

WA Independent Market Operator

Assessment of the IMO's processes for
market software management

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1. INTRODUCTION

The document sets out the results of the market audit by PA Consulting Group in carrying out its assessment of the IMO's processes for software management.

1.1 SCOPE OF THE MARKET AUDIT

This market audit has been carried out under Market Rule 2.14.3 (c) which requires that:

The IMO must ensure that the Market Auditor carries out the audits of such matters as the IMO considers appropriate, which must include:

- a. the compliance of the IMO's internal procedures and business processes with the Market Rules;
- b. the IMO's compliance with the Market Rules and Market Procedures;
- c. the IMO's market software systems and processes for software management.

1.2 MARKET AUDIT PROCESS

In conducting the market audit on the compliance of the IMO's market software systems and processes for software management with the Market Rules, PA has:

- Examined the procedures developed by the IMO for the management and control of changes, etc to its market software resources to determine whether those procedures comply with both the Market Rules and good industry practice given the nature of the IMO's business, and
- Examined evidence to support the appropriate use of those procedures.

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"
- Use of sample testing
- Assessment of the effectiveness of internal control structures and
- Assessment of risk.

2. ASSESSMENT OF THE SOFTWARE MANAGEMENT PROCEDURES

Management of the market software in an appropriate manner by the IMO given the nature of the business risk to both the IMO and the Western Australia Electricity Market is essential and is recognised as such by the IMO.

2.1 IMO COMPLIANCE WITH THE MARKET RULES

In last year's annual audit we noted that the Internal Procedures documented and followed by the IMO complied with the requirements of the Market Rules, in particular Market Rule 2.36.1. This continues to be case this year.

We note that the IMO has changed its policy with regard to certification by an independent auditor of changes to software, as recommended in last year's audit. This is discussed in further detail in Section 2.2.2 below.

2.2 IMO COMPLIANCE WITH GOOD INDUSTRY PRACTICE

In the course of last year's audit, we made several observations regarding good industry practice which, while not required under the Market Rules, we believed had potential benefit for both the IMO and the Rule Participants. Here we comment on progress against those observations.

2.2.1 Release sign-off records

Since last year's audit, the IMO has implemented a formal release sign-off process for changes made to the Market System software (i.e. the software provided by ABB).

This sign-off process provide an audit trail for all change to the Energy Market software and includes:

- what was done,
- why it was done,
- when it was done, and
- who authorised it.

The Release Management System continues to manage changes and upgrades to the Settlement & Metering software (i.e. the software provided by Navita). While not as formal as the sign-off process for the Energy Market software, this process is nonetheless compliant with the Market Rules as we noted last year.

Changes to the Settlement & Metering software are slightly different in nature from changes to the Market Systems software. While the changes to the Market Systems software come in the form of new versions of that software, changes to the Settlement & Metering software tend to be smaller patches of code that are applied to the existing version.

Due to the nature of the changes to the Settlement & Metering software, and also the fact that the Settlement & Metering software can be rerun and market and other outcomes can

be corrected if the software is found to be defective¹, the IMO has not implemented a formal sign-off process for changes and upgrades.

2.2.2 Market software auditing before entry to service

Previously the IMO had a policy of having their market software systems audited at six monthly intervals. The IMO have now developed a new Internal Procedure *Auditor Certification of Software Versions* that deals with market software changes and requires the IMO to have those changes independently audited before being used in production if under certain conditions: namely, if the software cannot be rerun and market or other outcomes cannot be corrected if the software were used in production and found to be defective.

This change brings the IMO into line with industry best practice and strikes an appropriate balance between the cost of independent testing prior to entry in production and the commercial risk to the IMO and other Market Participants for using defective software.

2.3 OPINION

The software management processes employed by the IMO, as documented, comply with the requirements of the Market Rules and compare favourably with best industry practice.

¹ Compare with the Market Systems software which cannot be rerun if found to be defective (see for example Market Rule 6.4.7 which prevents STEM Clearing Prices from being altered once they have been published).