SEM Committee Paper

Trading and Settlement Code

Terms of Reference for the Market Audit 2016

Consultation Paper

26 April 2016

SEM-16-018

1 BACKGROUND

Paragraph 2.133 of the Trading and Settlement Code ("TSC" or "the Code"), requires the Market Auditor to conduct an audit of the Code, its operation and implementation of the operations, trading arrangements, procedures and processes under the Code at least once a Year.

Paragraph 2.135 of the Code requires to Regulatory Authorities (RAs) to consult with Parties on the terms of reference for the audit. Paragraph 2.136 requires the Regulatory Authorities to specify annually the precise terms of reference for the audit following this consultation process.

This purpose of this paper is to set out a number of options for the scope of the 2016 audit.

In 2007/08 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 the second Market Audit, relating to year 2009, the scope was 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. As result of the findings, the Market Operator raised a Modification Proposal on the Solver Policy (Mod_27_11) which was approved by the SEM Committee on 7 March 2012.

In both these Market Audits, the scope excluded activities undertaken by the System Operators ("SOs"), Meter Data Providers ("MDPs") and other participants as set out in the Code and Agreed Procedures.

However for the 2010 Market Audit, options were put forward setting out potential extensions to the scope of the Audit that would involve the Market Auditor assessing compliance of the MDPs and SOs with their obligations under the Code, or conducting a limited examination of the accuracy of source data provided by the 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 (AuPs) basis, with factual findings and any exceptions being reported to the RAs and Parties separately.

The 2011 Market Audit included AuPs which examined key interval meter demand side feeds. In 2012 the Market Audit consisted of a Core SEMO Audit with an early examination of Intra-Day Trading. In 2013, the Audit consisted of a Core SEMO Audit with limited expansion to cover key MDP demand side data feeds.

In 2014 the market audit consisted of a Core SEMO Audit with limited expansion to look at publication of information within requirement timescales, including communication in relation to changes to interconnector Available Transfer Capacity (ATC) and the determination of MIUNs. Furthermore, the SEM Committee had also decided that the RAs would follow up and review the AUPs from previous audits.

Last year's audit, for 2015, consisted of a Core SEMO Audit plus limited expansion to cover Dispatch Instructions. It was the view of the SEM Committee that there was value in pursuing this approach on the basis that dispatch instructions will remain an enduring feature of the market and any insights that can be gained now can be carried forward into the new market design.

2 PROPOSED 2016 AUDIT SCOPE

As with the last number of years the RAs propose three options for the scope of the 2016 Market Audit. Option 1 is an audit of the settlement and pricing activities carried out by SEMO and this work will similarly be performed in Option 2 and 3.

2.1 Option 1 - Core SEMO Audit

As in previous years, this audit will provide a reasonable level of assurance to the RAs and market participants that market pricing and settlement activities are being carried out by SEMO in accordance with the TSC and its Agreed Procedures. The audit work will focus on the activities and processing performed by 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.

As with previous Market Audits, it is intended to exclude the operation of certain components of the MSP Engine from the scope of the Market Audit. The excluded components are the operation of Unit Commitment, Economic Dispatch and calculation of Shadow Prices.

2.2 Option 2 – Core SEMO Audit with follow-up of all previous AuP findings

In addition to the Core SEMO Audit, this option would include a follow-up on AuP findings from previous years' audits.

As mentioned in the introduction, the 2010, 2011 and 2013 Market Audits included a review of certain activities of MDPs and SOs in relation to meter data for generation, interval and non-interval metering, and dispatch instructions on an Agreed upon Procedures (AuP) basis. These Audits identified a number of findings and recommendations. A table of these issues and the Auditor's comments (which formed part of the 2015 Audit scoping consultation) is included in Annex A.

Although these were followed-up in subsequent years to some degree, given the commonality of processes across areas, in particular interval and non-interval metering, a possible option for this would see a formal follow-up and reporting on actions taken by MDPs and SOs in response to the previous Audit findings.

This follow up could review the twenty areas set out by the RAs in the 2015 Audit Consultation in isolation, or could be on a sample basis depending on the level of work involved. This approach could be considered broadly in line with feedback in previous years' consultation responses that there would be value in revisiting areas examined in the Audits at three-to-five yearly intervals.

2.3 Option 3 - Core SEMO Audit plus limited expansion to non-interval aggregation processes

This option would include a core SEMO Audit, in addition to an examination of the activities of the MDPs in relation to index or non-half hour data settlement processing including the application of loss and usage factor rates, user demand profiles and theft losses. It should be noted that there is an element of overlap between aspects of Option 2 and Option 3 where the previous Audit findings related to MDP processes around aggregation and usage factors.

While the method of recovery of the system error will change from smearing across all non-interval meters to a supplier tariff, as with Option 2, the findings of such an extension of the scope of the Audit would be expected to have continued relevance in the new market.

Due to the expansion of this option into MDP responsibilities, the details of such an extension would be agreed on an AuP basis between the Auditors and MDPs, and submitted to the RAs for approval in December 2016.

3 PREFERRED APPROACH

In previous years' the RAs have indicated an initial preference for one of the proposed options.

A SEMO Core Market Audit (Option 1) will minimise costs and operational burden on the participants involved while providing a reasonable level of assurance to the RAs and Market Participants that market pricing and settlement activities are being carried out by SEMO in accordance with the Trading and Settlement Code and its Agreed Procedures.

As noted by some respondents to the 2014 and 2015 market audit consultations, there is merit in reviewing the AuPs from previous Audits (Option 2) as any findings, while potentially not implementable prior to I-SEM go-live in 2017, may still serve a purpose in consideration of the new market design. There is a case to be made that it is good practice to revisit these issues to confirm enduring resolutions were put in place for the issues found. As noted above, any issues raised by an audit including a review of the AuPs might not necessarily be addressable prior to Go-Live, but the exercise would be a useful one nonetheless.

In the case of Option 3 and the expansion of the Audit to include index or non-half hour data processing, it is obvious that the need for accurate information from MDPs is constant across market design.

The RAs do not have a strong preference for an approach at this point and therefore views on the Options put forward in this consultation document, including a preferred option, are welcomed from interested parties.

4 CONSULTATION AND NEXT STEPS

In presenting this paper for consultation, the SEM Committee seeks views on the merits of the above options for the Market Audit Scope for 2016.

Responses to this Consultation Paper should be should be sent to Barry Hussey (bhussey@cer.ie) and Kenny Dane (kenny.dane@uregni.gov.uk) by 17.00 on 7 June 2016. Please note that the SEM Committee intends to publish all responses unless marked confidential[1].

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 2016.

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[1] While the SEMC does not intend to publish responses marked confidential please note that both Regulatory Authorities are subject to Freedom of Information legislation.

5 ANNEX A – 2015 AUDIT CONSULTATION REVIEW OF AUPS FROM PREVIOUS AUDITS

2010

	AuP area	Exception noted
1.	Registration and meter technical details ("MTD") for new units are accurately processed and configured	All registrations within the samples tested were recorded accurately. For one sample item there was no documentary evidence that a review of the MTD had been carried out. No errors were identified in the calculation of Loss Adjustment Factors (DLAF, TLAF and CLAF). However, for one of the Registrations selected, there was no documented evidence that there was a review of the LAFs. It was noted that this approval process was initiated during the course of the year and that the other sample item at the particular entity was reviewed and appropriate sign-off recorded.
2.	Registration data is consistent between SO/MDP and SEMO	Meter technical data is examined by each entity as they take an active approach in the validation of each meter before the registration process. However there was no documentary evidence in any of the entities where testing was performed to demonstrate that this checking was reviewed and validated by management.
3.	Meter equipment for new registrations meets accuracy and other technical requirements of the market	While no errors were identified for the sample tested, it was observed at one of the entities that no meter testing certificates were issued.
4.	Meter reading data is complete	No specific errors were identified in the data as part of our review. However, for 3 of the 4 entities whilst we observed a review of daily exception reports there was no evidence of a process to perform and document a secondary or QA review to assess the actions taken by the primary reviewer and the consistency over time and different personnel of such actions
5.	Metering data provided to SEMO is accurate	No specific errors were identified in the data as part of our review. However, for 3 of the 4 entities whilst we observed a review of daily exception reports there was no evidence of a process to perform and document a secondary or QA review to assess the actions taken by the primary reviewer and the consistency over time and different personnel of such actions. We also observed that there is no defined procedure in place within two of the entities for the acceptance of meter information that exceeds the higher tolerance limit. It was noted on several occasions for three of the four entities that tolerance limits were increased on the receipt of meter data that exceeded the limit, but this was not subject to independent review and approval. For one item within our sample, meter accuracy checks did

		not highlight an exception that occurred, and the data was sent to SEMO where it was flagged as suspect. The entity at which this exception was noted has subsequently implemented an additional check to detect similar exceptions.
6.	Queries are resolved in a timely manner	It was observed that there is no checklist in place to ensure that the queries are responded to in the correct timelines outlined by SEMO. This can lead to the deadlines being missed by an SO/MDP.
7.	Root causes of queries and disputes are identified and action taken to reduce the risk of recurrence	At two of the entities there is no communication with SEMO that the query has been upheld, this means that SO/MDP is unaware of the final root cause of the issue which hinders them taking steps to improve relevant processes to prevent recurrence.
8.	Dispatch instructions provided to SEMO are complete and accurate, including taking into account real-time events	While it was observed that a review is performed of Dispatch Instructions to check the completeness and accuracy of their recording on the system, there is not a process to perform and document a secondary or QA review to assess the quality of the primary review decisions and its consistency over time and different personnel.
9.	The approach to calculation of load and other forecasts is reviewed and approved by management	There is no documentary evidence of a secondary review of load forecasting completed by either SO.
10.	Interconnector trade data is calculated accurately	While no errors in the pricing of Interconnector Trades were identified in testing the sample of 5 days, it was noted that there was no documented review of the pricing arrangements that are calculated by the National Control Centre.

2011

No.	AuP area	Exception noted
1.	New connections and disconnections are processed accurately and timely.	Within our sample of 15 new connections at one DSO we identified: • Two MPRNs were no major meter test had been completed; and • Three MPRNs where the major meter test was completed over 30 days after the energisation date.
2.	Meter reading data is complete.	For two of the 15 days tested at one entity, the reason for the meter reading exceptions and their subsequent resolution had not been documented. In the case of one of the entities it is standard practice for all metering data submitted at D+1 to be based on estimates. This is replaced by actual meter reading data (if available) by D+4. Whilst this does not represent a technical non-compliance it does reduce the ability of participants to identify issues in the Data Validation Period as outlined in section 6.48 of the TSC.

		At one entity a process to perform a regular QA review of the actions taken has been designed but had not yet operated at the time of our testing in December 2011. At one entity whilst we understand that the work performed to investigate and resolve issues is subject to a sample based QA review by management, the performance and outcome of the review only occurs on an ad-hoc basis. We understand this has been formalised since January 2012.
3.	Metering Data is accurate	For one entity documentation had not been retained to record the results of engineer visits required to resolve exceptions identified on three of the dates tested. We note that such documentation started to be produced in November 2011. During the period incorrect interval demand data was transmitted from the TSO to DSO and subsequently submitted to SEMO for one interval demand unit for one date. Although this was detected by validation checks and corrected the updated data was not submitted to SEMO and this was only identified when queried by the registered participant. Following this incident some additional checks have been implemented to try and prevent reoccurrence and the interface for transfer of data between TSO and DSO redeveloped. At one entity a process to perform a regular QA review of the actions taken has been designed but had not yet operated at the time of our testing in December 2011. At one entity whilst we understand that the work performed to investigate and resolve issues is subject to sample based QA review by management, the performance and outcome of this review only occurs on an ad-hoc basis. We understand this has been formalised since January 2012.
4.	Meter reading data is transferred completely and accurately between SO and MDP (where appropriate).	Whilst sufficient controls are in place to confirm complete and accurate transfer of data, there is little validation by the DSO (acting as MDP) for data provided by the TSO, under the assumption that validation is performed by the TSO. We note that the number and nature of validation checks performed, as well as specific configuration and limits applied, varies between TSO and DSO and hence inconsistent validation is applied between transmission and distribution connected sites.
5.	Aggregation of metering data prior to submission to SEMO is complete and accurate.	For one entity of the 15 dates selected for testing there were two where the control reports used to check the aggregation process were not available and hence the performance of the control checks could not be verified for those dates.
6.	Exception handling.	Although there are processes in place to review the overall results of meter data collection exception management to identify trends and issues requiring investigation at three of the four entities are not formalised and hence could not be tested. This is of particular relevance to the DSOs given the much larger number of MPRNs for which they are responsible.
7.	The ongoing accuracy of metering equipment is assessed and appropriate steps taken where exceptions are identified.	At one entity there was no formal review or QA of the results of meter tests performed during the year. In addition there was no documented plan or schedule setting out the required meter testing cycle and hence ensuring that all meters are

		tested at the appropriate frequency. At one entity within the sample of 15 meter tests reviewed we identified two exceptions where the results of the meter test had not been received at the time of our testing despite this being past the six week deadline for the test report to be provided.

2013

No.	AuP area	Exception noted
1.	Meter inspections and dealing with meter failures, theft/losses.	A sample of 27 exceptions which required retrospective adjustment to meter readings were selected for testing. We noted that 8 of the 22 exceptions that related to a stopped meter had not been appropriately adjusted. This was due to the meter installer returning a normal removal read rather than an 'unreadable' record. As a result no adjustment was made to the consumption of these meters to reflect the period when the meter was stopped. There is no monitoring to identify trends/patterns in exceptions.
2.	(Re) calculation of Estimated Annual Consumption (EAC) / Estimated Usage Factor (EUF) and Actual Usage Factor (AUF).	There are no validation checks incorporated within the calculation of annualized usage factors, although we note that checks are performed to the point of aggregation.
3.	Aggregation of EACs/EUFs and AUFs and breaking down into interval values.	A number of checks are performed each day following the aggregation run including a check on MPRNs which should have been aggregated (based on energisation status) but which were not aggregated, and the high usage factor report showing large AUFs which require investigation and potential adjustment. While performing these checks following the aggregation run does not represent a non-compliance, incorporating as much validation as possible before the aggregation run would be beneficial. Although large AUFs are identified and investigated, the AUF is still used in the aggregation run in the majority of cases and hence is not corrected until the following resettlement run (M+4 or M+13). In addition although not an exception to the procedures or non-compliance on the part of NIE, we note a significant proportion of the AUFs requiring investigation and adjustment are due to the receipt of customer reads shortly after agent reads hence calculating the AUF over a small number of days. There may be benefit in investigating whether a minimum read period should be included in the market rules relating to the AUF calculation.