously adapt or adjust to accurately reflect the power system conditions as advised by the System Operator. The market network model is the basis for central scheduling, dispatch, pricing and settlement per Section 3.2.1 of the WESM Rules.
16. The Market Network Model is a representation of the physical power system which is used by the WESM in determining to most economic energy dispatch. This model provides information on the technical characteristics and limitations of the power system that could materially affecting the dispatch of generating units and electricity prices in the spot market.

2.4.2 Market Trading Nodes

17. The IMO shall maintain, publish and continuously update a register of market trading nodes to accurately reflect any changes in the market network model in accordance Section 3.2.2 of the WESM Rules.
18. Market trading nodes are designated points in the market network model where energy is bought (Customer Nodes) or sold (Generator Nodes) as determined by the market dispatch optimization model or the MDOM.

2.4.3 Market Dispatch Optimization Model (MDOM)

19. The IMO shall maintain and publish the formulation of the market dispatch optimization model in accordance with Section 3.6 of the WESM Rules.
20. The MDOM is the algorithm used by the WESM to maximize the economic gain derived from electricity trades in the market based on the level of supply, demand and cost of power. Maximum economic gain is realized when the combined producer and consumer surplus is maximized. The MDOM also sets the price at each trading node considering not only the generators' cost but also transmission line loss and congestion cost caused by limitations in the transmission system that may impede the supply of cheaper generators from one area into another.

2.5 MARKET OPERATIONS

2.5.1 Pre-schedule information

21. Rule 3.5 and the Dispatch Protocol require offers bids and data to be supplied to the MO.
22. The IMO shall generate weekly (WAP) and daily (DAP) load projections based on information received by the MMS such as bids and offers from participants, weather forecasts, demand forecasts, bilateral schedules, outage schedules and the current status of the Grid. In connection with this and consistent with the WESM Rules the IMO shall be responsible for the receipt, validation, and acknowledgement of bids/offers of Trading Participants in accordance with the WESM Timetable. The IMO shall keep a database of all bids and offers whether considered as “Accepted” or as “Invalid”.
23. The Market Operator shall be responsible in the calculation and publication of Hourly nodal demand forecasts which are used in the calculation of Pre-Dispatch Market Projections in accordance with the WESM Timetable.
24. The Pre-Dispatch Market Projections shall be performed on the following schedules:

Table 1 – Week Ahead (WAP) and Day Ahead Pre-dispatch (DAP) Execution Timeline

Forecast	Study Horizon	Execution Frequency	Schedules Resolution	Number of Study Points
WAP	7 days ahead	Daily at 0900 HR	1 hour	168 = (7 x 24)
DAP	1 day ahead	Every 4 hours	1 hour	36, 24, 16

Figure 1 – WAP Graphical Timeline

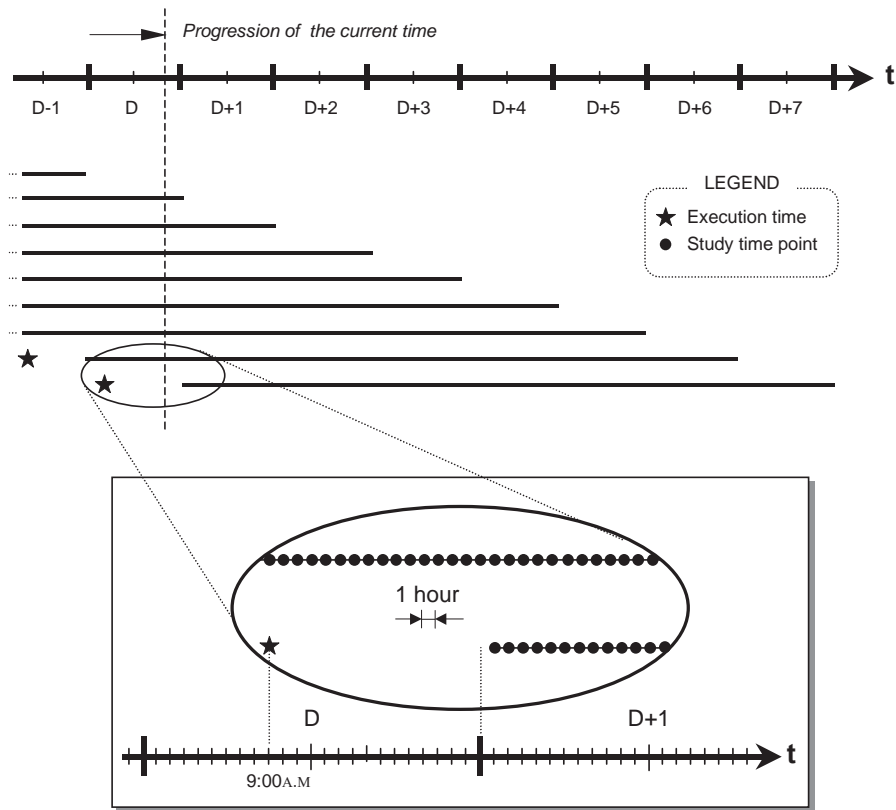
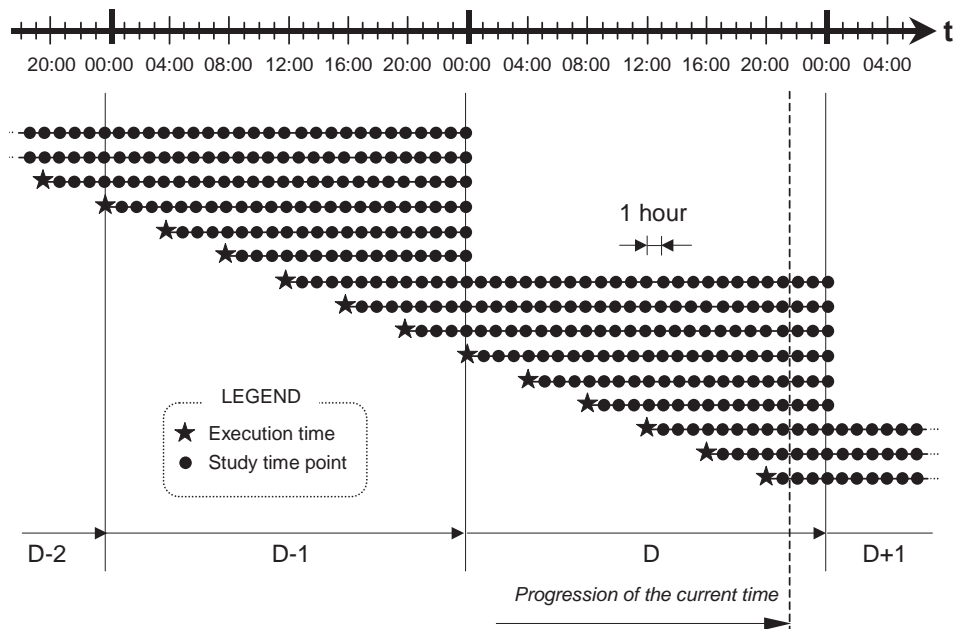


Table 2 – Details of Day Ahead Pre-dispatch (DAP) Execution Schedule

DAP Execution Time	Number of Scheduling Points	Study Time Points to Calculate
0000 H	24	D (0100, 0200,... , 2400)
0400 H	20	D (0500, 0600,... , 2400)
0800 H	16	D (0900, 1000,... , 2400)
1200 H	36	D (1300, 1400,... , 2400) to D+1 (0100, 0200,... , 2400)
1600 H	32	D (1700, 1800,... , 2400) to D+1 (0100, 0200,... , 2400)
2000 H	28	D (2100, 2200,... , 2400) to D+1 (0100, 0200,... , 2400)

Figure 2 – DAP Graphical Timeline



25. The IMO shall transmit to the System Operator a copy of the Load Forecast Data every time a Pre-Dispatch Market Projection or Real Time Dispatch (RTD) is issued or submitted. The load forecast shall be forwarded to SO as a flat file or a format that the SO's system can understand. Likewise, the Load Forecasts for all Pre-Dispatch Market Projections or Real Time Dispatch Schedules shall be published in the web for all Trading Participants based on the following:

Table 3 – WAP and DAP Publication Schedule

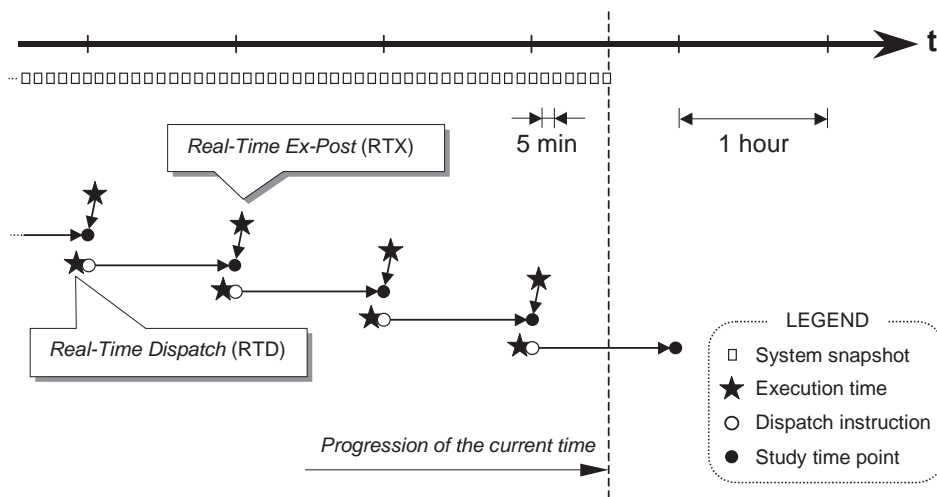
Forecast	Study Horizon	Publication Frequency	Schedules Resolution	Number of Study Points
WAP	7 days ahead	Daily at 1700 HR	1 hour	168 = (7 x 24)
DAP	1 day ahead	Every 4 hours, 1 hour after DAP execution	1 hour	36, 24, 16

2.5.2 Scheduling

26. Rule 3.8 and the Dispatch Protocol set out the scheduling responsibilities of the MO.
27. For each trading interval, the IMO must perform the Real-Time Ex-Ante Dispatch (RTD) which is initiated at five (5) minutes before the start of the trading interval and the Real-Time Ex-Post Dispatch (RTX) which is initiated at the end of the trading interval.

28. The IMO shall calculate the Hour-Ahead Real Time Dispatch Schedule (RTD) using the MDOM and using the most recent system snapshot by the EMS of the System Operator prior to the start of the next trading interval. The Dispatch Schedule contains the target MW loading of all trading participants at the end of the trading interval.
29. The IMO shall subsequently convert the RTD into a format understandable to the System Operator and submit it to the System Operator not later than two (2) minutes before the start of the trading interval for analysis and implementation. The IMO shall also furnish trading participant the RTD results by publishing it in the Web at the start of the trading interval.
30. At the end of the trading interval, the IMO shall likewise utilize the MDOM to perform the Real-Time Ex-Post Dispatch (RTX) based on the system snapshot transmitted by the System Operator coinciding with the end of the trading interval. This represents the actual dispatch implemented by the System Operator. The RTX for all trading hours of the day shall be published in the Web at 1200 Hours of the following day.

Figure 3 – Real Time Ex-Post Dispatch (RTX) Graphical Timeline



31. Upon the recommendation of the System Operator through a system advisory, the IMO shall make corresponding adjustments to the calculations of the MDOM with regard to overriding constraints. Among others, the MDOM allows for the imposition of the following overriding constraints:
 - a. Nomination of Must-Run Units (MRUs)

-
- b. Emergency de-rating/outage of specific transmission lines
 - c. Additional reserve requirements
 - d. Generating unit limitations

2.5.3 Pricing

- 32. Rule 3.10 and the Dispatch Protocol set out the pricing responsibilities of the IMO.
- 33. In conjunction with the dispatch schedules RTD and RTX, the IMO shall also publish the corresponding Ex-Ante and Ex-Post prices, which are generated by the MDOM simultaneously with the energy dispatch schedules, at all trading nodes.

Table 4 -

Information	Real Time Dispatch (RTD)	Real Time Ex-Post Dispatch (RTX)
Energy	Dispatch Target	Actual Energy Delivered/Consumed
Nodal Price	Ex-Ante Price	Ex-Post Price

- 34. If the RTD results in an infeasible solution and no ex-ante prices is determined per the prescribed timeframe the IMO can, as necessary, issue a pricing error notice to all market participants at the start of the trading interval (WESM Rules 3.10.5). Whether the IMO issues a pricing error notice is issued or not, the ex-post prices shall serve as ex-ante prices for the affected trading interval.
- 35. The IMO shall perform a re-run whenever no ex-post prices are determined or if the ex-post results are believed to be in error. This may occur when the nodal prices reflect constraint violation prices or the EMS fails to provide a system snapshot of the actual system configuration. For the purpose of doing a re-run, the IMO shall collect all the necessary information that would reflecting the state of the power system for the relevant trading interval.
- 36. If the ERC declares the suspension of the market or the IMO or the SO declares an emergency prompting intervention in the market, the IMO shall use the approved administered market price for settlement of energy transactions in accordance with Section 6.2.3 of the WESM Rules and the Administered Price Determination Methodology.
- 37. Generation resources that are nominated by the System Operation as Must Run Units (MRU) are pre-qualified for dispatch and covered by separate guidelines on the

manner of settlement of compensation. The IMO shall apply the prevailing Generation Price Index (GPI) as prescribed in the WESM Manual for the Management of Must Run Units as basis for compensation of MRUs.

2.5.4 Publication

38. Rule 3.11 and the Dispatch Protocol sets out trading-related publishing responsibilities of the MO.
39. In accordance with the WESM Rules, the IMO shall publish and make available market related information to the WESM members, DOE, ERC and the general public via electronic communication through the World Wide Web. The portal of the WESM in the Web is the website: www.wesm.ph.
40. The IMO may also provide information through other media and may, at its discretion, charge a fee for access to the information. However, access to market information other than the WESM Web-site shall be the responsibility of the parties concerned.
41. The IMO shall publish the following information for access by trading participants:
 - a. Market Participant Registration
 - b. Bids and Offers Data
 - c. Market and System Advisories
 - d. Updates on market prices, dispatch and pre-dispatch schedules
 - e. Demand Forecasts
 - f. Real-Time Ex-post (RTX) Prices
 - g. Market Participant Specific, All Market Participants, and ADHOC Reports
 - h. Settlement (Prudential Requirements)
42. The IMO shall publish, among others, information pertaining to:
 - a. Systems and procedures:
 - b. Market Dispatch Optimization Model (MDOM); and
 - c. And other WESM reports as required by provisions of the WESM Rules
43. The IMO shall be responsible for determining security procedures and imposing access levels and privileges that shall be given to the various users of market information.

2.6 BILLING AND SETTLEMENTS

44. Rule 3.13 sets out the preparatory process for the MO settlement calculation. Rule 4.6 sets out metering data requirements.
45. The IMO shall be responsible for the generation and issuance of preliminary, final and revised statement files and supporting data to Market Participants. The IMO shall respond to all queries by Market Participants pertaining to settlement statements and supporting files and shall investigate notice of disagreement and apply adjustments to the statements if errors are found.
46. The Billing and Settlement Manual prescribes the billing and settlement procedure as follows:

Table 5 – Billing and Settlements Timetable

Settlement Procedures	Timetable
Preparation and issuance of preliminary statement	Within seven (7) business days after the end of each billing period.
Dispute to preliminary statement	Market participants must file disputes immediately upon receipt of the preliminary statement. Such disputes shall be resolved by the IMO within fifteen (15) business days after the end of the relevant billing period.
Preparation and issuance of final statement	Within eighteen (18) business days after the end of each billing period.
Resolution of dispute to final statement	Within twelve (12) months of the relevant billing period.
Preparation of revised statement	The IMO shall issue to each WESM Member affected by the dispute a Revised Statement for the relevant billing period as soon as practicable upon resolution of the dispute.
Payment by trading participants (early payers for those that provide forty-eight (48) days of Prudential Security)	No later than 3:00 p.m. on the fifteenth (15 th) business day after the end of a billing period or 3:00 p.m. on the tenth (10 th) business day after receipt of the final statement, whichever is later.
Payment by trading participants (regular payers for those that provide sixty-three (63) days of Prudential Security)	No later than 3:00 p.m. on the thirtieth (30 th) business day after the end of a billing period or 3:00 p.m. on the twelfth (12 th) business day after receipt of the final statement, whichever is later.
Payment to trading participants	No later than 3:00 p.m. on the next business day

	following the day on which the IMO is paid per Section 3.14.6 of the WESM Rules.
Payment of adjustments	No later than the time and date specified on the revised statement, which shall not be less than ten (10) business days but not more than fifteen (15) business days after the issuance of the revised statement.
Issuance of notice of payment default	Immediately after the occurrence of a default event.
Remedy a default event	Within 24 hours after the receipt of the default notice or at any later deadline agreed to in writing by the IMO.

2.6.1 Settlement preparation

47. The IMO shall prepare and issue a Preliminary Statement via the Market Management System, i.e. the Market Participant Interface (MPI), to WESM members who engaged in market transactions on or before the seventh (7th) day after the end of a particular billing period. The settlement statement consists of a file that contains the Settlement quantities and trading amounts. Also included in the Preliminary Statement are supporting data that will enable each Market Participant to audit the trading amounts calculated by the IMO.
48. The IMO shall issue the Final Statement no later than eighteen (18) business days after the end of each billing period. The statement shows the amounts payable by the market participant to the Market Operator or payable by the Market Operator to the market participant in respect of the relevant billing period.
49. The final statement contains: all the information in the preliminary statement that were not subject to disagreement between the Market Participant and the Market Operator, any adjustments resulting from a disagreement or complaint submitted by the market participants that was found valid and was resolved prior to the date of issuance of final statement. It shall appear as either an increase or decrease in the amounts payable to or by the market participants.
50. In case of errors with respect to the final statements or the supporting data, the market participants may raise disputes which may be resolved by agreement or pursuant to the dispute resolution procedures of Section 7.3 of the WESM Rules. Resolutions which in any way causes the amount payable to differ from those as set

out in the issued Final Statement or if the correct amount has been determined, the IMO shall issue to each WESM member affected by the resolution a Revised Statement for the relevant billing period in accordance with the Section 2.8 of the Billing and Settlement Manual.

2.6.2 Billing and Disputes

51. Rule 3.14 sets out the billing process for the IMO, including dispute resolution
52. The responsibility is shared between the Market Operator and the Market Participant in carrying out the following functions:
 - a. Payment of settlement amounts via electronic funds transfer.
 - b. Facilitate payment of settlement amounts thru other means in case of failure of EFT system or the Market Management System (MMS).
 - c. Identify and resolve discrepancy in payments.
 - d. Payment of interest on overdue amounts.
 - e. Compliance to a suspension notice due to default event.
53. Upon receipt of a notice of inquiry or disagreement and its attachments regarding the Preliminary Statement, the IMO shall conduct an initial review on the completeness and validity of the disagreement notice. The IMO shall make sure that all required documents are submitted and the concerned market participants are informed of its intended actions.
54. The IMO shall review the notice of disagreement and shall act based on the following:
 - a. If the IMO finds that the complaint is invalid and that there is no error in the preliminary statement, the Market Operator shall inform the Market participant of its rejection to the latter's disagreement; and no adjustments shall be made on the Final Statement.
 - b. If the Market Operator considers that the disagreement is valid and the preliminary statement contains an error or discrepancy, the Market operator shall notify the market participant and other parties whose final statement will be affected by the error or discrepancy. The IMO shall thereafter conduct a thorough investigation of the issue of disagreement to determine whether adjustments are justified. Any adjustment in the Final Statement shall be communicated to all affected parties to allow them to respond to the decision.

The Market Operator shall ensure that any error or discrepancy discovered in the preliminary statement is corrected in the relevant final statement.

55. The IMO and the market participants shall each use reasonable endeavors to resolve the dispute within fifteen (15) business days after the end of the relevant billing period.
56. If after fifteen (15) days of the end of the relevant billing period and the disagreement over the preliminary statement remains unresolved, the IMO shall issue the Final Statement without any adjustment and in accordance with the Billing and Settlement timetable. The IMO and the market participant are given twelve (12) months to resolve disputes with respect to the Final Statement, either by agreement or through the dispute resolution procedures set out in Section 7.3 of the WESM Rules.

2.6.3 Prudential Requirements

57. Rules 3.15 sets out the Prudential Assurance responsibilities of the IMO.
58. The IMO shall set the trading limit of each market participant as set out in Section 3.15.2 of the WESM Rules. The IMO may, however review its determination of a WESM member's maximum exposure at any time and change that level as necessary. The change shall take effect no earlier than thirty (30) days following the IMO's issuance of a notification in accordance with Section 3.15.4 of the WESM Rules.
59. The IMO shall calculate its exposure to each WESM member on a daily basis and shall compare this to each WESM member's trading limit. If the exposure of the IMO exceeds the trading limit of the WESM member, then the IMO shall issue a margin call notice to the concerned member.
60. The IMO shall issue the corresponding suspension notice to a WESM member who fails to meet the margin call issued by the IMO.

2.7 METERING

61. The IMO may refuse a trading participant to participate in the spot market in respect of any assigned trading node if the metering installation in the associated trading

node does not comply with the provisions of Section 4 of the WESM Rules, the Grid Code and the Distribution Code.

62. The IMO shall develop detailed procedures for settling accounts retroactively to correct errors arising from, among others, meter tampering, meter bypass, meter failure, data loss, unethical conduct and excessive inaccuracy.
63. The IMO shall create, maintain and administer a metering database containing meter information of all registered metering installation. Data in the metering database shall be stored for sixteen (16) months in accessible format and for ten (10) years in archive.
64. The IMO shall be responsible for the development of data validation and substitution procedures in consultation with WESM participants Section 4.9 of the WESM Rules.
65. The IMO shall also be responsible for reviewing the provisions of Section 4 of the WESM Rules in consideration of new meter technologies and standards, contestability in the provision and types of meters, and whether the provisions of Section 4 would cause the elimination of alternative types of meters.

2.8 RULES DEVELOPMENT

66. The IMO may submit WESM Rule change proposals under rule 8.3.1

2.9 MONITORING

2.9.1 Compliance & Suspension

67. If the IMO has reasonable grounds to believe that another WESM member may have or may be committing a breach of the WESM Rules, the IMO shall notify the IMO Governing Body of the alleged breach as soon as possible per Section 7.2.2.1 of the WESM Rules.
68. If the IMO is the recipient of a written notice from the Enforcement and Compliance Officer for breach of the WESM Rules, the IMO must rectify the breach within a reasonable period of time.
69. The MO is responsible for issuing suspension notices for payment defaults or WESM Rule breaches in accordance with Section 2.7 of the WESM Rules.

2.10 MARKET INFORMATION

70. In addition to its other obligations in the Section 5.2 of the WESM Rules requires the IMO, upon written request by a trading participant, to provide information concerning the operation of the spot market provided that the information is not confidential or commercially-sensitive. The IMO may charge a fee for providing this additional information.
71. The IMO shall publish and make public information on market prices and reasons for any significant price movements. Such information shall be provided electronically and in hard copies upon request and reimbursement of costs related to the production of the hard copies.
72. Communication between the IMO and the trading participants shall primarily be done through an electronic communication system. Information is deemed published whenever posted on the website of the WESM. The IMO shall maintain and publish all electronic communication procedures on how information may be transmitted and accessed.
73. The IMO shall make available to the DOE and ERC all pertinent information and the necessary facilities required by these agencies to perform policy-making, regulatory and oversight functions. All information related to transactions in the WESM shall be retained by the IMO for at least ten (10) years in a form that can be reasonable accessed whenever required by DOE or ERC.

2.11 MARKET DEVELOPMENT

2.11.1 Market Dispatch Optimization Model (MDOM)

74. The IMO, in coordination with the System Operator, shall from time to time investigate the MDOM for possible improvements and further developments. The IMO shall submit recommendations to the IMO Governing Body for consultations with market participants in accordance with Section 3.6.5 of the WESM Rules.

2.11.2 Ancillary Services

75. The IMO shall endeavour to establish, whenever reasonable feasible, spot market for the purchase of energy reserve services including regulating reserve, contingency reserve and other reserve categories. Proposals for such markets may be proposed from time to time by the IMO and must be set up in coordination with the System Operator and approved by the IMO Governing Body in accordance with Section 3.3.4 of the WESM Rules.

2.11.3 Financial Transmission Rights (FTR)

76. Under rule 3.12 the IMO is required to establish a market for FTRs when necessary or reasonable feasible.
77. Financial Transmission Rights gives the market participant in one node the right to buy energy at the price of another location regardless of the constraints on the transmission line, i.e. without the congestion costs. This guarantees the FTR holder's price of energy at the withdrawal point will be the same price at the point of injection is a hedge FTRs, which could be auctioned off and traded, could be held for varying periods from a month to several years depending on the design of the FTR market.

2.11.4 Administering open access and retail competition

78. Contingent to the implementation timeframe to be approved by the Energy Regulatory Commission (ERC), the IMO shall undertake preparatory measures for the set-up of a retail electricity market.

2.11.5 Renewable energy implementation

79. The IMO shall propose the procedures, methodology and necessary rule changes to comply with the requirements of R.A. 9513 or the Renewable Energy Act. The implementation of the proposal, when reasonably feasibly shall be subject to the approval of the IMO Governing Body.

2.11.6 Extending WESM scope

80. When reasonably feasible, the IMO shall propose and establish markets for the trading of electricity in the Visayas and Mindanao grids subject to the approval of the IMO Governing Body.

3 FORMULATE PERFORMANCE BENCHMARK FOR IMO SERVICES INCLUDING MECHANISMS FOR INCENTIVES AND PENALTIES

3.1 INTRODUCTION

81. The IMO should have **transparent performance metrics** to gauge the progress of the IMO's performance. The purpose of such metrics is to develop a culture that promotes and strives for organizational effectiveness and flawless performance in its operations and engenders customer confidence in the markets and operations. The outcome being to lower costs to stakeholders and end-use customers.
82. As in other jurisdictions, the Corporate Performance Measures for the IMO could fall into four (4) areas or categories:
- a. **Effective Use of Funds** (Financial Management) - Financial management is a common measure of an organization's ability to deliver results at a reasonable cost. The IMO should be able to perform satisfactorily activities and complete projects which are covered by its budget as approved.
 - b. **Operational Effectiveness** (Market Efficiency) – Market efficiency is a corporate goal to support efficient market operations. To do this the IMO's performance should be gauged through three separate performance measures, one for each area of market operations most critical to customers:
 - i. Accuracy of settlements,
 - ii. Accuracy of Demand Forecast, and
 - iii. Timeliness of the real-time market processes
 - c. **Evolving the Market** (Market Development) – The IMO must continue to develop and deliver new market functionality for the purpose of enhancing both market efficiency and inclusion of more customers.
 - d. **Customer Satisfaction** (Customer Care) – The responsiveness of the IMO to stakeholder issues is a key dimension of customer satisfaction.

3.2 POSSIBLE METRICS

83. Examples of Possible Market Metrics that have been used in other jurisdictions include:

-
- a. **Effective Use of Funds** – Is the IMO making effective use of the funds available? A comparison between amounts and programs budgeted as approved by the ERC versus actual outlays and Project Completions. The performance of the IMO in this aspect could be determined from external financial audit results.
- b. **Operational Effectiveness** – Is the Market Operator ensuring that its dealings with the market are timely and effective?
- i. Demand Forecast Error – Demand forecasts must be generated with a high degree of accuracy. This would lead to less alteration in dispatch within the hour and decrease customer costs to deal with inter-hour demand differences.
 - ii. Availability of the MMS – Except for planned outages, the IMO must ensure the highest availability of the MMS. The higher the percentage of time that the market is live and publishing prices, consumption and generation decisions can be made more accurately.
 - iii. Billing and Settlement – Statements should be prepared accurately and issued in accordance with the timetable. Accurate billing quickly leads to customer confidence in the Market and its results.
 - iv. Prudentials – Participant prudential requirements must be met at all times. This is a critical concern for all market participants who would share the burden if an unhedged loss were to occur.
- c. **Evolving the Market** – The WESM is still young and is still evolving to a full Electricity Market. The IMO shall ensure that the appropriate evolution of the market is achieved and managed effectively. An example is the stakeholdering and implementation of a jointly optimized energy and operating reserve market. Joint optimization of energy and operating reserve leads to a more efficient and lower cost solution to the present sequentially optimised method. The Inclusion of Visayas into the IMO Market on time and on budget could be a another perceived metric

-
- d. **Customer Satisfaction** – Are the Market Participants satisfied with the service provided by the WESM? This has traditionally been measure by customer surveys or time between help desk inquiries and providing the answer.

3.3 MECHANISM FOR INCENTIVES

84. A mechanism for the setting of incentives with respect to the performance of the IMO against agreed upon indicators and benchmarks shall be developed. The IMO may be granted the corresponding incentives and penalties, as necessary, to encourage compliance to performance targets. The performance standards shall be reviewed annually in accordance with Section 1.3.2.3.
85. The IMO Governing Body may require the IMO to meet certain performance standards as a prerequisite to the approval of bonuses for IMO personnel. The bonuses shall be integrated in the budget of the IMO but its release shall be subject to the quality of service delivered by the IMO and to the approval of the IMO Board.
86. Upon repeated non-compliance to performance standards or material breaches of the WESM Rules by the IMO, the IMO Governing Body may terminate the services of the IMO in accordance with the IMO contract.
87. The IMO's performance and the corresponding incentives may be based on the proposed metrics described in 3.2 of this Report. Each performance category would be given relative weights depending on the volume and complexity of work involved to accomplish the performance standards. This would be particularly true for the Financial Management and Market Development categories since activities related to these depend on the roster of projects scheduled for specific periods. Unlike the Market Efficiency category, where the volume of output is more or less recurring and could be reasonably forecasted, the number and sophistication of projects under Financial Management and Market Development may vary greatly with each year.
88. For Market Efficiency and Customer Care, the IMO Governing Body may require the IMO to exceed the base performance standards to merit full incentives. *Table 6 – Sample Performance Incentives Matrix* below shows a summary of how incentives could be determined.

Table 6 – Sample Performance Incentives Matrix

Performance Category	Relative Weight	Performance Measure	Actual Performance	Points (Max of 1)	Points x Relative Weight
Financial Management	20% (To vary yearly)	Full and timely implementation of projects as prescribed and approved by IMO Governing Body and ERC.	All projects were accomplished satisfactorily with schedule.	1	0.2
Market Efficiency	40% (To vary yearly)	Combination of performance standards (PS) for availability, forecast accuracy, dispatch, pricing and settlements.	All workflows completed within PS	0.75 (Full 1 point could be awarded if PS is exceeded by a certain percentage)	0.28
Market Development	20% (To vary yearly)	Full and timely implementation of projects as prescribed and approved by IMO Governing Body and ERC.	Delayed implementation of new processes/ markets	0.5	0.1
Customer Care	20% (To vary yearly)	Efficiency of participant registration and training Timeliness and accuracy of responses to participant queries,	Performance exceeds (PS)	1	0.2
TOTAL					0.80
Incentive for the IMO for the year = Maximum Allowable Incentive x 0.80					

89. The proposed Performance Categories and indicators are presented in more detail in Chapter 4.

4 DEVELOP THE PERFORMANCE INDICATORS AND PERFORMANCE CONTRACT OF THE IMO AND A SET OF MONITORING STRATEGIES

4.1 PERFORMANCE INDICATORS

90. The IMO shall perform its functions and deliver services in accordance with a set of performance parameters as prescribed in the WESM Rules. In line with the performance benchmarks outlined in Chapter 3 of this Report and with the *Interim WESM Market Operator Performance Measures* proposed by PEMC-MO, the following measures and indicators and monitoring strategies are proposed for each category:

4.1.1 Effective Use of Funds

91. The IMO must be able to achieve its performance targets and complete projects within budget. Activities are duly funded by the market fees must be accomplished as scheduled.

PERFORMANCE CATEGORY	PERFORMANCE INDICATOR
Project Completion as Approved by ERC	100% completion of projects approved by the ERC.

92. The IMO Governing Body may require the IMO to submit at least monthly status report on the progress of activities and projects scheduled for the year. Whenever a particular project is delayed or is expected to incur cost overruns, the IMO must include in its reports details on the causes and recommended solutions. The IMO Governing Body may make the necessary adjustments on the performance indicator when necessary based on the IMO's monthly reports.

4.1.2 Operational Effectiveness:

PERFORMANCE CATEGORY	PERFORMANCE INDICATOR
WESM Rules / Procedures and Regulatory Compliances	99% Compliance to applicable WESM Rules and Procedures.
Market Management System Availability	99.8% Availability of the MMS. This would be tantamount to about eighteen (18) 1-hour

	trading intervals only that the market system was not available to market participants in a year. (excluding Planned Outages)
Forecast Accuracy	<p>Two performance indicators are proposed:</p> <p>a) Real-time forecast based on Mean Absolute Percentage Error (MAPE) assessment for the year is within +/-1%.</p> $MAPE = \frac{\sum \text{abs}(LDF_i - ACT_i)}{\sum ACT_i} \times 100\%$ <p>Where: LDF_i = hourly load forecast ACT_i = actual hourly load i = trading interval, 1 to 24</p> <p>b) Forecast Error Rate (FER) <= 3%: The actual number of RTD intervals that exceed the tolerance level of +/-3%, i.e.</p> $FER = \frac{FEI}{8760} \times 100\%$ <p>Where FEI = Trading intervals when forecast exceeds +/- 3%</p>
Dispatch Scheduling and Pricing	<ul style="list-style-type: none"> • 99% success rate for the different Market Workflows runs: <ul style="list-style-type: none"> • Real Time Dispatch • Real Time Ex-post • Day Ahead Projection • Weak Ahead Projection
	<ul style="list-style-type: none"> • All Pricing Error validation and market re-runs are processed and completed prior to final settlement (i.e. 100%)
Billings and Settlements	<ul style="list-style-type: none"> • Preliminary and Final Settlement statements are issued as per WESM settlement timetable to all market participants (i.e. 100% timeliness)
	<ul style="list-style-type: none"> • 99% Accuracy in Final Settlement statements relative to adjustments to trading amounts and the number of affected participants as a result of corrections/adjustments due to both internal and external factors (e.g., bilateral re-declaration, metering data adjustments, adjustments due to Must Run Units (MRU), Pricing errors, Price Substitutions and settlement surplus allocations)
	<ul style="list-style-type: none"> • Prudential monitoring must be done such

	that the IMO would have an accurate estimate on when a trading participant's exposure in the market would exceed its trading limit. Based on historical trading volumes of each participant, the IMO must know and log seven (7) days in advance when a margin call may have to be made.
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93. The IMO shall be required to submit a monthly summary compliance report with regard to the performance indicators under Operational Efficiency particularly for:
- a. MMS Availability;
 - b. Forecast Accuracy;
 - c. Dispatch Scheduling and Pricing; and
 - d. Billing and Settlements
94. The IMO Governing Body may form a group whose dedicated function is to monitor the IMO (and all other WESM Members for that matter) with regard to compliance to the WESM Rules. This group could submit monthly compliance assessment reports on the IMO's compliance to its functions under the WESM Rules.

4.1.3 Evolving the Market

95. The IMO must continue to develop and deliver new market functionality for the purpose of enhancing both market efficiency and inclusion of more customers.

PERFORMANCE CATEGORY	PERFORMANCE INDICATOR
WESM Visayas Commercial Operation	Completed in accordance with the IMO Contract.
Reserve Market	Completed in accordance with the IMO Contract.
Financial Transmission Rights	Completed in accordance with the IMO Contract.
B2B Retail Market	Completed in accordance with the IMO Contract.

96. Similar to the *Effective Use of Funds* category, the IMO Governing Body may likewise require of the IMO at least monthly status reports on the progress of activities related to market development. Reports shall include details especially on delays and cost overruns, the causes of the slippage and recommended solutions. The IMO Governing Body may make the necessary adjustments on the performance indicator when necessary based on the IMO's reports.

4.1.4 Customer Satisfaction

97. The responsiveness of the IMO to stakeholder issues is a key dimension of customer satisfaction.

PERFORMANCE CATEGORY	PERFORMANCE INDICATOR
Registration and Customer Relations	<ul style="list-style-type: none">• Direct, Indirect or intending market participant Registration application are processed within 15 business days upon receipt of complete application requirements and/or additional information or fees
	<ul style="list-style-type: none">• 100% of help desk queries acted on within the timeframe prescribed in the WESM Rules.
	<ul style="list-style-type: none">• Market Participant trainings completed as scheduled with high ratings on the training evaluation survey at the end of the training session
	<ul style="list-style-type: none">• High over-all Market Participant satisfaction on the services rendered by the IMO.

98. The IMO shall submit a monthly report to the IMO Governing Body on the number of market participant applications it received and the status of each application. The report shall indicate successful registration, whether the application was processed within the timeline and the reasons for delays, if any.
99. With regard to the queries received by the help desk, the IMO shall maintain a log to record query details to include, among others, the time and date of the query, the nature and subject, the time and date of response, and details of the response.
100. The quality of the training programs conducted by the IMO shall be evaluated through responses of training participants to evaluation surveys conducted at the end of the training sessions. The IMO Governing Body may also conduct a separate survey on the level of market participant satisfaction on the over-all quality of service delivered by the IMO.

**SUPPORT FOR IMPLEMENTATION OF THE SECOND GOVERNANCE AND
ANTICORRUPTION ACTION PLAN**

**(SUBPROJECT) SUPPORT FOR THE ESTABLISHMENT OF AN
INDEPENDENT MARKET OPERATOR, PHI**

TA-6445 (REG)

IMO TECHNICAL SPECIFICATIONS

Prepared for

2010

TABLE OF CONTENTS
SECTIONS

1	INTRODUCTION	3
2	BACKGROUND	5
3	THE CURRENT ENVIRONMENT	12
3.1	INTRODUCTION	12
3.2	WESM ENVIRONMENT	12
3.3	SYSTEM CONFIGURATION	25
3.3.1	Market Application Servers (MAS)	26
3.3.2	Database Servers (DBS)	27
3.3.3	Internet Application or Web Servers (WEB)	28
3.3.4	Auxiliary Storage	28
3.3.5	Communications Equipment	29
3.3.6	Development System	29
3.3.7	Market Operations Scenario Testing, Trials and Training (MOST3)	30
3.3.8	Uninterruptible Power Supply (UPS)	30
3.4	PROPOSED NEW SYSTEMS AND UPGRADES	31
4	OPERATIONAL/TECHNICAL SPECIFICATIONS	35
4.1	INTRODUCTION	35
4.2	MINIMUM OPERATIONAL REQUIREMENTS	35
4.2.1	Application Architecture	35
4.2.2	Standalone System Environments	35
4.2.3	Hardware/Software Support and Upgrades	36
4.2.4	Scalability	36
4.2.5	Data Integrity	36
4.2.6	Interoperability	36
4.2.7	System Availability	37
4.2.8	Operational Service Levels	37
4.2.9	Recoverability and Business Continuity	39
4.2.10	Security	40
4.2.11	Confidentiality	41
4.2.12	Capacity	41
4.2.13	Data Ownership and Archiving	41
4.2.14	Audit Trail	42
4.2.15	Service Management	42
4.2.16	Change Management	43
4.2.17	Development Methodology	43
4.2.18	Liaison	43
4.2.19	Documentation	44
4.2.20	System Audits	44

1 INTRODUCTION

1. The objective of Activity 3 is to identify the operational/technical specifications that the IMO has to conform to in relation to the administration of the Market Management System (MMS) and other supporting systems of the WESM.
2. The successful implementation of the transfer of market operations functions from the Philippine Electricity Market Corporation (PEMC) to the Independent Market Operator (IMO) shall hinge not only on the formulation of a feasible organizational structure for the IMO but also on the nomination of the appropriate system infrastructure of the market management system (MMS). Vital is the identification of the operational/technical configuration and specifications of the MMS that will enable the IMO to accurately, efficiently and reliably undertake its functions.
3. Accordingly, the Activity 3 shall review the current systems that have been put in place by PEMC in fulfilment of its role as the AGMO. Focus shall be given on the core systems that are utilized to manage WESM transactions and serve the requirements of the participants, the PEM Board, and oversight agencies.
4. PEMC is also endeavouring to pursue enhancement projects aimed at upgrading the existing systems. In its five-year Information Technology and Market Systems (ITMS) Plan covering the years 2009 to 2013, PEMC has identified twenty seven activities and projects aimed at improving and expanding services it offers the market. Of these, ten are categorized as “high priority” since they are needed to enable PEMC to comply with WESM Rules and EPIRA requirements. These activities are:
 - a. Migration of the MMS to IBM AIX
 - b. Integrated Settlement and Metering System (ISMS)
 - c. Inclusion of Prudential Monitoring System in the ISMS
 - d. Market assessment and surveillance “screening”
 - e. Preparation for the Visayas Commercial Operations / VSAA system
 - f. Ancillary Services market
 - g. Business and Services Infrastructure
 - h. Establishment of B2B system for the retail market
 - i. Automated delivery of market information to participants
 - j. New Market Participant interface

5. PEMC recognizes that the implementation timeline of the ITMS Plan spans the period during which the management of the Market could be transferred to an IMO. The transfer of function is mandated in Section 30 of R. A. 9136 or the “Electric Power Industry Reform Act of 2001” (EPIRA) which states that the functions, assets and liabilities of the AGMO shall eventually be transferred to the independent entity or the IMO. It is therefore necessary to identify projects in the ITMS Plan that are critical to market operations as prescribed in the WESM Rules. For this reason, these projects must be undertaken and completed by the AGMO or the IMO.

6. The systems that are envisioned to be operated and maintained by the IMO would then be a combination of what the AGMO has at present, what is currently in mid-implementation and what is planned within the next three years as stated in the ITMS Plan. This shall be the reference point for the formulation of a set of operational and technical specifications that shall define the system architecture, the topology of the networks, hardware & software configurations, disaster recovery procedures and security protocols.

7. Also included in Activity 3 is the inventory and assessment of systems operated by the AGMO, particularly the Market Operations Group of PEMC (PEMC-MO). These activities would be essential inputs in the valuation and pricing of assets that will have to be transferred to the IMO.

2 BACKGROUND

8. In accordance with its mandates under the EPIRA, the Department of Energy (DOE) established and formally declared the commercial operations of the Philippine Wholesale Electricity Spot Market (WESM) on 23 June 2006. The creation of the WESM was a complex undertaking requiring the coordinated efforts of key players in the electricity industry. Codes, Rules and guidelines had to be formulated, new knowledge and technology had to be acquired, people had to be trained, and a new corporation had to be formed. The Philippine Electricity Market Corporation (PEMC) was incorporated in November 2003 to act as the AGMO whose main task is to be the interim Market Operator of the WESM. And at the heart of the operations of the Market Operator is the Market Management System (MMS).
9. The MMS is the centrepiece of the WESM. It is a synthesis of equipment, software, procedures and processes that enables the Market Operator to perform its central role and functions. Section 6(c) of Rule 9 of the EPIRA-IRR stipulates the following functions and responsibilities of the Market Operator:
- a. Operate and administer the WESM and allocate resources to enable it to operate and administer the market, in accordance with the WESM Rules;
 - b. Determine the dispatch schedule of all facilities in accordance with the WESM rules. Such schedule shall be submitted to the grid operator of the TRANSCO or its buyer or concessionaire;
 - c. Monitor daily trading activities in the market;
 - d. Oversee transaction billing and settlement procedures;
 - e. Maintain and publish a register of all WESM participants and update and publish the register whenever a person becomes or ceases to become a WESM participant.
10. The development of the existing MMS was funded through the *Electricity Market and Transmission Development Project Loan* (ADB Loan No. 1984-PH) obtained by the National Power Corporation (NPC) from the Asian Development Bank (ADB) and the Japan Bank of International Cooperation (JBIC). The National Transmission Corporation (Transco), in turn, was tasked by DOE to act as the executing agency¹

¹ Per Section 30 of the EPIRA, prior to the incorporation of a governing body, the AGMO will be under the administrative supervision of Transco.

- for the MMS Development Project. In connection with this, Transco advanced the needed local counterpart funds and borrowing fees², which were sourced from its internally generated cash and proceeded to prepare the tender for the MMS project.
11. Transco solicited tenders for the WESM MMS Development Project through a two-stage two-envelope bidding procedure in accordance with ADB's revised User's Guide for Procurement of Goods (dated January 2002)³. The turnkey contract was eventually awarded to ABB, Inc. on 17 February 2004⁴ after it submitted a bid of \$8,470,000.00 for the supply and installation of hardware plus the development of customized software for the WESM MMS. This excludes amounts incurred by Transco for other costs related to the establishment of the WESM⁵.
 12. The MMS that was required of ABB must be capable, among others, of performing the following vital operations⁶:
 - a. Provide a portal for market participant registration and maintain a registry of participant profiles which will include information on meters, transformers, and connection configuration;
 - b. Generate and maintain a market network model (MNM) of the transmission network;
 - c. Assign participant resources and loads to specific trading nodes on the MNM;
 - d. Interface with the facilities of the System Operator (SO) particularly the Energy Management System (EMS) to gather real-time and non real-time transmission network data critical to the market;
 - e. Based on inputs from the EMS, forecast and publish demand per the approved timetable for each trading node;
 - f. Process offers and bids submitted by market participants for the supply of electricity;
 - g. Produce the most economical energy dispatch model to meet the forecast demand at the trading nodes;

² ERC Case No. 2005-048 RC: Annex D of PEMC Application; Page 22 Decision dated 22 June 2006,

³ MMS Tender documents: Volume 1. Commercial Considerations, Evaluation Method, page 3-2

⁴ Through Transco Board Resolution No.2004-003

⁵ Transco also engaged Marketplace Pty Company, Limited as the Project Management Consultant of the WESM for US\$1,823,317 plus PhP6,295,300; and PA Consulting Group Limited as Independent Auditor for US\$180,000. PA Consulting audited the Market Dispatch Optimization Model (MDOM).

⁶ Page 1-7, Electricity Market & Transmission Development Project, Turnkey Implementation of the MMS for the Philippine Wholesale Electricity Market

- h. Calculate the provisional and final locational prices for energy quantities traded in the market;
 - i. Collect and aggregate meter data from the system of the Meter Service Providers (MSP);
 - j. Generate the necessary invoices, statements, bills and reports necessary for the settlement of transactions in the WESM;
 - k. Manage the dispute tracking and resolution processes;
 - l. Provide a full audit trail for all material market transactions.
 - m. Ensure the traceability and repeatability of dispatch runs and allow for post adjustments whenever constraint violations, price errors, metering errors or disputes occur.
 - n. Produce and publish reports on market operations especially on the MNM, demand forecasts, ex-ante and ex-post dispatch and prices, and constraints.
 - o. Provide facilities for market surveillance for variances in the dispatch of market participants with the real-time instructions generated by the MMS.
13. The major types of hardware and software included in the turnkey contract are as follows:
- a. Hardware components**
 - i. Servers
 - 1. Application servers
 - 2. Database servers
 - 3. Backup and archiving servers
 - 4. Internet application/web servers
 - 5. Development system
 - ii. Communications equipment
 - 1. LAN switches and routers
 - 2. Firewall and intrusion detection system
 - 3. MV90 communications front end
 - iii. User interface equipment
 - 1. Local workstations
 - 2. Remote workstations
 - 3. Notebooks for handheld meter reading
 - 4. Viewing display
 - iv. Upgrade capabilities
 - 1. Processors

2. Computer peripheral equipment
3. User consoles
4. Network
- v. Auxiliary storage
 1. Fiber channel storage area network (SAN)
 2. Modular SAN Array 100
 3. Tape library
- vi. Hardware redundancy
 1. Servers, storage, network, power and UPS
- vii. Uninterruptible power supply
- viii. Emergency backup
- ix. Power distribution
- x. Cabling
- xi. Input output devices (i.e., color/black and white printers)
- xii. Cabinetry and server consoles

b. Subsystems/Software components

- i. Market Infrastructure (MI)
 1. Market participant registration
 2. Market participant interface
 3. Markets (bidding & validation)
 4. Report manager
 5. Database architecture
 6. Historical information management
 7. Event manager
 8. Operator interface
 9. Prudential risk management
 10. Interface to other systems
- ii. Market Applications (MA)
 1. Energy Management System (EMS) interface
 2. Load forecasting
 3. Market dispatch and price clearing engine
- iii. Settlement (STL)
 1. Imports & validation
 2. Settlement configuration
 3. MMS settlement market rules

4. Statements
 5. Reporting
 6. Output to MI
 7. Dispute resolution
 8. Archiving
 9. Batch processing
 - iv. Meter Data Warehouse (MDW)
 1. Masterfile Data Import
 2. Meter Registration
 3. Settlement Point Registration
 4. Time Series Registration and Mapping
 5. Meter Values Warehouse
 6. Meter Value Import
 7. Meter Value Validation
 8. Meter Value Estimation
 9. Meter Value Approval
 10. Meter Aggregation and Normalization
 - v. Accounting (ACC)
14. Upon the final acceptance of Transco, the MMS development project was completed in December 2005 and the final dry run with live dispatch was undertaken for the Luzon Grid from 19 to 25 June 2006. DOE declared the formal start of WESM commercial operations on 23 June 2006, however, actual trading and dispatch officially began on 26 June 2006⁷.
15. Although Transco has turned over the operation and maintenance of the MMS to PEMC no clear transfer of ownership of the MMS has been instituted. PEMC is fully responsible for the MMS, but it does not yet own the system since a formal transfer ownership to PEMC has not yet been put into effect. This matter will have to be settled among NPC, Transco and the Power Sector Assets and Liabilities Management Corporations (PSALM) and the lender institutions ADB and JBIC.
16. PEMC has consistently advocated the need to continuously upgrade the MMS. Aside from addressing the obsolescence of the system, PEMC cites the necessity for hardware and software upgrades for efficient operations and to meet the growing demand of market participants and stakeholders for accurate and timely information.

⁷ WESM Website, www.wesm.ph

In its application for the approval of the level of Market Transaction Fees filed with the ERC in 2007 and 2008 (ERC Case Nos. 2007-124 RC and 2008-050 RC, respectively), PEMC proposed enhancement programs for the MMS, namely:

- a. MMS Full Migration – Transfer of the ABB, Inc developed MMS from the current Hewlett Packard Alpha platform to the IBM AIX platform. Hewlett Packard has confirmed that it is discontinuing the Alpha server platform after 2011 necessitating the migration of the MMS.

Integrated Settlement and Metering System (ISMS) – Replacement of the POMAX applications that was bundled with the MMS. POMAX, which was supposed to handle metering, billing, settlements, prudential monitoring and fund transfer has not been fully utilized because of the lack of remote telemetering units (RTUs) at the customer nodes and computational accuracy issues due to decimal place limitations.⁸ As an interim solution, PEMC has developed its own Microsoft Excel based software to handle the transaction settlements. The ISMS, which is presently undergoing user acceptance tests and shall be implemented shortly, is intended supersede the Excel based applications

- b. Business Development and External Services (BDES) – Creation of a central information warehouse of raw, processed and computed data relevant to the WESM. The BDES will be a system separate from the main MMS and shall be the “single version of truth” for all market information. Users both internal and external shall be allowed access to the information for publication, visualisation, forecasting and analysis purposes.

17. These improvement programs have only been partially implemented and have in fact been carried over to the 2009 – 2013 version of the ITMS Plan. Based on updates from PEMC, the three main enhancement programs are in various stages of execution:

- a. The contract for the MMS Full Migration is still being negotiated and is contingent to the approval of the necessary market transaction fees by the ERC.

⁸ PEMC ITMS Plan 2009 - 2013

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- b. As of this writing of this Report, the ISMS, which was developed by in-house, is undergoing user acceptance tests and is expected to be commissioned within 2010.
 - c. Phase 1 of BDES was completed in February 2010. Phase 1 includes software application tools for data modelling, data warehousing and data publishing. Phase 2, which is scheduled to be operational by the end of 2010, shall enable improved post-data analysis and monitoring abilities using visualisation, forecasting and analysis tools.
18. The fact that PEMC had to develop a new system, the ISMS, for settlements and metering must be duly formalized and document. The MMS was developed as a turnkey project that includes systems for settlements and metering as these are base functions of the Market Operator. However, the POMAX system that was provided by ABB could not be fully utilized because of the lack of Remote Telemetering Units (RTUs) at the customer nodes. Because of this, PEMC-MO has to disaggregate the loads from the National Grid Corporation of Philippine's (NGCP) RTU's and estimate consumption down to the nodes at the distribution utilities' meters.
19. PEMC has gained sufficient technical proficiency and has created an alternative settlement system through in-house development to deal with the problems encountered with the POMAX system. Nevertheless, the matter of the functionality and the future applications for POMAX, however, remains an important issue which PEMC must resolve. The POMAX application developed by Navita is widely used in commodities trading markets all over the world and it would be prudent for PEMC to consider using the underutilized POMAX system in other projects being developed or for other purposes.

3 THE CURRENT ENVIRONMENT

3.1 INTRODUCTION

20. The IMO will be expected to take-over functions of PEMC's Market Operations Group (PEMC-MO). It follows, that state of the operations PEMC-MO shall be the main reference point of the prospective IMO in assessing the business of operating the WESM. It is then indispensable that the events behind the establishment of the WESM, particularly the MMS, the current systems and processes utilized by PEMC-MO and other systems still in the development stage are described in Activity 3.
21. The establishment of the WESM is among the key activities mandated by the EPIRA pursuant to reforming the electricity industry. EPIRA requires the procurement of at least 10% from the market for distribution utilities for the first 5 years from the establishment of the spot market.
22. The market administered by the WESM MMS is a gross pool electricity market where all energy transactions including those covered by bilateral contracts are scheduled. However, bilateral contract quantities transacted in the gross pool are settled outside of the market. The cost of electricity traded is computed at each node or location (Locational Marginal Pricing) to reflect transmission loss and congestion costs associated for the specific location.
23. Although the reserve market is not yet in operation, the MMS is capable of Reserve Co-Optimization or the simultaneous scheduling of reserve and energy offers. The MMS is also able to process demand bids from the customers.

3.2 WESM ENVIRONMENT

24. The MMS was setup as a dual redundant system consisting of four complete and running instances of the main MMS software and hardware facilities. The setup is illustrated in *Figure 1 – Dual Redundant MMS* below. Two instances, MMS-A and MMS-B, are installed at the primary site and another two, MMS-C and MMS-D, at the Emergency Backup Site (EBS). The Trading participants, the Energy Management System of the SO, the Meter Service Provider (MSP), oversight agencies and other parties connecting to the MMS, however, would be interfacing with a single logical

- MMS. The EBS would be on a constant “hot-standby” status in case there is a need to transfer operations from the primary MMS to the EBS.
25. With minimal disruption of market operations, hardware or software breakdown of any component would be taken over by one of its redundant counterparts in the system. This factor of safety was established to enable the system to meet performance standard levels for availability even with the failure of any of the sub-systems of the MMS.
26. In January 2010, however, PEMC-MO was prompted to declare market intervention because of hardware failure with the primary MMS. Market intervention was declared for one (1) trading interval in 06 January 2010 and thirteen (13) intervals in 07 January 2010 because of hardware breakdown and failure of the MMS to run after switch-over to the EBS.
27. Market participants log on to the system through digital certificates provided by Phillipines MySecureSign. Once permitted access, market participants will be routed through the firewall to the Web Server, through the application server to the Market Participant Workspace database. Firewalls create a “demilitarized zone (DMZ)” or a secure zone that will only allow Secure Socket Layer (SSL)⁹ traffic between the market participant and the MMS.
28. Data to and from the EMS of the System Operator is received in file format. From EMS to MMS, data transfers are all performed **through the internet** using file transfer protocol or FTP. From MMS to EMS, data transfer is performed by FTP (for *Dispatch Schedules* and *Nodal Load Forecast*) and hypertext transfer protocol or HTTP (for *Market Advisories*).

⁹ Secure Socket Layer or SSL is an internet security protocol used to securely transmit information over the internet.

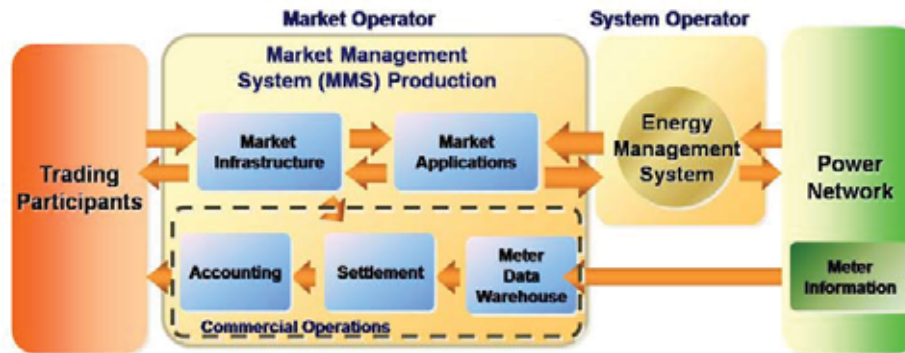
Figure 1 – Dual Redundant MMS



29. The MMS has four major subsystems¹⁰ to handle all the transactions going through the WESM, namely **1) Market Infrastructure (MI)**, **2) Market Applications (MA)**, **3) Commercial Operations**, which include Metering (MET), Settlement (STL) and Accounting (ACC) and **4) Data Exchange and Interfaces**. PEMC-MO also maintains a 5th subsystem at ABB's office at California in the US, known as the **Development Subsystem**, which is a downsized version of the MMS. Although the Development System is not directly utilized in the MMS production, it is an important support subsystem where patches and software changes are tested. PEMC-MO keeps another system at the PEMC office called the Market Operations Scenario Testing, Trials and Training (MOST3), which is used to do market re-runs, rule change scenarios testing and participant trainings.
30. Figure 2 – MMS Production Environment below represents the main subsystems that make up the MMS.

¹⁰ ABB Technical Proposal, 3.3.4 WESM Proposed Modules, page 69(354)

Figure 2 – MMS Production Environment



31. The **Market Infrastructure (MI)** (also referred to as Market Administration) subsystem primarily administers the interface between the trading participants and the MMS. It manages the secure and confidential flow of information; and monitors the state of the system in real-time. The MI also stores market data and undertakes backup and archiving functions. A key function of the MI is that it creates the Master File snapshot, which contains the profile of the trading participants, their resources, facilities, bids and offers required by the other subsystems. The MI is the lattice that binds the other MMS subsystems and external parties into the WESM environment.
32. Several modules make up the MI subsystem:
 - a. *Market Participant Registration (MPR)* – Provides Graphical User Interface (GUI) for the registration of Market Participants and resources. The MPR module also generates reports and creates a data repository to manage and monitor application status.
 - b. *Market Participant Interface (MPI)* – Enables Market Participants to establish a connection to the MI web servers. Through the MPI, the Market Participant may send submit information such as registration data, bids and offers and also receive information from the MI. Users can use the provided MPI or through the MPI use XML files to upload to the MMS.
 - c. *Market Bid/Offer Validation (PM)* – Receives, validates and stores incoming data submitted by Market Participants; and provides supporting data via audit trails and log files that will be used for tracking the activity of Market Participants.

- d. *Event Manager (EVM)* – Monitors and logs market activity 24 hours a day, seven days a week. The EVM checks the system every 10 seconds and executes appropriate instructions when certain system events occur.

- e. *Operator Interface (OPGUI)* – Provides the operator a window on the real time transactions of the MMS and the necessary tools to intervene on certain events (per notices from the EVM). Via the OPGUI, the Market Operator can send messages to the Market Participants publish reports, suspend the market, etc.

- f. *Reports (RPTMGR)* – Generates and publishes specific reports including Week Ahead projections, Day Ahead projections, Real-time Market and Dispatch results as required. Reports may be of types MP (market participant specific, one report one market participant), AMP (all market participants, one report for all market participants), PUBLIC (one report accessible by the public in general), and ADHOC (may be a combination of the other report types. Among the main reports generated are:
 - i. Week Ahead Projection Reports
 - ii. Day Ahead Projection Reports
 - iii. Real Time Dispatch Reports
 - iv. Real Time Ex-post Report
 - v. Market Participant Related Information Reports
 - vi. Adhoc Reports

- g. *Prudential Risk Management (PRM)* – Provides interfaces to collect and store prudential risk data and allows calculation of the prudential requirements.

- h. *Historical Information Management (HIM)* – Ensures that Market Participant profiles, market transactions, event logs and other relevant data are replicated backed up and archived. The HIM module can retrieve may Archived information

33. The **Market Application (MA)** (or Market Operations) subsystem is a collection of software applications and services that support the actual energy market¹¹. MA converts system network information from the SO and processed bids and offers from the MI subsystem into demand projections and real time dispatch prices and volumes for the market. The MA subsystem is the heart of the MMS and performs its core services.

Figure 3 – Market Application (MA) Subsystem



34. The MA subsystem applications were developed by ABB and are run on the proprietary SABLE Platform. Within the SABLE Platform, the applications are grouped into three distinct modules: the EMS Interface module, the Energy Demand Forecast module, and the Security Constrained Economic Dispatch (SCED) module.
- a. *EMS Interface (EMSI)* - Receives the network snapshot generated and transmitted by the EMS to MMS. The EMSI reads, validates and logs data into the MA subsystem database for subsequent use by the Energy Demand Forecast and SCED modules. The network snapshot sent by the EMS includes outage schedules, contingency list, transmission limits, security limits and reserve requirements, load pattern data, and other essential information.
 - b. *Energy Demand Forecast (SDLF and LDP)* – Performs load forecasting through two standalone applications, *Load Predictor (LDP)* and *Similar-Day Load Forecast (SDLF)*. Based on historical weather and load data, SDLF produces the current day and future 7 days load forecasts for *Day-Ahead Projection (DAP)* and *Week-Ahead Projection (WAP)*, respectively. LDP, on the other hand, produces 2-hour ahead load forecast used for generating

¹¹ The WESM MMS is capable of running the ancillary services market but this is still to be implemented pending ERC approval of the reserve market mechanism. PEMC filed with the ERC a Motion for Approval of Phase-In Implementation of WESM Pricing and Cost Recovery Mechanism for Reserves in June 2009.

Real-Time Dispatch (RTD). LDP forecasts are generated based on actual historical loads.

- c. *Security Constrained Economic Dispatch (SCED)* - Is the main dispatch engine of the MA subsystem where market clearing prices and volumes are calculated. Designed to arrive at the most economic energy dispatch given a particular state of the power network, the SCED executes an iterative process starting from a base case scenario, where transmission congestions are ignored, to a final feasible dispatch solution where all transmission constraints have been resolved. A cluster of other applications are involved in the workflow of the SCED as follows:
- i. *Dispatch Scheduling Initialization (DSI)* – Retrieves and prepares the system snapshot from the EMSI, bids, offers and other market data from the MI subsystem, and the SDLF/LDP forecasts use by NDP and UNCD applications of SCED.
 - ii. *Network Data Preparation (NDP)* – Produces the bus-oriented model of the transmission network from circuit breaker status, outage and energy schedules and other information retrieved by the DSI. The NDP application has four component functions, SSKD, NMB, BSK and NDG:
 - 1. *Study Schedule Retrieval (SSKD)* – Retrieves and prepares data for the *Network Model Builder (NMB)*, the *Bus Scheduler (BSK)* and the *Network Data Preparation (NDP)*.
 - 2. *Network Model Builder (NMB)* – Determines the bus model topology of the network, given the data from the MI subsystem and the EMS;
 - 3. *Bus Scheduler (BSK)* – Computes bus loads and power factors of the network model;
 - 4. *Network Data Generation (NDG)* – Combines the data prepared by the other three functions and generates the essential network data for the *Network Security Analysis (NSA)* application.

- iii. Network Constrained Dispatch (NCD and UNCD) – The NCD and Unconstrained Network Dispatch (UNCD) are generated by the same application. UNCD is merely the base scenario where network constraints are ignored. For the UNCD, the application determines the Market Clearing Price (MCP) and Market Clearing Volume (MCV) purely on energy bids and offers over the market – as if all buyers and sellers were in a single area or node and no transmission of electricity is required. Thereafter, the Network Security Analysis retrieves information from the UNCD and NDP to calculate Locational Marginal Prices (LMP) and network constrained dispatch (NCD) – that is, energy prices and dispatch schedules with consideration for the cost of transmission losses and network congestion.

The LMP and energy dispatch schedules generated by the NCD application are based on the Market Dispatch Optimization Model (MDOM) approved by the ERC in connection the price determination methodology application filed by PEMC.¹² Under EPIRA Section 30 the ERC is responsible for approving the price determination methodology and rules. The algorithm of the MDOM was formulated so as to serve as much of the power demand by dispatching resources, i.e. generating facilities, with the least LMP.

- iv. Network Security Analysis (NSA) – Calculates the system power flow and evaluates the dispatch schedule for any constraints violation based on the network model created by the NDP application. At the initial run, the NSA checks the UNCD schedule vis-à-vis the network model for constraint violations. Any constraint violations detected are flagged to the NCD for enforcement and resolution in the subsequent iteration of the dispatch schedule created by the NCD application. A feasible dispatch solution is reached when the NSA no longer detects any constraint violation in the latest version of the NCD schedule. The NSA allows for 40 iterations before the process is terminated.
- v. Dispatch Scheduling Publication (DSP) – Publishes the converged dispatch solution of the NCD application to the MI Database for use by

¹² ERC Decision on ERC Case No. 2006-007 RC

the other MMS subsystems and to the EMS for implementation by the SO. DSP furnishes the following information:

1. Energy Pre-Dispatch and Real-Time Dispatch Schedules;
2. Market Clearing Prices (MCP) and Market Clearing Volume (MCV);
3. Locational Marginal Prices (LMP);
4. Active Transmission Constraints;
5. Transmission Loss Factors

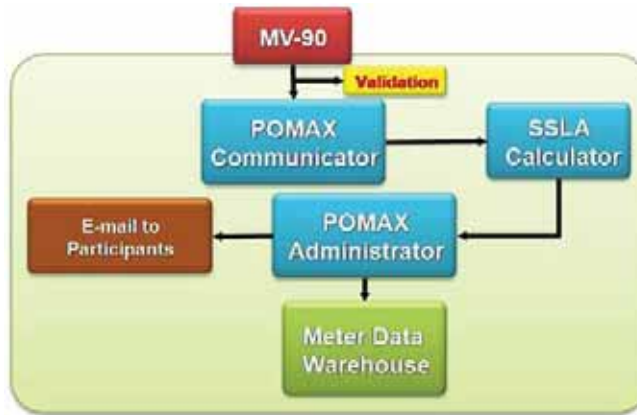
vi. Save Case (SAV) – Saves the data generated by the SCED applications for analysis, recalculations and re-runs

35. **Commercial Operations** is the subsystem that ultimately manages the flow of moneys for energy transaction realized in the WESM. This subsystem is composed of three applications: **Metering**, **Settlements**, and **Accounting** which perform the following functions:

- a. Imports Market Application (MA), metering data, and bilateral contract quantities (BCQ) and validates these information against master data and configuration;
- b. Performs calculations using the latest imported data and calculation rules;
- c. Creates reports of imported data, aggregated values and calculated result showing total payments and charges;
- d. Verifies reports and calculations and creates settlement statements
- e. Aggregates settlement statements into billing records and translates these in into invoices;
- f. Transfers invoice data to the accounting system;
- g. Provides a register for billing and logs resolution information;
- h. Audits and traces all data imports, calculation and system actions

36. The **Metering** application runs the Electric Validation and Editing Engine (EVEE) component which validates and estimates meter data and distributes it to downstream systems. E-VEE is integrated with the data collection system and stores meter data and other related information in a relational database. Although PEMC has its own meter data collection software, the MV-90 developed by ITRON, is only used to receive information from NGCP's MV-90 system. NGCP is the current Meter Service Provider for the WESM.

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38. The existing billing and settlement system uses programs based on Microsoft Excel to process meter information received from the Metering Service Group (MSG) of NGCP into statements and invoices for the settlement of transactions in the WESM. PEMC-MO receives meter data from the MSG once every month three to four days after the end of the billing period. The data is validated and processed through *Source Preparation* for use in the Site Specific Loss Adjustment (SSLA) calculator application. The SSLA application estimates line losses from the trading nodes to the point where the actual meters are located. This is done for meter data of trading participants whose revenue meters are not located in the trading nodes which is the case for customers without remote telemetering units.
39. The disaggregated metering data from the SSLA are sent to populate the Metering Data Warehouse (MDW) and to the WESM Metering System (WESM MET) for further processing. The WESM MET, which is the Excel based application developed by PEMC, incorporates prices, updated energy volumes (resulting from re-runs), taxes and fees related to the disaggregated meter data gathered from the SSLA. All these information are consolidated by the WESM MET and sent to the Settlement database of the Commercial Operations system. Data not requiring disaggregation are sent from the MI Database to the Settlement database.
40. Settlement surplus remaining after all the transactions have been accounted for are reallocated back to participants on a pro-rata basis through the line loss congestion cost (LLCC) program. The LLCC computes rebates based on how large the recipients' line loss and congestion charges payments are. The LLCC program stores the settlement amounts inclusive of rebates in a separate database. Invoices and subsequent electronic fund transfer (EFT) instructions are generated based on the amounts calculated by the LLCC.
41. The MV-90 and POMAX systems are still used to generate the hourly metering information that is transmitted to the participants on a daily basis. But the data gathered from this subsystem are not used for the actual billing and settlement calculations.

Figure 5 – Daily Metering Subsystem

42. PEMC is developing an Integrated Settlement and Metering System (ISMS) which is intended to replace the manual system of meter information disaggregation and account settlement calculations using Microsoft Excel. The ISMS application is undergoing tests and is expected to become operational within the year.
43. The **Accounting** function of the MMS is provided by Microsoft Great Plains software. Great Plains Financials is an application package with tools needed to handle:
- a. General ledger
 - b. Accounts Payables
 - c. Accounts Receivables
 - d. EFT
 - e. Philippines Payroll
 - f. Cash Management
44. The **Data Exchanges and Interfaces subsystem** enables the MI, MA, and Commercial operations subsystems to connect and communicate with the systems of indispensable players in the WESM. The Market Operator through the MMS must have a secure and reliable links with the:
- a. EMS of the SO;
 - b. Bidding interface of the Trading Participants;
 - c. Data collector of the Metering Service Provider (MSP); and
 - d. Electronic Fund Transfer (EFT) system of the banks of trading participants.

A **Development System**, which is basically a down-sized version of the MMS is maintained for the purpose of software development and testing. The Development

System, which is housed at ABB's office in California in the US, serves as the testing platform for software upgrades and patches prior to implementation in the main MMS. For the purpose of undertaking market re-runs, rule change scenarios testing and participant trainings, uses the Market Operations Scenario Testing, Trials and Training (MOST3) system installed at the PEMC office.