

# **SEM Committee Paper**

## **Trading and Settlement Code**

### **Terms of Reference for the 2009 Market Audit**

#### **CONSULTATION PAPER**

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**SEM-09-058**

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## 1. Background

The Trading and Settlement Code (“TSC” or “Code”) provides in paragraph 2.133 that ‘the Market Auditor shall conduct an audit of the Code, its operation and implementation and the operations, trading arrangements, procedures and processes under the Code at least once a Year’.

The TSC further sets out in paragraph 2.134 that an annual Market Audit will be conducted for the period from 1 January to 31 December, unless the terms of reference specify a different period. It further provides in paragraph 2.135 and 2.136 that ‘the Regulatory Authorities (“RAs”) shall consult with Parties on the terms of reference for the audit following the publication of the Audit Report for the previous year or audit period’ and that ‘the RAs shall specify annually the precise terms of reference for the audit following the consultation process set out in paragraph 2.135 and in sufficient time to enable the Market Auditor to complete the work in a timely manner and shall publish the terms of reference before the commencement of the audit activities’.

This consultation paper sets out the proposed terms of reference for the Single Electricity Market (“SEM”) Market Audit for the period January to December 2009<sup>1</sup>.

### **The Scope of the SEM Market Audit November 2007 – December 2008**

The scope of the 2007/08 Market Audit was set out in the RAs’ decision paper ‘Terms of Reference for the Market Audit’<sup>2</sup> and focussed on the compliance of the Single Electricity Market Operator (“SEMO”) and certain activities of the Interconnector Administrator (“IA”) with the relevant aspects of the TSC and Agreed Procedures. The scope excluded activities undertaken by the System Operators (“SOs”), Meter Data Providers (“MDPs”) and other participants as set out in the TSC and Agreed Procedures. The scope also excluded the operation of certain components of the MSP Pricing Engine covering the operation of the Unit Commitment, Economic Dispatch and calculation of Shadow Prices.

The final draft of the 2007/08 Market Audit Report<sup>3</sup> was presented to the SEM Committee on 26 March 2009, following which it was formally issued on 31 March 2009 and presented to market participants at the Modifications Committee meeting on 2 April. The main finding of the Report, as set out in the Audit Opinion, is that no material non compliances with the applicable Code provisions and relevant Agreed Procedures were identified. However, some Significant Issues were identified by the Market Auditor in its Report, and a response to each issue has been provided by SEMO. The finalised Market Audit Report is the culmination of audit work which began in July 2008.

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<sup>1</sup> For more detail on the types of market audit, please refer to the consultation paper AIP/SEM/07/457 of 31 August 2007.

<sup>2</sup> published on 5 October 2007 (AIP/SEM/07/502)

<sup>3</sup> See: <http://www.allislandmarket.com//FTP/Market%20Publications/Yearly%20Publications/Market%20Audit%20Report.pdf>

An extract of the Market Auditor's Opinion<sup>4</sup>, as presented to the SEM Committee and the Modifications Committee in April 2009, was that:

*'During the period from 1 November 2007 to 31 December 2008 the Single Electricity Market Operator ("SEMO") and the Interconnector Administrator ("IA") have, in all material respects, complied with the Code and relevant Agreed Procedures as defined in the Terms of Reference for the Market Audit issued by the RAs on 5 October 2007'.*

## **2. The proposed Scope of the 2009 SEM Market Audit**

### **Status Quo**

The 2007/08 Market Audit represented an audit of SEMO's (and, in so far as it related to the calculation of Modified Interconnector Unit Nominations ("MIUNs"), the IA's) compliance with their requirements under the Code. The scope excluded discrete components of the MSP Pricing Engine (unit commitment, economic dispatch and the calculation of Shadow Prices)<sup>5</sup> as it was considered that the benefits of performing audit work over these components outweighs the costs and disruption in the initial period of market operation. The RAs are of the view that the resulting opinion provided the Market with a report that was both comprehensive and of value to participants given the constraints of what is practically feasible without undermining the ongoing operation of the Market and the related costs.

An equivalent scope for 2009 would provide a similar level of assurance to the RAs and market participants. While this would again exclude the specific MSP components, the RAs point out that the MSP Software was initially certified prior to market Go-Live and a Recertification is due to take place in the coming months. However, the nature of Certification and Market Audit differ; the former is designed to provide certification of the technical integrity and accuracy of the software in defined scenarios, while the latter would provide reasonable assurance that SEMO was complying with TSC requirements in its operation of the software during the audit period. Notwithstanding, the RAs are of the view that extending the scope to the excluded MSP components may not provide sufficient additional value at this time. Two potential alternatives to the status quo, which are detailed below for completeness, were considered in recommending the proposed scope of the Market Audit. However, it is the RAs view that the status quo should be adopted for the 2009 Market Audit.

### ***Alternative 1 – extending to MSP excluded components***

As noted above, Certification and Market Audit have different purposes. While Certification provides an assessment of technical integrity and accuracy in defined scenarios at a given point in time, effectively under laboratory conditions, the Market Audit is designed to provide reasonable, but not absolute, assurance that SEMO complied with TSC requirements in its operation of the software throughout the audit period.

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<sup>4</sup> See: <http://www.allislandmarket.com/FTP/Market%20Publications/Yearly%20Publications/Market%20Audit%20Report.pdf>

<sup>5</sup> For the rationale for exclusion of these components and a detailed discussion of the auditability of the MSP Software during the initial period of operation, see Section 5.2 of (AIP/SEM/07/502)

Were this to be included within the scope of the Market Audit, the approach would involve documenting and testing key controls over the operation of the MSP software, including programmed and manual controls, exception handling and monitoring activities undertaken by SEMO. This would be supplemented by analytical review of outputs and detailed testing on a sample basis.

Early engagement with SEMO and potentially the software vendor would be beneficial to plan and scope the testing, collate data requirements and develop audit re-performance models. Given SEMO's plans for certification, the RAs are not persuaded that the additional costs of extending the audit to cover this alternative would be warranted.

### ***Alternative 2 - extending to MDPs and SOs***

The settlement outputs (energy and capacity volumes and payments) are reliant on the integrity and accuracy of source data provided by MDPs and SOs. Errors in metered generation, dispatch instructions, metered and profiled demand may result in significant errors in settlement outputs which may not be apparent to SEMO or market participants, however the Market Audit Scope does not currently extend to activities of the MDPs and SOs for sourcing, processing and provision of settlement data.

The inclusion of MDPs and SOs within the scope may require other codes to be referenced in addition to the TSC, covering activities including:

- Maintenance of registration data;
- Processing of meter reads and calculation of advances;
- Calculation and aggregation of EACs; and,
- Recording and processing of dispatch instructions.

It would be necessary to undertake a more detailed scoping exercise to determine the relevant requirements and specific activities to be covered, and identify the additional locations for audit work to be performed. It is recognised that some data types may be prioritised over others for inclusion within the audit activities. This alternative would represent a significant expansion of the audit scope and cost and, as such, the RAs are not in favour of it at this time.

### **Proposed scope for 2009 (Status Quo)**

Based on the preceding analysis and the success of the 2007/08 Market Audit, the RAs favour continuing with a similar Market Audit scope for 2009. As the Market develops and the level of significant and compliance issues arising in the central systems declines, the RAs recognise that it may be worth widening the scope of the Market Audit to encompass the activities of other parties (such as the MDPs and SOs). This would have to involve assessment of any increased costs associated with a wider market scope with the assurance benefits it would deliver.

In view of the above considerations, the RAs are proposing to continue with the scope of the 2007/08 Market Audit for 2009 Audit.

**a. Contractual and Governance Arrangements**

In accordance with paragraph 2.136 of the SEM Trading and Settlement Code (TSC), the RAs hereby specify the terms of reference for the second Market Audit for the period from 1 January to 31 December 2009 as set out below.

Based on the terms of reference, the Market Auditor will prepare an Audit Plan setting out the detailed audit approach which will be presented to and agreed with the RAs. In preparing the Market Audit Plan, the Market Auditor may consult with the RAs, Market Operator and other participants as required.

SEMO and the Market Auditor will enter into a side agreement acknowledging the terms of engagement of the Market Auditor and their respective responsibilities. The Market Auditor will also enter into some form of agreement with Parties to the TSC who receive a copy of its report.

**b. Period of Second Audit Report**

The Market Audit will cover the 12 month period from 1 January to 31 December 2009, including Resettlement of previous Settlement Dates performed within this period.

In a similar manner to the 2007/08 Audit, it is intended that the Market Auditor should perform interim audit procedures to cover the first six months of the audit period. This would involve approximately 50% of the audit work that would be required for a full year. The Market Auditor will flag to the RAs any issues identified from its audit procedures which it considers may have a material impact on the audit opinion for the year, although a formal Interim Review Report and Report of Significant Issues would not be required. This reporting was required for the 2007/08 Market Audit as it was the first audit period following the introduction of the new SEM and covered an extended period of 14 months. In view of the absence of material non-compliance identified in the first audit period and the continued successful operation of the SEM, the RAs consider it appropriate to discontinue the formal interim reporting.

**c. Materiality**

As with the 2007/08 Market Audit, the materiality for the audit shall be set at 0.25% of the estimated annual market value.

A lower threshold, 10% of materiality, will be adopted for the reporting of significant issues identified during the course of the Market Audit, although it is recognised there may be qualitative aspects in determining the significance of any issue. That is, the Market Auditor shall report on issues which come to its attention which exceed this significant issues threshold or which it believes to be significant for other reasons.

#### **d. Reporting**

In the preparation of the Market Audit Report, the Market Auditor will discuss individual draft issues with SEMO and other Parties insofar as they relate to them in order to confirm factual accuracy of the issues and their estimated quantification, and that all pertinent information and clarifications have reasonably been included.

The Market Auditor will subsequently discuss a full draft of the Market Audit Report with the RAs who may, at their discretion, invite or include named participants in the discussion of the draft report. The RAs believe that it may be necessary for them to discuss with SEMO and the Market Auditor any relevant Significant Issues included in the draft report.

The final version of the Market Audit Report will be addressed to the RAs. The final version of the Market Audit Report will be provided to Parties to the TSC most likely at a meeting of the Modifications Committee, in line with the provisions of the TSC, and subject to any confidentiality provisions required by the Market Auditor.

#### **e. Boundary of Audit**

The Trading and Settlement Code Section 2.133 sets out that “the Market Auditor shall conduct an audit of the Code, its operation and implementation and the operations, trading arrangements, procedures and processes under the Code”. The remit of this proposed scope for the second market audit period has been set on the basis of this, and the RAs consider that the systems, activities and processes under the aegis of SEMO (and other parties where stipulated) fulfil the requirements of the Market Audit provisions in the Code.

The scope of the Market Audit for 2009 will focus on the activities of SEMO under the TSC and Agreed Procedures and cover the systems and processes within the control of SEMO.

This contained scope excludes activities undertaken by the TSOs, Meter Data Providers and other participants as set out in the TSC and Agreed Procedures. However the Scope will include the calculation of Modified Interconnector Unit Nominations by the Interconnector Administrator.

The relevant Market Operator activities, to the extent covered by specific requirements in the TSC, Rules and Agreed Procedures, will include:

- Accession and Registration
- Settlement production, including operation of the MSP Software (subject to the limitation set out in the paragraph below), Instruction Profiling, calculation of Energy Payments and Charges, and calculation of Capacity Payments and Charges, etc.
- Market Operator, Currency, Balancing and other Charges

- Invoicing and Payment
- Credit Cover management, including Settlement Reallocation
- Disputes
- Code development
- As with the 2007/08 first Market Audit period it is intended to exclude the operation of certain components of the MSP Pricing Engine from the scope of the Market Audit. The excluded components are the operation of Unit Commitment, Economic Dispatch and calculation of Shadow Prices. The reduced scope for the MSP Pricing Engine would therefore include:
  - Performing testing over change control, IS operations and access security to verify that only thoroughly tested and properly authorised changes are made to the MSP Pricing Engine; and
  - Performing a set of test procedures limited to the application of Uplift to Shadow Prices to determine System Marginal Prices and areas of manual intervention and controls exercised by SEMO over the operation of the MSP software, including controls over receipt and upload of data inputs, including system static data, Generator Unit standing data and Offer Data; controls over the modification of data provided to SEMO, e.g. conflicting input data, replacement of zero single ramp up/down rates; and adherence to timetables for gate closure and settlement runs.

### **3. Consultation and Next Steps**

In presenting this paper for consultation, the RAs invite comment on the proposed scope of the Market Audit.

Responses to this consultation are requested by the close of business on **8 June 2009** and should be in writing and submitted, preferably via email, to

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The RAs intend and prefer to publish all comments received, but are prepared to facilitate those respondents who wish for certain sections of their submission to remain confidential. Accordingly, respondents that so wish should submit these sections in an appendix that is clearly marked “confidential”.

Further to their consideration of the comments received, the RAs will publish their decision on the terms of reference for the SEM Market Audit for the period January to December 2009.