

# **SEM Committee Paper**

## **Trading and Settlement Code**

### **Terms of Reference for the 2011 Market Audit**

#### **Decision Paper**

**19<sup>th</sup> September 2011**

## **1. Background**

The Trading and Settlement Code (“TSC” or the “Code”), requires an audit of the Code, its operation and implementation, and the operations, trading arrangements, procedures and processes under the Code to be performed on an annual basis. The Code also requires The Regulatory Authorities (“RAs”) to consult with Parties on the terms of reference for the audit and to specify annually the precise terms of reference.

In 2007/08 and 2009 the Market Audit represented an audit of compliance by the Single Electricity Market Operator (“SEMO”) and, in so far as it related to the calculation of Modified Interconnector Unit Nominations (“MIUNs”), the Interconnector Administrator with their requirements under the Code. For 2007/8 the scope of the Market Audit excluded discrete components of the MSP Pricing Engine (unit commitment, economic dispatch and the calculation of Shadow Prices) as it was considered that the benefits of performing audit work over these components were outweighed by the costs and disruption in the initial period of market operation. For the second Market Audit, the scope was marginally extended to include a review of the decision process and approvals for using the Mixed Integer Programming (MIP) solver instead of Lagrangian Relaxation (LR) in MSP.

In these two Market Audits, the scope also excluded activities undertaken by the System Operators (“SOs”), Meter Data Providers (“MDPs”) and other participants as set out in the Code and Agreed Procedures. The RAs took 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 at a reasonable cost and without undermining the ongoing operation of the Market.

The pricing and settlement outputs in the SEM (energy and capacity volumes and payments) are reliant on the integrity and accuracy of source data provided by MDPs and SOs. Following consultation, the scope for the 2010 Market Audit was extended to include a limited examination of certain activities of the MDPs and SOs including generation metering and dispatch instructions performed on an Agreed Upon Procedures basis, with factual findings and any exceptions being reported to the RAs and Parties separately.

The SEM Committee published a 2011 Market Audit Terms of Reference Consultation Paper on 17<sup>th</sup> June 2011. The Consultation Paper set out two options for the 2011 Market Audit. The two options proposed were as follows;

### **Option 1 Core SEMO (and IA) Audit**

As in all previous years, this audit will provide an acceptable level of assurance to the RAs and market participants that market pricing and settlement activities are being carried out

by SEMO (and the IA in relation to the production of MIUNs) in accordance with the TSC<sup>1</sup> and its Agreed Procedures. The audit work will focus on the activities and processing performed by SEMO. Comment is welcomed from interested parties on whether particular emphasis should be placed this year on certain areas of the core SEMO Audit, for example Financial and Settlement Issues.

### **Option 2 Core SEMO (and IA) Audit with limited expansion to cover key MDP/SO Demand Side Data Feeds**

A limited examination of certain activities of MDPs on the supply side will be undertaken on an Agreed Upon Procedures (AuP) basis and that AUP's may be of value in some of the following areas of activity performed by the Meter Data Providers.

- Registration Service
- Half Hourly Meter Data Collection and Processing
- Non Half Hourly Meter Data Collection and Processing
- Submission of data to SEMO
- Queries and disputes

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<sup>1</sup> For the 2010 Market Audit Terms of Reference see SEM-10-061

## **2. Comments on the Consultation Paper and the RAs response**

The SEM Committee received three comments interested parties on the Consultation Paper. The respondents were:

- EirGrid and SONI
- ESB Networks
- NIE Energy

The comments received are summarised below. The SEM Committee's final decision on the terms of reference for the 2011 Market Audit is set out in section 3 of the paper.

NIE Energy believes that the expansion of audit scope for the 2010 Market Audit was a useful exercise and they recommend Option 2 as an appropriate limited expansion of the terms of reference.

EirGrid and SONI are supportive of Option 2 as set out in the consultation paper. EirGrid and SONI also sought clarification on the version of the Trading and Settlement Code that the Audit would be based upon. They also sought clarification on the funding of the audit.

ESBN supports Option 2 but has suggested that for the 2011 Audit the focus should be on interval metering only. They suggest that the scope could be extended to non interval metering in future audits.

### **3. Decision and Next Steps**

Having considered matter further and also the responses received the SEM Committee determines that the Terms of Reference for the Market Audit the 2011 shall be broadly in line with Option 2 put forward in the Consultation Paper (SEM-11-044).

The SEM Committee has decided that the Agreed Upon Audit Procedures for demand side data feeds will cover interval metering only for the 2011 audit with a view to including non-interval metering in the 2012 audit scope. The Market Audit Plan for the 2011 Market Audit will be developed in the coming months with the auditors.

The Terms of Reference for the period 1 January 2011 to 31 December 2011 are set out in Appendix A of this paper.

## **Appendix A:**

### **Proposed Terms of Reference for the 2011 Audit Scope**

This section sets out an proposed terms of reference for the 2011 Market Audit for the period January to December 2011, based on the matters discussed above.

### **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 2011 Market Audit for the period from 1 January to 31 December 2011 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.

### **Period of Audit Report**

The Market Audit will cover the 12 month period from 1 January to 31 December 2011, including Resettlement of previous Settlement Dates performed within this period.

In a similar manner to the previous Market Audits, 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.

### **Materiality**

As with the 2010 Market Audit, the materiality for the audit shall be set at 0.25% of 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.

## **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.

## **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 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) fulfill the requirements of the Market Audit provisions in the Code.

The scope of the Market Audit for 2011 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<sup>2</sup>.

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

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<sup>2</sup> The responsibility for the production of Modified Interconnector Unit Nominations (MIUNs) will be transferred from SONI to the Market Operator during the term of the 2011 Market Audit.

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 2010 Market Audit, 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;
- 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; and
- Performing audit procedures on the processes and approvals under which SEMO re-run the MSP Software using the Mixed Integer Programming solver.

### **Agreed Upon Procedures for System Operators and Meter Data Providers Demand Side Feeds**

This extension to the audit testing will involve a limited examination of certain activities of the MDPs and SOs, possibly including assessment of the relevant findings of the internal audits performed by those organisations, supplemented by certain defined audit procedures. The assessment will cover interval meter demand data only. Such procedures focus on the key controls and process for producing the relevant data rather than direct testing of detailed data items themselves.

Matters which may be reviewed include:

#### Registration Service

- New connections and disconnections
- Maintenance of site information and MTDs
- Processing change of supplier



- Processing meter changes, e.g. meter replacement, reconfiguration
- Validity of standing data

#### Half Hourly Meter Data Collection and Processing

- Completeness of meter reading – all sites/all meters obtained
- Accuracy of meter reading – validation and tolerance checks
- Estimation/substitution where metering data not available or of insufficient quality
- Aggregation
- Adjustments prior to submission to SEMO, e.g. for losses, netting and non participating generation, etc.
- Exception handling
- Other checks, e.g. Meter Advance Reconciliation, Site Visits and Proving Tests

#### Submission of Data to SEMO

- Provision of data in required file formats
- Compliance with settlements calendar

#### Queries and Disputes

- Queries are resolved in a timely manner
- Root causes analysis and remediation

#### An AuP engagement involves the following steps:

- Identify the key requirements under the Code, Agreed Procedures and any other applicable rules to be tested. This enables testing to be concentrated on those areas which impact on the data being provided into the settlement process.
- Define and agree test procedures, setting out the detailed testing steps and test volumes, to address the key requirements. These represent the AuP
- Execute the AuP at each of the applicable SOs and MDPs, recording the factual results of testing
- Report the factual findings arising from the AuP to the RAs and Parties. As is normal practice for this type of engagement, it would not lead to an audit or assurance opinion. To avoid any confusion with the compliance audit opinion covering SEMO (and the IA in respect of MIUNs), the AuP results will be reported separately within the Market Audit report.

The specific AuP to be performed will be shared with the relevant parties in advance to provide for clarity and transparency, and facilitate smooth running of the work. In a well-controlled operation with adequate documentation of processes and controls, it is not anticipated that the AuP will present a significant time or resources burden on any of the relevant parties.