



INDEPENDENT MARKET OPERATOR

Final Report: Compliance of System
Management with the Market Rules and
Market Procedures

20 October 2014



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EXECUTIVE SUMMARY

This report sets out the results of the market audit by PA Consulting Group assessing System Management's compliance with the Market Rules and Market Procedures.

This market audit has been carried out under Market Rule 2.14.6 which requires that:

In accordance with the Monitoring Protocol, the IMO must at least annually, and may more frequently where it reasonably considers that System Management may not be complying with the Market Rules and Market Procedures:

- a. *require System Management to demonstrate compliance with the Market Rules and Market Procedures by providing such records as are required to be kept under these Market Rules or any Market Procedure; or*
- b. *subject System Management to an audit by the Market Auditor to verify compliance with the Market Rules and Market Procedures.*

This year's market audit has taken the form of an "incremental" audit. We have examined those aspects of the Market Rules and Market Procedures and System Management's internal processes where:

- Clauses in the Market Rules are new or amended since last year's annual audit
- Previous audits, our assessment of SM's documented procedures, and SM's internal compliance processes have indicated non-compliance risk
- There have been substantive systems or resourcing changes
- Internal procedures are new or updated since last year's annual audit

That is, we have looked at areas that have changed (or should have changed) since last year's annual audit.

Summary of non-compliance incidents

Table 1 summarises the incidents of non-compliance by clauses breached:

- We have flagged clauses that have been breached multiple times
- Breaches that have been self-reported by SM are flagged as such.
- All other breaches were identified as part of the audit process

Two areas of non-compliance are particularly important, as they relate to System Management's (SM's) core market roles: implementing market dispatch, and developing and publishing critical market information.

- Two of the material breaches relate to SM dispatch not being in accordance with the LFAS merit order. We note, as we did last year, that SM does not have tools in place to allow easy and systematic identification of such situations, and neither breach was self-reported. In our view, investing effort in further analysis and tools would greatly improve market transparency, and likely identify further opportunities for improvement in this area.
- The remaining material breaches relate to provision of information to the market, and particularly in relation to dispatch advisories provided either late, or not at all. While the vast majority of information is provided to the market without incident, SM's role as the sole provider of near-real-time information to market participants means that if it does not provide information, or provides it late, participants will not have a full set of information on which to base their market decisions.

The current dispatch advisory mechanism may not be the most efficient way to provide the necessary information to the market, and we recommend investigation of alternate approaches to more effectively share SM's view of likely future dispatch with the market.

Table 1: Summary of incidents of non-compliance by clause breached.

Chapter	Clauses breached	Description
3	3.11.13 (self-reported)	Failure to have the annual ancillary service report approved by the IMO by 1 July 2014.
	3.11.14	Failure to document the procedure for determining Ancillary service requirements in the PSOP
	3.18.10, 3.19.3 (self-reported) Multiple non-material breaches	Failure to assess requests for approval of scheduled transmission outages in accordance with the Rules
	3.19.3A(b) (self-reported)	Approval of Opportunistic Maintenance requests on two consecutive trading days
	3.21A.7 and 3.21A.9 (self-reported)	Failure to approve or reject a commissioning test plan and notify the affected market participant by 8am on the Scheduling Day
	3.21A.16 (self-reported)	Failure to provide the IMO with details of approved Commissioning Test plans by 8.30am on the scheduling day
7	7.1.1, 7.7.2	Failure to respect standing data minimum response times when issuing dispatch instructions
	7.2.3B (self-reported)	Failure to provide the IMO with load forecast information by 7.30am
	7.3.4	Failure to provide the IMO with a schedule of ex-ante outages by 8.30am
	7.6.1 (self-reported)	Issuance of incorrect dispatch instructions
	7.6.2, 7.13.1(a) Multiple non-material breaches	Failure to provide records of dispatch orders to the IMO
	7.6A.2(b) (self-reported)	Failure to provide Synergy (until 31 December 2013, Verve Energy) with a forecast of total system demand by 8.30am on the scheduling day
	7.6A.2(c) (self-reported) Two breaches	Failure to provide Synergy (until 31 December 2013, Verve Energy) with information about expected balancing portfolio dispatch, including the Dispatch Plan, by 4pm on the scheduling day
	7.10.7(a) Multiple non-material breaches	Failure to provide full participant dispatch non-compliance information to the IMO
	7.11.3 22 breaches (12 material)	Failure to issue DAs "as soon as practicable after System Management becomes aware of a situation requiring the release of a Dispatch Advisory
	7.11.5(d) (self-reported) Seven breaches (two material)	Failure to issue Dispatch Advisories when significant outages of generation transmission or customer equipment are occurring or expected to occur
	7.11.6 Ten breaches (eight material)	Failure to include particular information in DAs
	7.12.1(bA) Four breaches	Failure to provide complete information on quantity and location of out of merit dispatch occurring in the period in quarterly reporting

Chapter	Clauses breached	Description
	7.13.1(e) Material breach	Provision of incorrect LFAS enablement quantities
	7.13.4 (self-reported) Two breaches	Failure to provide the IMO with Operational System Load Estimates by 10am
7A	7A.3.15 Material breaches in ~1.5% of intervals in the audit period	Failure to provide IMO with best estimate load forecast
7B	7B.1.4 (self-reported)	Failure to provide LFAS quantity forecasts by 12pm
	7B.3.6 Two breaches (two material)	Failure to use facilities for LFAS in accordance with the selection information provided by the IMO

Additional comments on areas of compliance risk

Compliance self-reporting practices still appear to be robust, with staff proactively notifying potential compliance issues, but nevertheless not all issues are noted by staff.

During this year's audit, we noted a number of developments which do not speak directly to compliance with specific market rules, but do increase the general potential for non-compliance.

1. We noted last year that SM had implemented automated systems for planning, scheduling and dispatch, raising a number of issues relating to strategy, support, and development of these systems. While some change, test and release processes have now been put in place, we reiterate the need for SM to articulate its long term strategy for these systems, and define a robust Service Level Agreement for system support (including target response and resolution times) to ensure that the critical real-time nature of these systems is embedded in support processes.
2. Interactions between SM and other parts of Western Power have changed as a result of organisational restructuring. The separation between SM and Networks has been made clearer, but the organisation is still working through the process of defining how parties will interact across the ring-fence, and in some areas, the appropriate level of oversight and authority to be exercised by SM. The ongoing security situation at Muja further highlights the importance of maintaining a clear separation between SM and Networks decisions, while enabling a collaborative working relationship.
3. SM has made only minimal progress on improving and reorganising internal procedures, and in some areas has moved backwards, with ownership and governance of control room procedures currently unclear. While the absence (or lack of update) of internal documentation of particular processes does not necessarily indicate non-compliance with Market Rule obligations, its non-existence increases the risk of non-compliance in operational activities.
4. SM staffing levels for real time activities are low compared to other system operators – overnight, a single on-shift controller is supported by an on-call market operations analyst, who cannot perform all market operations tasks off-site. Enhanced staffing levels could allow more resilience, and better information provision to the market.

Opinion on System Management's compliance with the Market Rules and Market Procedures

Our opinion is as follows:

- System Management has been materially non-compliant with some of its obligations in respect of issuing Dispatch Advisories, specifically Market Rule 7.11.3, 7.11.5(d), and 7.11.6, as set out in Table 11.

- System Management has been materially non-compliant with its obligation in respect of providing load forecasts to the IMO under Market Rule 7A.3.15 as set out in Table 14.
- In two trading intervals, System Management has been materially non-compliant with its obligation to use facilities for LFAS in accordance with the selection information provided by the IMO, as set out in Table 17.
- We have not observed anything else that causes us to believe that System Management has not been compliant with the Market Rules and Market Procedures, in all material respects.

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1 INTRODUCTION

This document sets out the results of the market audit by PA Consulting Group in carrying out its assessment of System Management's compliance with the Market Rules and Market Procedures.

1.1 Scope of the market audit

This market audit has been carried out under Market Rule 2.14.6, which requires that:

In accordance with the Monitoring Protocol, the IMO must at least annually, and may more frequently where it reasonably considers that System Management may not be complying with the Market Rules and Market Procedures:

- a. *require System Management to demonstrate compliance with the Market Rules and Market Procedures by providing such records as are required to be kept under these Market Rules or any Market Procedure; or*
- b. *subject System Management to an audit by the Market Auditor to verify compliance with the Market Rules and Market Procedures.*

1.2 Audit period

The period covered by the audit is 10 August 2013 to 31 July 2014.

1.3 Market audit process

1.3.1 Audit approach

This year's market audit of System Management (SM) has taken the form of an "incremental" audit. This means we have focussed on System Management business processes and procedures where:

- Clauses in the Market Rules are new or amended since last year's annual audit
- Previous audits, our assessment of SM's documented procedures, and SM's internal compliance processes have indicated non-compliance risk
- There have been substantive systems or resourcing changes
- Internal procedures are new or updated since last year's annual audit

That is, we have looked at areas that have changed (or should have changed) since last year's annual audit.

In conducting the market audit on the compliance of System Management with the Market Rules, PA has:

1. Ensured that it is up to date with its understanding of the West Australia Electricity Market Rules
2. Identified new or amended obligations placed on System Management by changes to the Market Rules that came into force between 10 August 2013 and 31 July 2014
3. Mapped those obligations identified in step 2 to the applicable Internal Procedures and sections of the Power System Operation Procedure
4. Identified SM business functions that relate to areas of non-compliance identified in the previous market audit

5. Identified System Management business functions that relate to areas of non-compliance identified in the previous market audit
6. Sought evidence that System Management is performing those business functions so as to comply with the Market Rules
7. Held discussions with System Management managers and staff to clarify issues identified and
8. Prepared a draft report setting out our findings followed by a final report.

1.3.2 Alignment to ISAE 3000 standard

Our process was designed to provide limited assurance as defined by International Standard on Assurance Engagements ISAE 3000 “Assurance engagements other than audits or reviews of historical financial information” issued by the International Auditing and Assurance Standards Board.

As in previous years, we note that there are limitations to any external audit. Audits are not an absolute guarantee of the truth or reliability of agency information or the effectiveness of internal controls. They may not identify all matters of significance. This is because external audit techniques involve:

- Professional judgement as to “good industry and market operational practice”
- The use of sample testing
- An assessment of the effectiveness of internal control structures and
- An assessment of risk.

A market audit does not guarantee every procedure and action carried out in the operation of the electricity market in the audit report, nor does it examine all evidence and every transaction. However, our audit procedures should identify errors or omissions significant enough to adversely affect the decisions of market participants.

We also note that there is a high degree of compliance monitoring built into the market design. Should System Management not carry out a requirement of the Market Rules, those cases that are material will have affected Market Participants and are likely to have been raised.

1.3.3 Materiality

Where non-compliant procedures or actions are identified, these are classified as being:

- Material, in that they do not comply with the Market Rules and may affect decisions made by market participants, affect the outcome of the market or otherwise affect the financial position of one or more rule participants, or
- Non-material, in that:
 - They do not comply with the wording of the Market Rules but do comply with the intention of the Market Rules, or
 - They do not comply with the Market Rules but they are not likely to affect decisions made by market participants, affect the outcome of the market or otherwise affect the financial position of one or more rule participants

1.4 Structure of this report

The report begins with an overview of recent changes made to the Power System Operation Procedure and System Management’s internal procedures.

The remainder of the report is structured around the various chapters of the Market Rules. The chapters of this report summarise the incremental changes to the Market Rules that have occurred since the time of the last audit, the changes to the Power System Operation Procedure and System Management’s internal procedures that are relevant to that chapter of the Market Rules, and any recorded instances of non-compliance.

Appendix A contains a table showing Market Rule clauses changed since last year's audit.

1.5 Acknowledgements

PA would like to thank the managers and staff of System Management who willingly provided information and shared in discussions while we carried out this market audit, particularly in this time of heightened grid risk.

2 STATUS OF THE PROCEDURES

2.1 Power System Operation Procedure (PSOP)

The intent of the Market Rules is for the PSOP to set out processes, methodologies, algorithms and calculations for operational use by industry participants. There were three PSOP changes in the audit period, and one is currently under development. We note that the 1 January 2014 merger of Verve Energy and Synergy has not yet been reflected in the PSOP.

As in past years, we identify specific areas for improvement in later chapters, where the Rules mandate the setting out of a particular procedure for which detail is missing in the PSOP.

2.2 System Management internal procedures

This year we have again specifically reviewed System Management's obligations with regard to its internal procedures.

System Management's business processes fall into three categories:

1. Those documented in internal procedures clearly used in operational activities, which include detailed activity steps and process flow diagrams or worked examples for use by operational staff.

System Management has made minimal progress on improving and reorganising its internal procedures in the past year. The Market Operations procedure remains a robust and detailed description of tasks carried out by the market operations team, but there is a dearth of other procedure documentation, and not all Market Rule changes have been reflected in documentation.

2. Those documented in internal procedures apparently created to capture Rule obligations, which largely restate the Market Rules without adding information, and without weaving the obligations into an operational process flow.

Procedures in this category are unlikely to be used operationally, and will create administrative overhead which could be put to more valuable use in the creation and maintenance of truly operational procedures. System Management has a number of procedures in this category, which have not been updated in some years, but are yet to be officially retired.

3. Those not captured in documentation sighted by us as part of the audit.

System Management still have important business processes that fall in this category – that is, where we have not sighted documentation setting out a definitive version of how the process is carried out. While the absence of internal documentation of particular processes does not necessarily indicate non-compliance with Market Rule obligations, its non-existence increases the risk of non-compliance in operational activities.

We note with particular concern that in the process of adjusting control room operations to differentiate system management functions from networks functions, the ownership and governance of the 'control room instructions' is currently unclear, and System Management specific control room process information is in danger of being in this category in future.

3 MARKET RULE CHAPTER 1 – INTRODUCTION

Market Rule Chapter 1 sets out the Introduction to the Market Rules and covers areas such as the objectives of the market, conventions and transitional arrangements.

3.1 System Management’s processes and procedures

3.1.1 Rule amendments

The following clauses in Chapter 1 have been amended since last year’s market audit:

Table 2: Rule amendments to Chapter 1

Date	Rule change	Clauses amended
25 Nov 2013	RC_2013_07	1.10.3
30 Dec 2013	RC_2013_18	1.11 (new)
1 Jan 2014	RC_2013_18	1.10.2, 1.10.3

3.1.2 Procedures

There are neither Power System Operation Procedure sections nor internal procedures relevant to Chapter 1.

3.2 Compliance with Chapter 1

The obligations placed on System Management under Chapter 1 relate to transitional matters or matters that expired at the Energy Market Commencement.

3.2.1 Opinion

System Management has no current obligations under Chapter 1 of the Market Rules.

4 MARKET RULE CHAPTER 2 – ADMINISTRATION

Chapter 2 of the Market Rules sets out the Functions and Governance Rules.

4.1 System Management's processes and procedures

4.1.1 Rule amendments

The following clauses in Chapter 2 have been amended since last year's market audit:

Table 3: Rule amendments to Chapter 2

Date	Rule change	Clauses amended
1 Nov 2013	RC_2009_15	2.16.9F, 2.16.9FA, 2.16.9FB
1 Nov 2013	RC_2012_16	2.13.6L (new)
25 Nov 2013	RC_2013_07	2.2.2, 2.13.6B, 2.22.4, 2.22.8A, 2.22.12, 2.22.13, 2.22.14, 2.23.4, 2.23.8A, 2.23.12, 2.23.13, 2.29.4, 2.30A.2, 2.30B.3, 2.31.6, 2.31.8, 2.31.15, 2.31.16, 2.33.5, 2.34.2A
1 Jan 2014	RC_2013_08	2.25.1A (new), 2.25.1B (new), 2.25.4
1 Jan 2014	RC_2013_18	2.2.2, 2.3.5, 2.16.7
1 May 2014	RC_2012_23	2.37.1, 2.37.2, 2.37.3, 2.37.4, 2.37.5, 2.37.6, 2.37.7, 2.37.8, 2.37.9, 2.38.1, 2.38.2, 2.38.3, 2.38.4, 2.38.7, 2.40.1, 2.41.2, 2.41.3, 2.41.5 (new), 2.42.1, 2.42.2, 2.42.3, 2.42.4, 2.42.7, 2.43.1

4.1.2 Procedures

The following sections of the Power System Operation Procedure relating to Chapter 2 of the Market Rules have been updated since last year's market audit:

- PSOP: Dispatch

The following internal procedures relating to Chapter 2 of the Market Rules have been updated since last year's market audit:

- Internal Procedure: 3.1 Undertake Post-Event Rules Enforced Monitoring
- Internal Procedure: Market Operations Procedure

4.1.3 Relationship between Rule updates and procedures

The extent to which the Rule changes have been reflected in updates to System Management's processes and procedures is set out in Table 4.

4.2 Compliance with Chapter 2

4.2.1 Incidents

We have not noted any non-compliance on the part of System Management with respect to its obligations under Chapter 2 of the Market Rules.

4.2.2 Opinion

We have not observed anything that causes us to believe that System Management has not complied with its obligations under Chapter 2 of the Market Rules.

4.3 Details of procedure changes

4.3.1 Rule changes and procedure updates

Table 4: Relationship between Rule changes to Chapter 2 and System Management procedure updates

Rule change	Amended clauses	Description	Procedure updated?
RC_2009_15	2.16.9F, 2.16.9FA and 2.16.9FB	Change originally implemented in September 2009, but now reimplemented with Ministerial approval.	No update required
RC_2012_16	2.13.6L (new)	Change originally implemented in September 2009, but now reimplemented with Ministerial approval.	No update required
RC_2013_07	2.2.2, 2.13.6B, 2.22.4, 2.22.8A, 2.22.12, 2.22.13, 2.22.14, 2.23.4, 2.23.8A, 2.23.12, 2.23.13, 2.29.4, 2.30A.2, 2.30B.3, 2.31.6, 2.31.8, 2.31.15, 2.31.16, 2.33.5 and 2.34.2	Corrections to minor and manifest errors	No <ul style="list-style-type: none"> Internal procedures have not been adjusted to reflect changes to 2.13.6B, 2.23.8A, or 2.23.13
RC_2013_08	2.25.1A (new), 2.25.1B (new) and 2.25.4	Changes to clarify treatment of GST in market fees	No update required
RC_2013_18	2.2.2, 2.3.5 and 2.16.7	Changes to implement merger of Verve and Synergy	No. The following PSOP sections need updating to reflect the merger: <ul style="list-style-type: none"> PSOP: Monitoring and Reporting Protocol
RC_2012_23	2.37.1, 2.37.2, 2.37.3, 2.37.4, 2.37.5, 2.37.6, 2.37.7, 2.37.8, 2.37.9, 2.38.1, 2.38.2, 2.38.3, 2.38.4, 2.38.7, 2.40.1, 2.41.2, 2.41.3, 2.41.5 (new), 2.42.1, 2.42.2, 2.42.3, 2.42.4, 2.42.7 and 2.43.1	Changes to rules and guidelines around prudential requirements	No update required

5 MARKET RULE CHAPTER 3 – POWER SYSTEM SECURITY AND RELIABILITY

Chapter 3 of the Market Rules sets out the Power System Security and Reliability Rules.

5.1 System Management’s processes and procedures

5.1.1 Rule amendments

The following clauses in Chapter 3 have been amended since last year’s market audit:

Table 5: Rule amendments to Chapter 3

Date	Rule change	Clauses amended
2 Sep 2013	RC_2013_05	3.23 (new)
1 Oct 2013	RC_2012_11	3.18.6
25 Nov 2013	RC_2013_07	3.3.2, 3.11.9, 3.13.3C, 3.16.9, 3.17.9, 3.18.2, 3.18.2A, 3.18.3, 3.18.11, 3.18.11A, 3.19.6
1 Jan 2014	RC_2013_18	3.11.7A, 3.11.8, 3.13.3A, 3.13.3AB

5.1.2 Procedures

The following sections of the Power System Operation Procedure relating to Chapter 3 of the Market Rules have been updated since last year’s market audit:

- PSOP: Commissioning and Testing
- PSOP: Dispatch
- PSOP: Facility Outages

The following internal procedures relating to Chapter 3 of the Market Rules have been created or updated since last year’s market audit:

- Internal Procedure: Market Operations Procedure
- Internal Procedure: 3.1 Undertake Post-Event Rules Enforced Monitoring
- Internal Procedure: SOCC_UI Operation Manual

5.1.3 Relationship between Rule updates and procedures

The extent to which the Rule changes have been reflected in updates to System Management’s processes and procedures is set out in Table 6.

5.1.4 Additional risk areas

In addition to the incremental review above, we also specifically reviewed System Management’s:

- Preparation and maintenance of the Technical Envelope
- Setting of Ancillary Service Requirements

5.2 Compliance with Chapter 3

5.2.1 Incidents

We have noted six non-material instances of non-compliance with Chapter 3. Incidents associated with System Management's obligations under Chapter 3 are set out in Table 7.

We note that SM has addressed all material breaches to Chapter 3 found during the last audit.

5.2.2 Opinion

Our opinion is as follows:

- System Management has been non-compliant with some of its obligations under Chapter 3 of the market rules, but the non-compliance has not been material as set out in Table 7.
- We have not observed anything that causes us to believe that System Management has not complied with its obligations under Chapter 3 of the Market Rules in all material respects.

5.3 Details of procedure changes and non-compliance

5.3.1 Rule changes and procedure updates

Table 6: Relationship between Rule changes to Chapter 3 and System Management procedure updates

Rule change	Amended clauses	Description	Procedure updated?
RC_2013_05	3.23 (new)	New obligations on System Management to provide IMO with LoadWatch data.	Yes
RC_2012_11	3.18.6	Changes to outage disclosure requirements	No update required
RC_2013_07	3.3.2, 3.11.9, 3.13.3C, 3.16.9, 3.17.9, 3.18.2, 3.18.2A, 3.18.3, 3.18.11, 3.18.11A and 3.19.6	Corrections to minor and manifest errors	No update required
RC_2013_18	3.11.7A, 3.11.8, 3.13.3A and 3.13.3AB	Changes to implement merger of Verve and Synergy	No. The following PSOP sections need updating to reflect the merger: <ul style="list-style-type: none"> • PSOP: Ancillary Services • PSOP: Facility Outages

5.3.2 Incidents of non-compliance

Table 7: Incidents of non-compliance with Chapter 3

Rule	The Issue	Material?	Comment
3.11.13 (self-reported)	SM is obliged to submit an annual ancillary service report to the IMO, and to have the report approved by 1 July. Although SM submitted a draft report by 1 June as required under 3.11.11, the report had not been approved by 1 July.	No	SM continues to operate the power system using the ancillary service requirements specified in the 2013 report. The draft 2014 report was substantially unchanged from 2013, so the approval or not of the report in itself has not had a material impact on the market. SM decisions on the levels do have a material impact on the market, and we note that the levels of LFAS and LRR are not necessarily being determined in a manner that will demonstrably minimise costs to the market. See commentary below on compliance with rule 3.11.14. We recommend that SM and the IMO review the Rules in this area, and consider whether changes are required to harmonise the rules in Chapter 3 with those in Chapter 7B, particularly in the relationship between the Ancillary Service Requirement for Load

Rule	The Issue	Material?	Comment
			Following Service, and the LFAS Quantity.
3.11.14	SM is obliged to document the procedure for determining Ancillary service requirements in the PSOP. The PSOP: Ancillary Services includes information about things that SM may consider, but does not set out the actual process for determining the requirements.	No	<p>Since SM publishes the results of its determinations, and since they have a significant amount of discretion in operating the power system, it is unlikely that the market is currently directly affected by the absence of this methodology.</p> <p>The market is, however affected by the values chosen, and the process by which they are calculated should be made public, so that informed discussion can be had on whether the requirements are set appropriately.</p> <p>This non-compliance was also identified in our 2012 and 2013 audit reports. Since the previous audit, SM has begun drafting potential changes to the PSOP: Ancillary Services, but has not yet begun the procedure change process.</p> <p>This year we reviewed the process by which SM sets ancillary service requirements and quantities. While SM has discretion in setting the requirements, we note the following areas where the methodology could be improved:</p> <ul style="list-style-type: none"> • The methodology for setting LFAS requirements does not set LFAS requirements at the minimum level that would meet both the Load Following Service Ancillary Service Standard (MR 3.10.1), and the Frequency Operating Standard (Table 2.1 in the Technical Rules). Neither does the methodology for setting the LFAS Quantity set it at the minimum level that would meet the defined LFAS requirement (the more strict 49.8 – 50.2 Hz 99.9% of the time as historically set in the Ancillary Service report). Instead, the LFAS analysis performed by SM looks at historical events and the resulting frequency deviations to confirm the adequacy of existing levels, and considers the size of events that LFAS has to cover given changes in the power system. This analysis confirms the ability of the current LFAS levels to substantially exceed the requirements, but does not provide SM with the ability to set LFAS requirements at an optimal level. • The methodology for setting the LFAS Quantity also partially presupposes the outcome of the LFAS market, by assuming that LFAS will be likely supplied by particular units, and therefore setting the LFAS Quantity in increments derived from the dispatchable range of these units. Given the intention of the design of the LFAS market to be competitive, this assumption may be problematic. • The two factors above have resulted in LFAS levels that substantially exceed the requirements, staying within the frequency band 99.98% of the time. More sophisticated analysis would allow a more optimal level of LFAS requirement and Quantity to be set, including varying the LFAS requirement and Quantity at different times of day and year. • Similar to LFAS, the methodology for determining Load Rejection Reserve (LRR) requirements is based on historical analysis. The methodology also assumes that the level of LRR required is equal to the potential loss of load, so system inertia is not

Rule	The Issue	Material?	Comment
			<p>considered. This level of analysis can be justified on the basis that a recent study has shown that the cost of LRR to the market is zero at current levels. However, as LRR requirements increase, this will not be the case, and more sophisticated analysis will be required to determine a level that minimises costs to the market.</p> <ul style="list-style-type: none"> The cost of failing to restart the system after a blackout event has not been quantified, so no cost-benefit analysis of procuring more or fewer system restart services has been performed. It is therefore not known if the number and location of SR contracts is economically efficient. <p>We understand that a joint SM-IMO working group is currently investigating LFAS usage and its causes to identify opportunities to set the requirement and LFAS Quantity more efficiently, thus lowering the cost to the market of providing this service.</p>
3.18.10, 3.19.3 (self-reported)	<p>SM must evaluate outage plans for transmission facilities using a risk assessment process using the criteria set out in clause 3.18.11, including 3.18.11(b), that the transmission capacity remaining in service must be capable of meeting the applicable Ancillary Service requirements.</p> <p>SM must assess requests for approval of scheduled transmission outages applying the criteria set out in clause 3.19.6.</p> <p>Currently, SM is not assessing transmission outages in accordance with 3.18.10 and 3.19.3, and is instead largely relying on Network Operations staff to perform the assessment.</p> <p>In previous audit years, transmission network equipment outages were assessed within System Management's System Operations Planning section, by staff who were deemed to be part-System Management and part-Network Operations. This audit year, Western Power has reorganised its personnel to make a clearer distinction between System Management and Network Operations functions. Now, transmission outage assessment, scheduling and approval functions are in practice almost exclusively performed by Network Operations personnel, and System Management planning personnel have relatively cursory involvement at high level only. SM planners do not perform network studies to determine</p>	No	<p>We have no reason to believe that System Management personnel would have made different decisions to those made by Network Operations staff in respect of particular outage requests, and have seen no evidence that system security has been compromised by planned transmission network outages.</p> <p>SM has identified options to address the situation, and is developing a work plan to implement them.</p>

Rule	The Issue	Material?	Comment
	whether or not the outage will affect Ancillary Service requirements, relying on the professionalism and expertise of the Network Operations staff to assess these outages.		
3.19.3A(b) (self-reported)	SM must not approve Opportunistic Maintenance requests on two consecutive trading days. On 20 and 21 November 2013, SM received on the day opportunistic maintenance requests from one particular facility, and approved both outages.	No	Even had SM not approved the outage, market outcomes would have remained unchanged, as the facility was unlikely to have run, and would have remained available. A draft rule change (RC_2013_15) which would remove this particular obligation has entered the procedure change process, but the submission period has been extended to allow it to be considered in light of the outcomes of the PUO's ongoing electricity market review.
3.21A.7 and 3.21A.9 (self-reported)	SM must approve a test plan unless certain criteria applied (3.21A.7), and must notify a market participant of whether it has approved or rejected a commissioning test plan as soon as practicable and in any case no later than 8am on the Scheduling Day (3.21A.9). In March 2014, SM received a commissioning test plan, and neither approved nor rejected it in the required timeframe.	No	The plan was submitted a month in advance, and should have been reviewed closer to the actual date. SM failed to review the test plan, and it came to light when the facility in question notified SM that it would be unable to meet its commissioning test plan. Had SM reviewed the plan, it would have been approved, and market outcomes would have been unchanged. SM has strengthened its review workflow processes with automatic time-based prompts notifying relevant staff to perform particular review steps.
3.21A.16 (self-reported)	SM must provide the IMO with details of approved Commissioning Test plans by 8.30am on the scheduling day. On 21 February 2014, SM did not provide this information until the afternoon.	No	Commissioning test plans are provided to the IMO for information purposes only, so the delay would not have affected market outcomes. At the time, SM provided the files manually, but has since implemented changes so that files are provided to the IMO automatically.

6 MARKET RULE CHAPTER 4 – RESERVE CAPACITY

Chapter 4 of the Market Rules sets out the Reserve Capacity Rules.

6.1 System Management’s processes and procedures

6.1.1 Rule amendments

The following clauses in Chapter 4 have been amended since last year’s market audit:

Table 8: Rule amendments to Chapter 4

Date	Rule change	Clauses amended
12 Aug 2013	RC_2012_03	4.1.13, 4.13.9, 4.14.3, 4.14.10, 4.15.2, 4.20.5A, 4.20.5B, 4.20.5C, 4.20.5D
23 Sep 2013	RC_2013_11	Appendix 5, Appendix 5A ¹
1 Nov 2013	RC_2012_09	4.5.10
25 Nov 2013	RC_2013_07	4.1.4, 4.1.5, 4.1.6, 4.1.7, 4.1.8, 4.1.10, 4.1.11, 4.1.12, 4.1.13, 4.1.14, 4.1.15, 4.1.15A, 4.1.16, 4.1.17, 4.1.18, 4.1.20, 4.1.21, 4.1.21A, 4.1.21B, 4.1.23, 4.1.24, 4.5.10, 4.9.4, 4.9.5, 4.13.11, 4.13.11A, 4.14.1, 4.14.7, 4.14.11, 4.19.3, 4.20.1, 4.21.1, 4.23A.2, 4.23A.3, 4.23A.4, 4.24.2, 4.25.4E, 4.25.5, 4.25A.1, 4.25A.2, 4.25A.3, 4.25A.4, 4.25A.5, 4.27.10, 4.28.1, 4.28C.2
1 Jan 2014	RC_2013_18	4.12.1, 4.14.4, 4.14.5, 4.23A.2, 4.26.2
1 May 2014	RC_2012_23	4.13.1, 4.13.2C, 4.13.3, 4.13.4, 4.13.5
1 May 2014	RC_2013_17	Appendix 9 ²

6.1.2 Procedures

The following sections of the Power System Operation Procedure relating to Chapter 4 of the Market Rules have been updated since last year’s market audit:

- PSOP: Facility Outages

The following internal procedures relating to Chapter 4 have been updated since last year’s market audit:

- Internal Procedure: 3.1 Undertake Post-Event Rules Enforced Monitoring

6.1.3 Relationship between Rule updates and procedures

None of the rule changes alter System Management’s obligations under Chapter 4.

¹ This rule change involved changes to Appendix 5 and 5A, which are related respectively to the IMO’s obligations under MR 4.28.11 and 4.28.9.

² This rule change involved changes to Appendix 9, which is related to the IMO’s obligations under MR 4.11.2(b).

6.2 Compliance with Chapter 4

6.2.1 Incidents

We have not noted any non-compliance on the part of System Management with respect to its obligations under Chapter 4 of the Market Rules.

6.2.2 Opinion

We have not observed anything that causes us to believe that System Management has not complied with its obligations under Chapter 4 of the Market Rules.

7 MARKET RULE CHAPTER 5 – NETWORK CONTROL SERVICE PROCUREMENT

Chapter 5 of the Market Rules sets out the Network Control Service Procurement Rules.

7.1 System Management's processes and procedures

7.1.1 Rule amendments

There have been no amendments to Chapter 5 since last year's annual audit.

7.1.2 Procedures

No procedures relating to Chapter 5 of the Market Rules have been updated since last year's market audit.

7.2 Compliance with Chapter 5

7.2.1 Incidents

We have not noted any non-compliance on the part of System Management with respect to its obligations under Chapter 5 of the Market Rules.

7.2.2 Opinion

We have not observed anything that causes us to believe that System Management has not complied with its obligations under Chapter 5 of the Market Rules.

8 MARKET RULE CHAPTER 6 – ENERGY MARKET

Market Rule Chapter 6 sets out the Energy Market Rules.

8.1 System Management’s processes and procedures

8.1.1 Rule amendments

The following clauses in Chapter 6 have been amended since last year’s market audit:

Table 9: Rule amendments to Chapter 6

Date	Rule change	Clauses amended
1 Nov 2013	RC_2012_16	6.17.9
25 Nov 2013	RC_2013_07	6.3A.4, 6.6.10
30 Dec 2013	RC_2013_18	6.12.1
1 Jan 2014	RC_2013_18	6.5.1, 6.5.1A, 6.5.4, 6.5C.1, 6.11.1, 6.11.3, 6.15.1, 6.15.2, 6.16B.1, 6.16B.2, 6.17.1, 6.17.5, 6.17.5A, 6.17.5B, 6.17.9, 6.17.10, 6.21.2
1 May 2014	RC_2013_17	6.15.2

8.1.2 Procedures

System Management has limited obligations under Chapter 6. There are no Power System Operation Procedure sections or internal procedures relating to Chapter 6.

8.1.3 Relationship between Rule updates and procedures

None of the rule changes alter System Management’s obligations under Chapter 6.

8.2 Compliance with Chapter 6

8.2.1 Incidents

We have not noted any non-compliance on the part of System Management with respect to its obligations under Chapter 6 of the Market Rules.

8.2.2 Opinion

We have not observed anything that causes us to believe that System Management has not complied with its obligations under Chapter 6 of the Market Rules.

9 MARKET RULE CHAPTER 7 – DISPATCH

Market Rule Chapter 7 of the Market Rules sets out the Dispatch Rules.

9.1 System Management's processes and procedures

9.1.1 Rule amendments

The following clauses in Chapter 7 have been amended since last year's market audit:

Table 10: Rule amendments to Chapter 7

Date	Rule change	Clauses amended
1 Sep 13	RC_2012_11	7.9.1, 7.9.1A, 7.9.5, 7.9.13 (new), 7.9.14 (new), 7.9.15 (new), 7.9.16 (new), 7.9.17 (new), 7.9.18 (new), 7.9.19 (new)
1 Oct 13	RC_2012_11	7.13.1D (new), 7.13.1E (new), 7.13.1F (new), 7.13.1G (new)
25 Nov 13	RC_2013_07	7.10.2
1 Jan 14	RC_2013_18	7.5.4, 7.6.2, 7.6.2A, 7.6.12, 7.6A.1, 7.6A.2, 7.6A.3, 7.6A.4, 7.6A.5, 7.6A.6, 7.6A.7, 7.6A.8, 7.7.1, 7.10.7, 7.11.5, 7.12.1, 7.13.1, 7.13.1A, 7.13.1C
1 May 14	RC_2013_17	7.7.5A, 7.7.5B

9.1.2 Procedures

The following sections of the Power System Operation Procedure relating to Chapter 7 of the Market Rules have been updated since last year's market audit:

- PSOP: Commissioning & Testing
- PSOP: Dispatch

The following internal procedures relating to Chapter 7 of the Market Rules have been updated since last year's market audit:

- Internal Procedure: Market Operations Procedure
- Internal Procedure: 3.1 Undertake Post-Event Rules Enforced Monitoring
- Internal Procedure: SOCC_UI Operation Manual

9.1.3 Relationship between Rule updates and procedures

The extent to which the Rule changes have been reflected in updates to System Management's processes and procedures is set out in Table 11.

9.1.4 Additional risk areas

In addition to the incremental review above, we also specifically reviewed System Management's:

- Declaration of high risk and emergency states
- Issuance of Dispatch Advisories
- Compliance with dispatch obligations

9.2 Compliance with Chapter 7

9.2.1 Incidents

We found 31 material and 28 non-material incidents of non-compliance with Chapter 7.

Incidents associated with System Management's obligations under Chapter 7 are set out in Table 12 below.

9.2.2 Comment

We deem 31 of the breaches to this section of the Rules to be material, that is the breach may compromise the intention of the Market Rules, and/or the decisions made by market participants, or otherwise may affect the outcome of the market.

30 of these breaches relate to issuance of dispatch advisories, one mechanism by which SM is obliged to provide information to the market. We recommend a review to determine whether there are other mechanisms which could provide information to the market in a more timely and automatic manner.

9.2.3 Opinion

Our opinion is as follows:

- System Management has been materially non-compliant with some of its obligations in respect of Dispatch Advisories, specifically Market Rule 7.11.3, 7.11.5(d), and 7.11.6, as set out in Table 12.
- System Management has been non-compliant with some of its other obligations under Chapter 7 of the market rules, but the non-compliance has not been material as set out in Table 12.
- We have not observed anything else that causes us to believe that System Management has not complied with its obligations under Chapter 7 of the Market Rules.

9.3 Details of procedure changes and non-compliance

9.3.1 Rule changes and procedure updates

Table 11: Relationship between Rule changes to Chapter 7 and System Management procedure updates

Rule change	Amended clauses	Description	Procedure updated?
RC_2012_22	7.9.1, 7.9.1A, 7.9.5, 7.9.13 (new), 7.9.14 (new), 7.9.15 (new), 7.9.16 (new), 7.9.17 (new), 7.9.18 (new) and 7.9.19 (new)	Changes to introduce exemptions from synchronisation notifications for qualifying facilities	Yes
RC_2012_11	7.13.1D (new), 7.13.1E (new), 7.13.1F (new) and 7.13.1G (new)	Changes to outage disclosure requirements	No updates required, implemented in software
RC_2013_07	7.10.2	Changes to minor and manifest errors	No updates required
RC_2013_18	7.5.4, 7.6.2, 7.6.2A, 7.6.12, 7.6A.1, 7.6A.2, 7.6A.3, 7.6A.4, 7.6A.5, 7.6A.6, 7.6A.7, 7.6A.8, 7.7.1, 7.10.7, 7.11.5, 7.12.1, 7.13.1, 7.13.1A and 7.13.1C	Changes to implement merger of Verve and Synergy	No. The following PSOP sections need updating to reflect the merger: <ul style="list-style-type: none"> • PSOP: Commissioning and Testing • PSOP: Communications and Control • PSOP: Cleansing of Generation Facility MWh Output Data
RC_2013_17	7.7.5A and 7.7.5B	Changes to allow revisions of intermittent generator output estimates	No <ul style="list-style-type: none"> • Amendments to implement in PSOP: Dispatch are in draft

9.3.2 Incidents of non-compliance

Table 12: Incidents of non-compliance with Chapter 7

Rule	The Issue	Material?	Comment
7.1.1, 7.7.2	SM must respect standing data minimum response times when issuing dispatch instructions. On 24 June 2014, SM issued out of merit dispatch instructions to non-balancing facilities giving less notice	No	If SM had issued the dispatch instruction at the time it did, but only for trading intervals after the end of the minimum response time, the facility dispatch would have been different, and so would market outcomes. If SM had issued the same dispatch instruction at an earlier time, dispatch and market

Rule	The Issue	Material?	Comment
	than the minimum response time required in standing data.		<p>outcomes would have been no different to the actual occurrence.</p> <p>The dispatch out of merit was in response to reasonable system security concerns at the time, and SM had been liaising with the participant and the IMO in advance of the instruction to ensure it could be met. The participant was aware in advance that they would be required for a period on 24 June, and although the dispatch instruction was the formal trigger, its late provision did not affect the participants actions.</p>
7.2.3B (self-reported)	<p>SM must provide the IMO with load forecast information by 7.30am each day.</p> <p>On 29 November 2013, SM did not provide the information until 90 minutes after the deadline.</p>	No	This particular forecast is provided more than 24 hours in advance. A 90 minute delay in publishing to the market is not significant enough to have been likely to affect market participant behaviour, and in any case, updated forecasts for closer intervals are provided each trading interval.
7.3.4	<p>SM must provide the IMO with a schedule of ex-ante outages between 8am and 8.30am each day.</p> <p>On 30 November 2013, SM provided an incorrect schedule before the deadline, and did not provide correct data until after the deadline.</p>	No	The schedule is used as input for the STEM. While the corrected file was not provided in time to be used in the STEM that day, the specific errors did not affect STEM outcomes.
7.6.1 (self-reported)	<p>SM are obliged to seek to meet various criteria for operating the SWIS when scheduling and issuing Dispatch Instructions and Dispatch Orders. Specifically SM are to seek to:</p> <ul style="list-style-type: none"> • Enable operation within Technical Envelope parameters • Minimise involuntary load shedding • Meet ancillary service standards <p>SM generate and issue dispatch instructions using the Real Time Dispatch Engine. Dispatch instructions are automatically calculated and sent to facilities electronically, with all activity recorded in a central database, the Operational Data Store (ODS).</p> <p>On 6 August 2013, problems with the Metrix load forecast caused RTDE to automatically issue dispatch instructions to several facilities which, if followed, would have caused the facilities to ramp down to zero output.</p> <p>If facilities were to follow these dispatch instructions:</p>	No	<p>As the instructions were not acted on, market impact was avoided.</p> <p>The reliability of load forecast and SCADA data appears to have improved since last audit, with no further such incidents occurring since August 2013.</p> <p>In order to assess the potential for systemic dispatch out of merit, we have analysed a sample of data covering the period 28 February 2014 – 31 March 2014. Although we were not able to exactly replicate SM dispatch outputs, we did not identify any systemic issues.</p> <p>We note that increased automation and familiarity with tools has resulted in much less scope for manual errors resulting in out of merit dispatch than in the past audit year.</p>

Rule	The Issue	Material?	Comment
	<ul style="list-style-type: none"> • the system would not operate within Technical envelope parameters • significant involuntary load shedding would occur • ancillary service standards would not be met. <p>SM issued a dispatch advisory instructing affected facilities to disregard the 'zero instruction' and continue to follow the most recently issued DI.</p> <p>There is no evidence that any participant followed the erroneous dispatch instructions.</p>		
7.6.2, 7.13.1(a)	<p>7.6.2 "... the dispatch of any Facility within the Balancing Portfolio is to be under the Dispatch Plan or a Dispatch Order in accordance with clause 7.6A ..."</p> <p>7.13.1(a) "SM must provide the IMO with ... a schedule of all the Dispatch Orders that SM issued for each Trading Interval ..."</p> <p>While the Rules are not entirely clear about when a Dispatch Order (DO) should be used instead of an update to the Dispatch Plan (DP), the intent appears to be to provide a record of balancing portfolio dispatch - by either DP or DO - in the same way as IPP dispatch is captured in a Dispatch Instruction.</p> <p>The DP is "the schedule of energy and Ancillary Services to be provided ... by the Facilities of Synergy in the Balancing Portfolio, during a Trading Day, where these schedules may be revised by System Management during the course of the corresponding Scheduling Day and the Trading day."</p> <p>A DO is "an instruction by SM under clause 7.6A for a Facility or Facilities in the Balancing Portfolio to vary output or consumption from the Dispatch Plan".</p> <p>While SM do provide Synergy with a DP at specific times each day, this plan is viewed as representing the upper and lower boundaries within which SM expects to operate Synergy plant, and is not a record of the actual MW amount to be provided in real-time. We were unable to find evidence that the Dispatch Plan is updated and</p>	No	<p>This issue was noted in our 2012 and 2013 reports.</p> <p>The phone records of balancing portfolio dispatch are sufficient to support post-event investigations of specific incidents, but the significant manual effort involved in reconstructing events means that phone records cannot provide a complete automated history of dispatch decisions.</p> <p>While the lack of a complete history for balancing portfolio dispatch cannot be said, prima facie, to have affected the outcomes of the market, its absence increases the likelihood of breaching other obligations, such as monitoring and reporting on Synergy non-compliance with dispatch – if there is no record of what balancing portfolio plant were actually dispatched to, how is compliance to be assessed? It also raises difficulties in auditing the recording of forced outages of plant in the portfolio.</p>

Rule	The Issue	Material?	Comment
	<p>provided to Synergy even when plant operation is expected to depart outside the upper and lower boundaries.</p> <p>Real time dispatch of Synergy facilities is by phone or AGC, and phone instructions are recorded manually in the control room log. Real-Time Dispatch Engine outputs record a notional dispatch for the portfolio, but this does not feed into the actual instructions given to Synergy facilities. There is no automatic record of the instructions given to Synergy facilities, other than the recording of the telephone conversation.</p> <p>In our opinion the phone instructions given to Synergy function as Dispatch Orders, should be provided to the IMO, and SM is in breach of 7.13.1(a). If the phone instructions are not Dispatch Orders, then SM is in breach of 7.6.2 by dispatching Synergy under neither the DP or a DO.</p>		
7.6A.2(b) (self-reported)	<p>SM must provide Synergy (until 31 December 2013, Verve Energy) with a forecast of total system demand by 8.30am on the scheduling day.</p> <p>On 29 November 2013, SM provided this information 30 minutes late.</p>	No	This particular forecast is provided more than 24 hours in advance. A 30 minute delay in providing it to Verve (Synergy since 1 January 2014) is not significant enough to have been likely to affect Verve's behaviour, and in any case, updated forecasts for closer intervals are provided each trading interval.
7.6A.2(c) (self-reported)	<p>SM must provide Synergy (until 31 December 2013, Verve Energy) with information about expected balancing portfolio dispatch, including the Dispatch Plan, by 4pm on the scheduling day.</p> <p>On 9 September and 19 November 2013, SM provided the information a few minutes late.</p>	No (2 breaches)	<p>Verve (Synergy since 1 January 2014) use this information to offer into balancing. The information was provided in time for them to use it for this purpose.</p> <p>While most of the process to generate this information is automatic, manual activities remain. SM has improved the process to reduce the time required, and late provision has occurred less frequently over time.</p>
7.10.7(a)	<p>SM must provide particular information to the IMO when participants advise that they are unable to comply with dispatch, including the participant's explanation, and an assessment of whether the non-compliance affected system security.</p> <p>In practice, SM does not provide all the information required. SM:</p>	No	<p>This finding is repeated from our 2013 report. As long as the IMO is provided with records of participant dispatch non-compliance, the detail of the circumstance makes no difference to market outcomes.</p> <p>The wording of this clause is a hang-over from previous treatment of dispatch instructions, and we again recommend it is updated to align with the IMS interface procedure, and further, that consideration is given to whether the two free text comment fields in the Compliance interface defined in the IMS interface procedure are necessary.</p>

Rule	The Issue	Material?	Comment
	<ul style="list-style-type: none"> Automatically provides the record of non-compliance, including the data prescribed by the IMS interface procedure, May manually provide reasons given by participants. This includes some but not all the information required by 7.10.7(a). 		
7.11.3	<p>SM must issue DAs “as soon as practicable after System Management becomes aware of a situation requiring the release of a Dispatch Advisory.</p> <p>The following DAs were issued more than 90 minutes after the start of the event requiring their issuance:</p> <ul style="list-style-type: none"> 3200, 3437, 3492, 3598, 3656, 3713, 3735, 3781, 3796, 4647 (in relation to generation outages within the balancing portfolio) 3021, 3483, 3500, 3550, 4092, 4303, 4565, 4571, 4603, 4601, 4635, 4645 (in relation to other events) 	<p>No (10 breaches)</p> <p>Yes (12 breaches)</p>	<p>Where the affected facility is in the portfolio, SM’s action will be to dispatch another portfolio facility to replace the tripped unit. Other market participants are unlikely to be affected until Synergy offer changes flow through to the balancing merit order, at which point the information will be published by the IMO.</p> <p>When the issue is not in the portfolio, SM’s action will dispatch another facility (which may or may not be outside the portfolio), and the effect on the merit order will be immediate. If market participants know of the situation sooner, they may choose to change their offer behaviour. Even without out of merit dispatch, large outages affect the merit order, making it more likely that participants who are not currently dispatched will be dispatched, and raising potential for participants to want to revise their offers.</p> <p>SM separate the functions of market information provision from control room system operation tasks. This is partly due to the reliance on a single system controller on shift. Historically, SM’s practice had been for market operations staff to review overnight situations and if necessary issue a retrospective advisory the following morning for anything that happened overnight. Timely information is key for the market to function efficiently, and this practice is not compliant with the rules.</p> <p>SM has implemented a new process by which market operations staff are available on-call to issue DAs overnight closer to real time, but not all non-compliances were outside business hours, and the process still relies on control room staff calling on the market operations team. This year, we have used a 90 minute threshold to recognise significant delays releasing information to the market, as:</p> <ul style="list-style-type: none"> We would expect that in general, and in these specific cases, the power system security issues would have been dealt with by this time, and some window of respite have been available to send information to market participants. Other comparable system operators (eg AEMO, Transpower) have structures in place to be able to provide notifications to the market very close to real time. <p>In future years we would expect to see SM be able to move closer to real time for</p>

Rule	The Issue	Material?	Comment
			<p>information release, and we note particularly that a DA for the Muja BTT2 failure was released 16 minutes after the event occurred.</p> <p>In our view it would improve the situation if there were sufficient control room staff available to allow information to be provided to the market as close to real time as possible.</p>
7.11.5(d) (self-reported)	<p>SM must issue Dispatch Advisories (DAs) when "... significant outages of generation transmission or customer equipment are occurring or expected to occur".</p> <p>SM did not issue DAs for the following events:</p> <ul style="list-style-type: none"> • At around 10.30pm on 7 August 2013, a large generation facility tripped. • At around 4pm on 2 January 2014, a large generation facility tripped. • At around 9.30pm on 6 February 2014, a large generation facility tripped. • At around 3.15pm on 12 May 2014, a large generation facility tripped. • At around 11.30pm on 19 June 2014, a large generation facility performed an unplanned shut down (occurring within 15 minutes). • At around 12.10pm on 23 June 2014, a large generation facility tripped. • Overnight on 29-30 June 2014, a large generation facility tripped three times. 	<p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>Where the affected facility is in the portfolio, SM's action will be to dispatch another portfolio facility to replace the tripped unit. Other market participants are unlikely to be affected until Synergy offer changes flow through to the balancing merit order, at which point the information will be published by the IMO.</p> <p>Otherwise, had market participants known of the situation, offer behaviour would likely have been different.</p> <p>Historically, control room operators have not deemed a loss of generation 'significant' if the affected facility is in the balancing portfolio, or if the loss of an IPP is not accompanied by a frequency excursion. SM is in the process of preparing a standard policy on the issuance of Dispatch Advisories, to ensure that all controllers use the same definition of 'significant'.</p> <p>Also, when identifying that a dispatch advisory should have been issued some time previously, SM sometimes chose not to issue them, recognising that providing a retrospective advisory often provides limited value to market participants. This is also not compliant with the rules.</p> <p>We note concerns that there is potential for market participants to miss important information if too many dispatch advisories are issued for non-critical reasons. Such concern could be allayed by implementing suitable filtering for different types of dispatch advisory.</p>
7.11.6	<p>SM must include particular information in DAs, including even where confidentiality issues may apply, the facility name, affected energy quantities, and likely out of merit quantities.</p> <p>On several occasions through the audit period, SM has</p>	Yes (8 breaches)	<p>Without knowing the affected location or quantity, participants do not have sufficient information to adjust their offers to reflect the system issues.</p> <p>7.11.5(g) requires SM to issue a DA when "System Management expects to issue a Dispatch Instruction Out of Merit", and include (under 7.11.6(dA)) details of estimated out of merit quantities. In many cases, DAs state that 'out of merit dispatch may occur', with</p>

Rule	The Issue	Material?	Comment
	<p>not provided all information required by 7.11.6.:</p> <ul style="list-style-type: none"> – The following DAs did not provide out of merit quantities: – 3822, 3824, 3986, 3995, 4565 – The following DAs did not provide the quantity of generation affected by the event: – 4092, 4303, 4603 – Since the 23 February failure of the second Bus Tie Transformer at Muja, the SWIS has been in a high risk state much of the time, and SM has been dispatching out of merit to ensure the system remains in N-1 security. The information included in the two extended Dispatch Advisories does not provide sufficient information on the basis for the declaration of a high risk state under MR3.4.1: <ul style="list-style-type: none"> • Dispatch Advisory 3986, which applied from 23 February to 9 May • Dispatch Advisory 4603, which applied from 22 June to the end of the audit period 	No (2 breaches)	<p>no further details. This may reflect the situation that SM is not sure itself whether out of merit dispatch will be required or not, and this information is not particularly useful to market participants, as they have no way of knowing whether it will affect them. Unless SM actually <i>expects</i> to issue instructions out of merit, these DAs are not required under 7.11.f(g). If SM does expect out of merit dispatch to be required, there is an obligation to provide the market with SM’s best information on what is likely to be required and where. If SM <i>has</i> issued instructions out of merit, there is an obligation to provide the market with information on what has been issued. DAs for planned network outages and issues have generally specified out of merit quantities, particularly for the North Country, where wind farm curtailments are clearly laid out.</p> <p>The information to be provided under 7.11.6 and 7.11.6A is quite extensive, and in some cases difficult to automate, particularly for projected out of merit quantities. Given that the purpose of DAs as currently specified is to increase transparency of information to the market, we recommend investigation of alternate approaches to more effectively provide this information. For example, one approach might be to publish SM’s forecast dispatch plan, which would, as a matter of course, include SM’s best estimate of the circumstances to apply in future periods, analogous to the Forecast BMO published by the IMO.</p> <p>We reviewed a sample of dispatch advisories issued in relation to system operating state changes. Available records support the conclusion that state declarations are made according to the state definitions in 3.4 and 3.5. However, the amount of information available to review this after the event is minimal – sometimes consisting only of short entries in the control room log, and sometimes not even that. In particular, these DAs do not provide sufficient information to identify the specific reason SM considers the system to be in High Risk state under MR 3.4.1. Nevertheless, the presence or absence of this information in the DAs would not have affected SM actions or corresponding market outcomes, though would have provided clearer guidance to participants.</p> <p>We recommend that SM expands its DA guidelines to ensure consistent application of the High Risk state rules, and provision of the information to the market.</p>
7.12.1(bA)	<p>SM must “provide a report to the IMO once every three months ... [including] details of the incidence and reasons for the issuance of Dispatch Instructions to Balancing Facilities out of merit”</p> <p>SM has issued four such reports in the audit period. These reports contained only partial information on the quantity and location of out of merit dispatch occurring in the period.</p>	No (4 breaches)	While not providing this information reduces the transparency of the market, the lack of detail in reports is not likely to have affected participant behaviour.

Rule	The Issue	Material?	Comment
7.13.1(e)	<p>SM must provide the IMO with Ex-Post Upwards LFAS enablement quantities by noon each business day.</p> <p>On 23 September 2013, SM provided data to the IMO before noon, but the data was incorrect due to SCADA issues. SM did not provide corrected data.</p>	Yes	<p>Although SM enabled LFAS facilities according to the LFAS merit order provided by the IMO, the enablement data (based on SCADA readings) provided to the IMO showed a different outcome. The SCADA data has since been updated, and shows that facilities were enabled according to the LFAS merit order, but no corrected data has been provided to the IMO. As a result, participants have been incorrectly paid for LFAS enablement.</p>
7.13.4 (self-reported)	<p>SM must provide the IMO with Operational System Load Estimates by 10am daily for the previous trading day, in accordance with the IMS interface procedure.</p> <ul style="list-style-type: none"> • On 15 August 2013, SM provided the data 1 minute late. • On 8 November 2013, SM provided the data two hours late. 	No (2 breaches)	<p>This data is:</p> <ul style="list-style-type: none"> • provided to participants after the fact for their information. Late provision of correct information should not affect their activities in the market and • used by the IMO to monitor participant compliance. Data was provided to the IMO in time for use in this process.

10 MARKET RULE CHAPTER 7A - BALANCING MARKET

Market Rule Chapter 7A of the Market Rules sets out the Balancing Market Rules.

10.1 System Management's processes and procedures

The following clauses in Chapter 7A have been amended since last year's market audit:

Table 13: Rule amendments to Chapter 7A

Date	Rule change	Clauses amended
2 Sep 2013	RC_2013_05	7A.3.7,7A.3.7A (new)
25 Nov 2013	RC_2013_07	7A.3.10
1 Jan 2014	RC_2013_18	7A.1.14, 7A.2.1, 7A.2.2, 7A.2.3, 7A.2.9, 7A.2.10, 7A.2.12, 7A.3.1, 7A.3.5, 7A.4.1, 7A.4.2, 7A.4.4, 7A.4.5, 7A.4.6, 7A.4.8, 7A.4.9

10.1.1 Procedures

The following sections of the Power System Operation Procedure relating to Chapter 7A of the Market Rules have been updated since last year's market audit:

- PSOP: Dispatch

The following internal procedures relating to Chapter 7A of the Market Rules have been updated since last year's market audit:

- Internal Procedure: Market Operations Procedure
- Internal Procedure: SOCC_UI Operation Manual

10.1.2 Relationship between Rule updates and procedures

The extent to which the Rule changes have been reflected in updates to System Management's processes and procedures is set out in Table 14.

10.2 Compliance with Chapter 7A

10.2.1 Incidents

We found one material incident of non-compliance with Chapter 7A.

This incident is described in Table 15.

10.2.2 Comment

We deem the breach to this section of the Rules to be material, that is the breach may compromise the intention of the Market Rules, and/or the decisions made by market participants, or otherwise may affect the outcome of the market.

This breach is concerned with information provision. That is, SM has an obligation to provide information to the market, and where the information is not provided, market outcomes are likely to be different than if it had been.

10.2.3 Opinion

Our opinion is as follows:

- System Management has been materially non-compliant with its obligation in respect of providing load forecasts to the IMO under Market Rule 7A.3.15 as set out in Table 15.
- We have not observed anything else that causes us to believe that System Management has not complied with its obligations under Chapter 7A of the Market Rules.

10.3 Details of procedure changes and non-compliance

10.3.1 Rule changes and procedure updates

Table 14: Relationship between Rule changes to Chapter 7A and System Management procedure updates

Rule change	Amended clauses	Description	Procedure updated?
RC_2013_05	7A.3.7 and 7A.3.7A (new)	New obligations on System Management to provide near real time data for facility end-of-interval quantities and relevant dispatch quantities	No updates required, this was already current process
RC_2013_07	7A.3.10	Changes to minor and manifest errors	No updates required
RC_2013_18	7A.1.14, 7A.2.1, 7A.2.2, 7A.2.3, 7A.2.9, 7A.2.10, 7A.2.12, 7A.3.1, 7A.3.5, 7A.4.1, 7A.4.2, 7A.4.4, 7A.4.5, 7A.4.6, 7A.4.8 and 7A.4.9	Changes to implement merger of Verve and Synergy	No. As referenced in previous chapters, several PSOPs need updating to reflect the merger.

10.3.2 Incidents of non-compliance

Table 15: Incidents of non-compliance with Chapter 7A

Rule	The Issue	Material?	Comment
7A.3.15	<p>“SM must ... provide the IMO with SM’s forecast of the Relevant Dispatch Quantity” and must update the forecasts and provide the update to the IMO each time it has new information on which to determine these quantities.</p> <p>SM control room staff have a range of information available to assess the likely load, including the output of two load forecasting tools, the ability to plot similar past days against the current load, and the ability to take a combination of the various inputs to arrive at the load forecast they think is most likely to eventuate.</p> <p>One of the available load forecasts is produced by SM’s</p>	Yes	<p>This issue was raised in our 2013 report.</p> <p>Given that the purpose of the IMO’s Balancing Forecast is "to provide Market Generators with information upon which to make an assessment regarding whether to make [or update] a Balancing Submission" (7A.3.20), it follows that a more accurate forecast could influence participants to make different decisions in the market, and the breach is therefore material.</p> <p>We note that the use of alternate forecasts is lower than in the previous audit period primarily as a result of improved performance by the Metrix tool, which was used 98.5% of the time in 2013-14, as compared to 93% in 2012-13. SM is yet to build functionality to publish this forecast to the market.</p> <p>We understand that in order to publish this information, SM must also consider the time</p>

Rule	The Issue	Material?	Comment
	<p>Metrix load forecasting tool, and it is this forecast which is provided to the IMO for use in its Balancing Forecast, and also used in the Real-time dispatch engine which produces automatic electronic dispatch instructions to generation facilities.</p> <p>In reality, the Metrix load forecast does not always represent SM's best estimate of future RDQ, which is actually arrived at by some combination of load forecast tool outputs with similar past day profiles.</p> <p>This appears to be a breach of the obligation to provide the IMO with SM's forecast of the RDQ. A forecast is provided, but it does not represent SM's best estimate of the expected load.</p> <p>From 10 August 2013 to 31 July 2014, SM control room staff used the Metrix forecast 98.5% of the time, and an alternate forecast around 1.5% of the time.</p>		<p>horizon to which the manually selected load forecast applies, so that it can be merged into a single load forecast covering both the next few periods actively considered by control room staff and the remainder of the forecast horizon. We believe these considerations can be resolved, and more transparent information provided to the market.</p>

11 MARKET RULE CHAPTER 7B - LFAS MARKET

Market Rule Chapter 7B of the Market Rules sets out the Load Following Ancillary Service Market Rules.

11.1 System Management's processes and procedures

11.1.1 Rule amendments

The following clauses in Chapter 7B have been amended since last year's market audit:

Table 16: Rule amendments to Chapter 7B

Date	Rule change	Clauses amended
25 Nov 2013	RC_2013_07	7B.1.5
1 Jan 2014	RC_2013_18	7B.2.1, 7B.2.2, 7B.2.3, 7B.2.4, 7B.2.5, 7B.2.6, 7B.3.7, 7B.4.1, 7B.4.2

11.1.2 Procedures

The following sections of the Power System Operation Procedure relating to Chapter 7B of the Market Rules have been updated since last year's market audit:

- PSOP: Dispatch

The following internal procedures relating to Chapter 7B of the Market Rules have been updated since last year's market audit:

- Internal Procedure: Market Operations Procedure
- Internal Procedure: SOCC_UI Operation Manual

11.1.3 Relationship between Rule updates and procedures

The extent to which the Rule changes have been reflected in updates to System Management's processes and procedures is set out in Table 17.

11.2 Compliance with Chapter 7B

11.2.1 Incidents

We found two material and one non-material incident of non-compliance with Chapter 7B.

Incidents associated with System Management's obligations under Chapter 7B are set out in Table 18.

11.2.2 Comment

We deem two of the breaches to this section of the Rules to be material, that is the breach may compromise the intention of the Market Rules, and/or the decisions made by market participants, or otherwise may affect the outcome of the market.

Both of these breaches relate to incorrect LFAS dispatch. This area is of particular interest, as it speaks directly to the integrity of the market.

11.2.3 Opinion

Our opinion is as follows:

- In two trading intervals, System Management has been materially non-compliant with its obligation to use facilities for LFAS in accordance with the selection information provided by the IMO, as set out in Table 18.
- System Management has been non-compliant with one other obligation under Chapter 7B of the market rules, but the non-compliance has not been material as set out in Table 18.
- We have not observed anything else that causes us to believe that System Management has not complied with its obligations under Chapter 7B of the Market Rules.

11.3 Details of procedure changes and non-compliance

11.3.1 Rule changes and procedure updates

Table 17: Relationship between Rule changes to Chapter 7B and System Management procedure updates

	Amended clauses	Description	Procedure updated?
RC_2013_07	7B.1.5	Changes to minor and manifest errors	No updates required
RC_2013_18	7B.2.1, 7B.2.2, 7B.2.3, 7B.2.4, 7B.2.5, 7B.2.6, 7B.3.7, 7B.4.1 and 7B.4.2	Changes to implement merger of Verve and Synergy	No. As referenced in previous chapters, several PSOPs need updating to reflect the merger.

11.3.2 Incidents of non-compliance

Table 18: Incidents of non-compliance with Chapter 7B

Rule	The Issue	Material?	Comment
7B.1.4 (self-reported)	SM must provide the IMO with LFAS quantity forecasts by 12pm daily for the upcoming trading day. On 28 November 2013, SM provided the data 20 minutes late.	No	This data is used in calculating the LFAS merit order, and the data was available in time to be used for preparing the merit order for the next LFAS horizon.
7B.3.6	SM must use facilities for LFAS in accordance with the selection information provided by the IMO. On 24 January 2014, SM did not follow the LFAS selection provided by the IMO for one interval. On 11 March 2014, SM did not follow the LFAS selection provided by the IMO for one interval.	Yes (2 breaches)	In order to assess the potential for systemic issues in LFAS dispatch, we analysed a sample of data covering the period 28 February 2014 – 31 March 2014, and seven other days from the rest of the audit year. These incorrect selections resulted in participants providing different amounts of LFAS than they otherwise would have, thus affecting market settlement payments. We also noted several occasions where SM had enabled a facility to provide LFAS, the facility switched out of AGC mode (at which point it no longer provides LFAS), and SM did not enable another facility for more than a trading interval. On each occasion, multiple facilities were selected by the IMO, and enabled to provide LFAS. SM enabled the facilities in accordance with the LFAS MO, but when one facility switched out of AGC mode, SM did not replace it with another facility, implicitly accepting that the system remained secure with lower LFAS enablement. All instances occurred in the early morning hours, a period when there is perhaps less need for LFAS. There appear to have been no system security issues caused by the lower LFAS

Rule	The Issue	Material?	Comment
			<p>enablement, and therefore the occurrences do not directly constitute non-compliance. However, they do raise questions about the appropriate treatment of LFAS Quantities overnight. Had SM enabled another facility, affected participants would have received different amounts in market settlement. One option for the future could be to explicitly lower the LFAS Quantity for overnight periods, and we understand that a joint IMO/SM working group is considering the potential for this.</p>

12 MARKET RULE CHAPTER 8 – WHOLESALE MARKET METERING

Market Rule Chapter 8 sets out the Wholesale Market Metering Rules. These Rules do not apply to System Management.

12.1 Compliance with Chapter 8

System Management has no obligations under Chapter 8 of the Market Rules.

13 MARKET RULE CHAPTER 9 – SETTLEMENT

Chapter 9 of the Market Rules sets out the Settlement Rules.

13.1 System Management’s processes and procedures

13.1.1 Rule amendments

The following clauses in Chapter 9 have been amended since last year’s market audit:

Table 19: Rule amendments to Chapter 9

Date	Rule change	Clauses amended
25 Nov 2013	RC_2013_07	9.5.2, 9.10, 9.10A, 9.16.1, 9.16.2, 9.16.4, 9.19.3, 9.20.5, 9.23.3, 9.23.6, 9.23.7
1 Jan 2014	RC_2013_08	9.1.2, 9.16.3, 9.16.3A, 9.19.1
1 Jan 2014	RC_2013_18	9.8.1, 9.9.1, 9.9.2, 9.18.3

13.1.2 Procedures

System Management has limited obligations under Chapter 9. There are no Power System Operation Procedure sections relating to Chapter 9, and only a small number of internal procedures.

None of the rule changes alter System Management’s obligations under Chapter 9. No procedure updates are required.

13.2 Compliance with Chapter 9

We have not noted any non-compliance on the part of System Management respect to its obligations under Chapter 9.

13.2.1 Opinion

We have not observed anything that causes us to believe that System Management has not complied with its obligations under Chapter 9 of the Market Rules.

14 MARKET RULE CHAPTER 10 – MARKET INFORMATION

Market Rule Chapter 10 sets out the Market Information Rules.

14.1 System Management’s processes and procedures

14.1.1 Rule amendments

The following clauses in Chapter 10 have been amended since last year’s market audit:

Table 20: Rule amendments to Chapter 10

Date	Rule change	Clauses amended
1 Oct 2013	RC_2012_11	10.5.1, 10.5.3 (new)
25 Nov 2013	RC_2013_07	10.5.1
1 Jan 2014	RC_2013_18	10.5.1, 10.8.2

14.1.2 Procedures

System Management has limited obligations under Chapter 10. There are no Power System Operation Procedure sections relating to Chapter 10, and only a small number of internal procedures. No procedure updates are required.

14.2 Compliance with Chapter 10

We have not noted any non-compliance on the part of System Management respect to its obligations under Chapter 10.

14.2.1 Opinion

We have not observed anything that causes us to believe that System Management has not complied with its obligations under Chapter 10 of the Market Rules.

A RULE CHANGES SINCE THE LAST MARKET AUDIT

Table 21 summarises the rule changes that took effect between 10 August 2013 and 31 July 2014.

Table 21: Market rule changes 9 August 2013 - 31 July 2014.

Date	RC Ref	Clauses amended	Nature of change
12-Aug-13	RC_2012_03	IMO amended clauses 4.1.13, 4.13.9, 4.14.3, 4.14.10, 4.15.2, 4.20.5A, 4.20.5B, 4.20.5C and 4.20.5D.	Changes to enable the IMO to assign Certified Reserve Capacity (CRC) to facilities that are subject to an Network Control Services (NCS) contract or have a long-term Special Price Arrangement.
1-Sep-13	RC_2012_22	IMO amended clauses 7.9.1, 7.9.1A, 7.9.5, 7.9.13 (new), 7.9.14 (new), 7.9.15 (new), 7.9.16 (new), 7.9.17 (new), 7.9.18 (new) and 7.9.19 (new).	Changes to introduce exemptions from synchronisation notifications for qualifying facilities. This rule change had no impact on IMO procedures as all relevant obligations are owned by System Management.
2-Sep-13	RC_2013_05	IMO amended clauses 3.23 (new), 7A.3.7, 7A.3.7A (new) and the Glossary.	Change formalizes: <ul style="list-style-type: none"> • System Management's obligations to provide End of Interval (EOI), Relevant Dispatch Quantity (RDQ) data and data to support the LoadWatch publication • IMO's obligation to publish LoadWatch

Date	RC Ref	Clauses amended	Nature of change
23-Sep-13	RC_2013_11	IMO amended the Appendices and the Glossary.	Changes related to the selection of the 12 Peak Trading Intervals used for Calculation of IRCR. The rule change had no impact on the IMO's procedures as the obligation is implemented through software - refer to report Audit 2: Compliance of the IMO's market software systems and processes for software management.
1-Oct-13	RC_2012_11	IMO amended clauses 3.18.6, 7.13.1D (new), 7.13.1E (new), 7.13.1F (new), 7.13.1G (new), 10.5.1 and 10.5.3 (new).	Changes to outage disclosure requirements.
1-Nov-13	RC_2009_15	IMO amended clauses 2.16.9F, 2.16.9FA and 2.16.9FB.	Clarifications of ERA's market monitoring obligations. These changes (involving Protected Provisions) were originally implemented in 2 September 2009 without ministerial approval. Hence, they were re-implemented on 1 November with ministerial approval.
1-Nov-13	RC_2012_09	IMO amended clause 4.5.10.	Changes to Protected Provisions to clarify availability curve calculations; originally implemented in 1 January 2013 but re-implemented on 1 November 2013 with Ministerial approval.
1-Nov-13	RC_2012_16	IMO amended clauses 2.13.6L(new) and 6.17.9.	Changes to align settlement and dispatch tolerances (Protected Provisions) were originally implemented in 1 January 2013 but without ministerial approval. The rule change was re-implemented on 1 November 2013 with ministerial approval.

Date	RC Ref	Clauses amended	Nature of change
25-Nov-13	RC_2013_07	IMO amended clauses 1.10.3, 2.2.2, 2.13.6B, 2.22.4, 2.22.8A, 2.22.12, 2.22.13, 2.22.14, 2.23.4, 2.23.8A, 2.23.12, 2.23.13, 2.29.4, 2.30A.2, 2.30B.3, 2.31.6, 2.31.8, 2.31.15, 2.31.16, 2.33.5, 2.34.2A, 3.3.2, 3.11.9, 3.13.3C, 3.16.9, 3.17.9, 3.18.2, 3.18.2A, 3.18.3, 3.18.11, 3.18.11A, 3.19.6, 4.1.4, 4.1.5, 4.1.6, 4.1.7, 4.1.8, 4.1.10, 4.1.11, 4.1.12, 4.1.13, 4.1.14, 4.1.15, 4.1.15A, 4.1.16, 4.1.17, 4.1.18, 4.1.20, 4.1.21, 4.1.21A, 4.1.21B, 4.1.23, 4.1.24, 4.5.10, 4.9.4, 4.9.5, 4.13.11, 4.13.11A, 4.14.1, 4.14.7, 4.14.11, 4.19.3, 4.20.1, 4.21.1, 4.23A.2, 4.23A.3, 4.23A.4, 4.24.2, 4.25.4E, 4.25.5, 4.25A.1, 4.25A.2, 4.25A.3, 4.25A.4, 4.25A.5, 4.27.10, 4.28.1, 4.28C.2, 6.3A.4, 6.6.10, 7.10.2, 7A.3.10, 7B.1.5, 9.5.2, 9.10, 9.10A, 9.16.1, 9.16.2, 9.16.4, 9.19.3, 9.20.5, 9.23.3, 9.23.6, 9.23.7, 10.5.1 and the Glossary.	Corrections to typos and manifest errors.
30-Dec-13	RC_2013_18	IMO amended clauses 1.11 (new) and 6.12.1.	Changes to reflect Verve/Synergy merger.
1-Jan-14	RC_2013_08	IMO amended clauses 2.25.1A (new), 2.25.1B (new), 2.25.4, 9.1.2, 9.16.3, 9.16.3A, 9.19.1 and the Glossary.	Changes to clarify treatment of GST in Market Fees, Regulatory Fees and System Operation Fees and to adjust the definitions of Regulatory Fees and System Operations Fees to indicate these are paid to the IMO.

Date	RC Ref	Clauses amended	Nature of change
1-Jan-14	RC_2013_18	<p>IMO amended clauses 1.10.2, 1.10.3, 2.2.2, 2.3.5, 2.16.7, 3.11.7A, 3.11.8, 3.13.3A, 3.13.3AB, 4.12.1, 4.14.4, 4.14.5, 4.23A.2, 4.26.2, 6.5.1, 6.5.1A, 6.5.4, 6.5C.1, 6.11.1, 6.11.3, 6.15.1, 6.15.2, 6.16B.1, 6.16B.2, 6.17.1, 6.17.5, 6.17.5A, 6.17.5B, 6.17.9, 6.17.10, 6.21.2, 7.5.4, 7.6.2, 7.6.2A, 7.6.12, 7.6A.1, 7.6A.2, 7.6A.3, 7.6A.4, 7.6A.5, 7.6A.6, 7.6A.7, 7.6A.8, 7.7.1, 7.10.7, 7.11.5, 7.12.1, 7.13.1, 7.13.1A, 7.13.1C, 7A.1.14, 7A.2.1, 7A.2.2, 7A.2.3, 7A.2.9, 7A.2.10, 7A.2.12, 7A.3.1, 7A.3.5, 7A.4.1, 7A.4.2, 7A.4.4, 7A.4.5, 7A.4.6, 7A.4.8, 7A.4.9, 7B.2.1, 7B.2.2, 7B.2.3, 7B.2.4, 7B.2.5, 7B.2.6, 7B.3.7, 7B.4.1, 7B.4.2, 9.8.1, 9.9.1, 9.9.2, 9.18.3, 10.5.1 and 10.8.2, the Glossary and Appendices 1, 2 and 9.</p>	<p>Changes to reflect Verve/Synergy merger.</p>
1-May-14	RC_2012_23	<p>IMO amended clauses 2.37.1, 2.37.2, 2.37.3, 2.37.4, 2.37.5, 2.37.6, 2.37.7, 2.37.8, 2.37.9, 2.38.1, 2.38.2, 2.38.3, 2.38.4, 2.38.7, 2.40.1, 2.41.2, 2.41.3, 2.41.5 (new), 2.42.1, 2.42.2, 2.42.3, 2.42.4, 2.42.7, 2.43.1, 4.13.1, 4.13.2C, 4.13.3, 4.13.4, 4.13.5 and the Glossary.</p>	<p>Changes to rules and guidelines around prudential requirements:</p> <ul style="list-style-type: none"> • Aligning rules around credit limit determination with operational practice • Including a head of power (for the Prudential Requirements) to specify guidelines to calculate the Expected Value of transaction. • Enabling the IMO to take into account prepayments when calculating Outstanding Amount (in respect of Margin Calls) • Removing concept of Typical Accrual and enabling the IMO to issue a Margin Call when the Trading Margin falls below zero • Providing greater clarity on Market Participant obligations with respect to amount, type of arrangement and timeline for Credit Support replacement, and amending Reserve Capacity Security requirements for consistency • Placing the obligation on Market Participants (as opposed to the IMO) to show that their Credit Support Provider still meets Acceptable Credit Criteria.

Date	RC Ref	Clauses amended	Nature of change
1-May-14	RC_2013_17	IMO amended clauses 6.15.2, 7.7.5A, 7.7.5B and Appendix 9.	Change to enable the IMO to use revised estimates of an intermittent generator's generation during peak intervals when setting the Relevant Level under Appendix 9.



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