

SEM MARKET AUDIT

**INDEPENDENT MARKET AUDITOR'S REPORT
FOR THE 12 MONTHS ENDED 31 DECEMBER 2011**

26 APRIL 2012

Market Audit Report – notice re distribution and publication

This notice concerns the Market Audit Report to the Commission for Energy Regulation (CER) and Utility Regulator for Northern Ireland (URegNI) (together the Regulatory Authorities (the RAs)) on the SEM Market Audit for the 12 months ended 31 December 2011 dated 26 April 2012 (the "Report").

This notice does not apply to the RAs or Parties to the Code who have signed the "Terms of Release to the Parties to the Code" letter (including their employees acting within the scope of their employment duties).

The requirement for the SEM Market Audit is set out in the Single Electricity Market (SEM) Trading & Settlement Code ("the Code") designated on 3 July 2007 and as amended from time to time. This Report was prepared by Deloitte & Touche (a partnership established in Ireland and with its registered address at Deloitte & Touche House, Earlsfort Terrace, Dublin 2, Ireland) ("Deloitte").

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1 INTRODUCTION

1.1 Background

The Single Electricity Market ("SEM") was developed by the Commission for Energy Regulation ("The Commission" or "CER") and the Utility Regulator for Northern Ireland ("URRegNI"), together with the Regulatory Authorities ("RAs"). The Single Electricity Market Operator ("SEMO") is responsible for the operation of the SEM. The Interconnector Administrator ("IA") is the participant with responsibility for administering interconnector capacity entitlements and providing information for settlement. The System Operators ("SOs") and Meter Data Providers ("MDPs") are the parties in each jurisdiction with responsibility, *inter alia*, for providing a range of information for settlement including generation and demand metering data, dispatch instructions and availability information for settlement and also have certain responsibilities to support processes related to unit registration and resolution of data and settlement queries. The Trading and Settlement Code ("TSC" or "the Code") was developed as part of the process of establishing the SEM and constitutes the trading and settlement arrangements for the SEM. The Code was designated on 3 July 2007 and since then has been subject to Modification via the processes set out therein.

The Regulatory Authorities have engaged Deloitte & Touche ("Deloitte") as SEM Market Auditor to undertake a Market Audit of the SEM as required under the Code. The requirement for a Market Audit is set out in section 2 of the Code in paragraphs 2.131 to 2.143. Specifically:

- The Market Auditor is appointed by the Regulatory Authorities;
- 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; and
- The Regulatory Authorities shall consult with Parties on the terms of reference for the audit, and specify and publish annually the precise terms of reference for the Market Audit.

The scope of the Market Audit is set out in the "Terms of Reference for the Market Audit SEM-11-077" published on 19 September 2011. The scope of the Market Audit for the period of 1 January 2011 to 31 December 2011 of operation of the market focuses on SEMO and the Interconnector Administrator ("IA") compliance with the relevant aspects of the Code and its Agreed Procedures. The scope for SEMO and the IA excludes activities undertaken by the Transmission System Operators ("TSOs"), Meter Data Providers and other participants as set out in the Code and Agreed Procedures. The scope also excludes 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 scope separately establishes an extension to previous periods to include a limited examination of certain activities of the MDPs and SOs performed on an Agreed Upon Procedures basis, under International Standard for Related Services ("ISRS") 4400 issued by the International Auditing and Assurance Standards Board ("IAASB"). The detailed Agreed Upon Procedures ("AUPs") were agreed with the RAs in September 2011. These AUPs do not form part of our Market Audit Opinion (Section 2). The factual findings arising from these AUPs are presented in Appendix A to this Report.

The terms of our services in which we act as Market Auditor and the respective areas of responsibility of the Regulatory Authorities, SEMO, other parties and ourselves are set out in our engagement letter to the Regulatory Authorities.

Unless otherwise specified, words and expressions used in this Report have the same meaning as defined in the Code.

1.2 Requirement for Market Audit

The requirement for a Market Audit of the Code is set out in section 2 of the Code in paragraphs 2.131 to 2.143. As specified in the "Terms of Reference for the Market Audit SEM-11-077" published on 19 September 2011 it covers the 12 months from 1 January 2011 to 31 December 2011, including resettlement of previous settlement dates performed within this period.

The "Terms of Reference for the Market Audit" also required that the Market Auditor perform interim audit procedures to cover the first six months of the audit period. Significant Issues and Other Matters noted during the course of our interim and final audit procedures are included in Sections 3 and 4 of this Report; in some cases these issues had been resolved prior to 31 December 2011.

1.3 Report Structure

Section 2 contains our **Market Audit Opinion**. The Market Audit Scope was agreed by the Regulatory Authorities in accordance with the "Terms of Reference for the Market Audit SEM-11-077" published on 19 September 2011.

It has been agreed with the Regulatory Authorities that materiality should be expressed based on an appropriate percentage level of the estimated annual market value of energy traded in the All-Island Market. The percentage level has been set at 0.25% of estimated annual market value of energy traded in the All-Island Market. Planning materiality for the Market Audit has therefore been set at €5.578m (prior period €4.668m) and it will be for Parties to the Code themselves to evaluate the financial impact of any errors or matters arising on their own businesses.

Section 3 contains our **Report of Significant Issues**, setting out matters identified during the course of the audit which, while not material in the context of the audit and not resulting in a qualified Audit Opinion, may have a significant impact on Parties to the Code. Where, in our judgement, matters arising may be significant to individual parties such matters have been included in the Significant Issues Report with sufficient detail so as to allow the Regulatory Authorities and Parties to the Code to evaluate the impact of the cause and circumstances of matters reported. Qualitative and quantitative factors were taken into account when determining the significance of an issue. From a quantitative perspective, in line with the prior period, a threshold of one tenth of the annual materiality value has been applied as a general guideline in determining whether a matter should be included in the Significant Issues Report. The resolution response for each of these points was provided by SEMO, other than where specifically noted.

Section 4 contains details of **Other Matters Arising** which we wish to bring to the attention of the market. They do not represent issues of significant non compliance and accordingly there is no requirement to report these matters under the terms of the "Terms of Reference for the Market Audit SEM-11-077" published on 19 September 2011. However, we include this section as we believe it may assist the Regulatory Authorities and Parties to the Code to judge for themselves the relative significance of all points reported.

Section 5 contains the **Follow up on Prior Period Issues**, which were brought to your attention in the prior period SEM Independent Market Auditor's Report, some of which have been resolved and where the points have not yet been resolved they have been referenced into sections 3 and 4 with a current year update.

Appendix A contains our consolidated factual findings in respect of the **Agreed Upon Procedures performed at System Operators and Meter Data Providers** in accordance with the Market Audit Scope and the detailed Agreed Upon Procedures agreed with the RAs in September 2011. These are reported separately and do not form part of our Market Audit Opinion, which is included in Section 2.

1.4 Market Operator Monthly Reporting

SEMO is obliged under Clause 2.144 of the Code to issue a Market Operator Monthly Report to the Regulatory Authorities on the performance of SEMO and Parties to the Code. The Monthly Report includes details of the type and status of all Code breaches identified by SEMO and whether the breaches represent deadlines that have not been met, system faults or errors, and whether these breaches have been resolved or remain outstanding at the end of each month. The Market Operator Monthly Reports are available on the SEMO website.

SEMO is required to perform a materiality assessment, using set criteria which are described in the Monthly Reports. The materiality threshold applied is significantly lower than materiality defined for Market Audit purposes.

While the breaches reported in the Monthly Reports represent non compliance with the Code, we have not repeated in this document those which are below the audit materiality threshold.

2 MARKET AUDIT OPINION

Independent Market Auditor's Assurance Report to the Commission for Energy Regulation ("The Commission" or "CER") and the Utility Regulator of Northern Ireland ("URegNI") (together "The Regulatory Authorities") and the Parties to the Trading & Settlement Code ("the Code") for the 12 months ended 31 December 2011

We have performed assurance work over the extent to which the Single Electricity Market Operator ("SEMO") and the Interconnector Administrator ("IA") have complied with the Code and relevant Agreed Procedures as defined in the "Terms of Reference for the 2011 Market Audit" published by the Regulatory Authorities on 19 September 2011 during the 12 month period ended 31 December 2011.

This report is made solely for the Regulatory Authorities and the Parties, as a body, in accordance with paragraph 2.133 of the Code. Our work has been undertaken so that we might state to the Regulatory Authorities and the Parties those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Regulatory Authorities and the Parties as a body, for our work, for this report, or for the opinions we have formed. Parties may only rely on this report if they have agreed in writing to be bound by the conditions under which it has been prepared, in line with the engagement letter.

Unless otherwise specified, words and expressions used in this report have the same meaning as defined in the Trading & Settlement Code.

Responsibilities of the Single Electricity Market Operator, Interconnector Administrator, Regulatory Authorities and Parties to the Code (together the "Responsible Party")

The Trading & Settlement Code is a legal agreement which, inter alia, sets out the terms of the trading and settlement arrangements for the sale and purchase of wholesale electricity on the island of Ireland between participating generators and suppliers ("Single Electricity Market"). The Code defines the Rules and Agreed Procedures which are required to be followed by the signatories to the Code ("Parties") who are bound by its provisions.

The functions of the Regulatory Authorities are set out in the Electricity Regulation Act 1999, the Northern Ireland (Miscellaneous Provisions) Act 2006 and in the Code. In the context of the Market Audit the role of the Regulatory Authorities as the Responsible Party is to appoint the Market Auditor and agree the terms of the Market Auditor's appointment, consult on and issue the Terms of Reference for the Market Audit, and receive Market Audit Reports.

SEMO is responsible for the operation of the Single Electricity Market ("SEM") under the Code as set out in paragraphs 2.117 to 2.125 therein and for complying with the requirements of the Code insofar as they are applicable to SEMO. The IA means the Participant, in accordance with paragraph 2.72, nominated under paragraph 2.75 or identified in accordance with paragraph 2.83 as appropriate. The IA is responsible for administering Interconnector capacity entitlements, providing information for Settlement and for complying with the requirements of the Code insofar as they apply to the IA.

The responsibilities of the Parties in respect of the Market Audit are set out in paragraph 2.139 of the Code, which requires parties to provide without charge to the Market Auditor in a timely manner, subject to any obligations of confidentiality, such information as is reasonably required by

the Market Auditor to enable the Market Auditor to comply with the functions and obligations and Terms of Reference for the purposes of conducting the audit and preparing and finalising the Audit Report. A person may only become a Party to the Code in accordance with the terms of the Code and the Framework Agreement.

Responsibilities of the Market Auditor

The requirements for the Market Audit are set out in paragraphs 2.131 to 2.143 of the Code, in particular paragraph 2.133 of the Code which 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". It is our responsibility as Market Auditor to execute the Market Audit as required under the Code and as set out in the Terms of Reference for the Market Audit. In the context of this engagement the terms 'Audit' and 'Market Audit' means a reasonable assurance engagement performed in accordance with the International Standard on Assurance Engagements 3000 "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information".

The Terms of Reference for the Market Audit expressly excludes 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. However, the scope includes certain procedures over the SEMO decision process and approvals for the use of the Mixed Integer Programming ("MIP") solver in place of Lagrangian Relaxation ("LR").

The following functions performed by the Regulatory Authorities, Data Providers and other Parties or their agents under the Trading & Settlement Code are also excluded from the scope of the Market Audit including, inter alia:

- Generation metering;
- Dispatch instruction logging;
- Metering and aggregation of eligible and profiled customer demand;
- Provision by Parties of Technical and Commercial Offer Data;
- Loss adjustment factors, generator unit technical characteristics and other data provided by Transmission System Operators / Distribution System Operators; and
- Settlement, capacity and other parameters provided by the Regulatory Authorities.

We draw attention to the Market Operator Monthly Reports which list all Code breaches identified by SEMO. Other than where the impact of the issue exceeds the audit materiality threshold, we do not repeat the list of breaches in this document. The Market Operator Monthly Reports are issued by SEMO and are available on its website.

Basis of assurance opinion

We conducted our assurance work in accordance with the International Standard on Assurance Engagements 3000 "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information". That standard requires that we plan and perform our work to obtain appropriate evidence about the subject matter of the engagement sufficient to support an opinion providing reasonable assurance when evaluated against the identified criteria. In the context of the Market Audit the subject matter consists of relevant activities of SEMO and the IA which are evaluated against the relevant paragraphs of the Code and applicable Agreed Procedures as set out in the Terms of Reference for the Market Audit.

Our assurance work includes examination, on a test basis, of evidence relevant to the Code including the review of risks, control objectives and controls associated with SEMO and the IA's performance of their duties and operation of the settlement arrangements. Our testing of the controls comprised review of documentation, corroborative enquiry with key SEMO and IA staff and, on a sample basis, testing the operation of controls and the validity and accuracy of the calculations underlying settlement output.

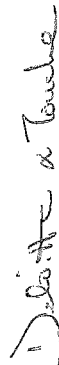
We planned and performed our assurance work so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that SEMO and IA have complied with the Code and relevant Agreed Procedures as defined in the Terms of Reference for the Market Audit.

For the purpose of our opinion a qualification, in terms of material non compliance with the Rules and relevant Agreed Procedures of the Code, would arise if we considered the breach to be of such significance that it undermined the robust operation of the settlements process.

We have prepared a Report of Significant Issues which is attached to this opinion setting out matters identified during the course of the audit which, while not material in the context of the audit, may have a significant impact for Parties to the Code. Our opinion should be read in conjunction with the Report of Significant Issues, but is not qualified in respect of matters contained therein.

Opinion

On the basis set out above, in our opinion, during the period from 1 January 2011 to 31 December 2011 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 2011 Market Audit" published by the Regulatory Authorities on 19 September 2011.



Deloitte & Touche
Chartered Accountants & Registered Auditors
Dublin

26 April 2012

3 REPORT OF SIGNIFICANT ISSUES

Issue	Effect	SEMO Response
<p>1. Calculation of Currency Cost</p> <p>A defect was introduced to the calculation of currency costs with changes made to the Settlement systems in late 2010 relating to the calculation of cross-border VAT. As a result the smearing of currency costs incorrectly applies the cost with an opposite sign to generator and supplier units – e.g. if the currency cost is a net charge to the market generator units are charged but supplier units paid.</p>	<p>As a result of this defect currency costs were incorrectly calculated between October 2010 and January 2012. At a net level SEMO neither paid nor charged currency costs during this period, however during this period there has been an estimated net incorrect allocation of €1m.</p>	<p>This defect was accidentally introduced as part of the SEM R1.8.0 release to the Central Market Systems (October 2010), in which the currency cost calculation module in Settlements was completely reworked.</p>
<p>This issue was identified by SEMO in October 2011 and reported to the market through the Market Operator Monthly Report and Market Operator User Group.</p>		<p>SEMO is currently analysing revised values for the affected participants over the period and is keeping the participants informed on the plan for invoicing the corrections.</p> <p>Please refer to item 8 in Other Matters below for further commentary regarding testing associated with this release.</p>

3 REPORT OF SIGNIFICANT ISSUES (CONT'D.)

Issue	Effect	SEMO Response
<p>2. Oracle Database Corruption</p> <p>System errors, specific to the Oracle file system and market data, were encountered by the Market systems during a number of months throughout 2011.</p> <p>The system errors resulted in file corruptions, including market data corruption, and impacted on the performance of the market resulting in market downtime.</p> <p>The above issue was later classified by SEMO as a General Systems Failure. In accordance with Agreed Procedure 7, SEMO are required to follow a number of steps to maintain market availability in the event of a General Systems Failure (GSF) occurring.</p> <p>A number of steps detailed in Agreed Procedure 7 were not followed by SEMO. These include the completion of the Emergency Communication Form, to receive and review acknowledgements of general system failure, and use of the transaction notification form. Participants were informed of the failure through the SEMO website and email notifications which is not strictly in line with the AP.</p> <p>It was also noted that the market system vendor did not provide a formal report on the issue, detailing the reasons for it occurring and solutions to remediate the issues and prevent them from occurring in the future.</p>	<p>A number of these corruptions impacted on system performance, delayed market submissions and delayed settlements processing. Corruptions were identified each week over a four month period. Some of these corruptions were classified as a General Systems Failure and AP7 steps were not followed in their entirety for these incidents. Therefore this issue also represents a non-compliance with the Code.</p> <p>We understand that an updated Oracle file system has been implemented by SEMO IT that has prevented these errors reoccurring.</p>	<p>There were only a limited number of corruptions that caused a GSF; all others were managed without impact to the Central Market Systems (CMS).</p> <p>SEMO will conduct a review of Agreed Procedure 7 as we believe that in some cases the procedures as outlined are not practical in an operational environment.</p> <p>As the issue was in relation to Oracle and not the CMS applications, Oracle provided a recommendation to the CMS vendor. Oracle does not provide formal reports on such issues.</p>

4 OTHER MATTERS ARISING

Issue	Effect	SEMO Response
<p>1. Allocation of Currency Cost to Interconnector Units</p> <p>An exception was identified in our testing in respect of the allocation of currency cost to Interconnector Units. This allocation is based on the proportion of total charges and payments for each billing or currency period attributed to a unit. For interconnector units this calculation incorrectly includes a value associated with the calculation of Make Whole Payments that should only be considered when greater than zero.</p>	<p>This error has the effect of reducing the proportion of currency cost allocated to interconnector units – this may result in an under-payment to interconnector units or an under-charging of interconnector units depending on the currency cost for a particular billing or capacity period.</p> <p>For the period affected we estimate the impact is a net underpayment of €12,000 across all interconnector units.</p>	<p>As part of the currency cost calculation, the market share of each participant is determined based on the absolute value of the total of payments / charges for all trading periods in the billing period.</p> <p>Most payments / charges are calculated at a trading period level and summed up to a billing period level for invoicing.</p> <p>Make Whole Payments are the exception. Although they are calculated at a trading period level, they are invoiced only if positive in total across the billing period. This rule is not applied when calculating market share for interconnector units only. This defect does not affect invoicing or the calculation of market share for non-interconnector units.</p>
<p>2. Other Variances in Calculation of Currency Cost</p> <p>Two scenarios were identified by our testing with variances in the calculation of currency cost, as follows:</p> <ul style="list-style-type: none"> We were unable to agree our recalculation of the invoice period currency cost (IPCC) to the system-produced IPCC for two of the four billing periods and two of the four capacity periods tested. We were unable to agree our recalculation of the payment period currency cost (PPCC) to the system-produced PPCC for three of the four billing periods and three of the four capacity periods tested. <p>We note this included periods where the automated update of the invoice day exchange rate was not operating correctly, as previously communicated to the market by SEMO, however our testing allowed for this issue. Initial review by SEMO of the Deloitte testing results could not explain the deviation.</p>		
	<p>Errors in the calculation of IPCC and/or PPCC affect the currency cost for all participants. Given the nature of the currency cost calculation the impact of these deviations is not expected to be significant in the context of individual participant charges but further investigation is required to confirm the nature and extent of any defects in the corresponding calculations.</p>	<p>SEMO will continue to analyse the variances identified and will raise these with the vendor as necessary.</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response
<p>3. Variance in Calculation of Dispatch Quantity</p> <p>A variance was noted in the calculation of the dispatch quantity for a non-curtailed variable price taker unit for one date tested in 2011. Per TSC the dispatch quantity should be equal to actual output but instead a zero value was applied, despite the unit having non-zero output.</p>	<p>Errors in the calculation of dispatch quantity affect the calculation of constraint and uninstructed imbalance charges (although for variable price taker units the former of these will be zero). Only a single example of this deviation was noted in our testing of dispatch profiling for eight separate dates and hence the impact of this deviation is not expected to be significant in the context of overall market settlement.</p>	<p>This was a defect that was resolved after the settlement date in question and hence will be corrected in M+13 resettlement.</p>
<p>4. IT Security Policy</p> <p>Paragraph 3.16 of the Trading and Settlement Code states that procedures should be put in place for the security of the Market Operator's entire Isolated Market System in accordance with Agreed Procedure 5. AP 5 states that the Market Operator's IT security policies shall detail the specific requirements for IT security standards for the Market Operator's Isolated Market System.</p> <p>A set of Information Security policies are now in place. From discussions with the IT Security Officer and observation of the policies and systems in place it was noted that a gap analysis has not yet been completed to measure the system configurations against the Information security policy. It was also noted that the password security policy does not include the use of digital certificates which is specific to the SEMO environment. SEMO has raised a modification to the password policy to include digital certificates.</p> <p>We acknowledge that SEMO IT are currently completing a gap analysis from the core systems to the Information Security policies that are in place to identify any differences between the system security and the rules detailed in the policies. This gap analysis should be updated on a periodic basis to ensure that systems are consistently in line with the policies.</p>	<p>Without an up to date IT Security password policy in place and without adherence to this policy, IT security across the organisation is difficult to govern. An IT Security Policy encourages the effective co-ordination and standardisation of security controls and their administration.</p>	<p>(First reported in 2008)</p> <p>The password policy modification has been drafted and submitted to the internal group security forum. Once approved this policy will be updated and re-issued.</p> <p>SEMO IT is currently in the process of conducting a gap analysis of their core systems and will draft an action plan to close any gaps identified.</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response
<p>5. Limited Communication Failure</p> <p>Agreed Procedure 7 details the steps that need to be followed when a Limited Communication Failure (LCF) occurs. According to the Procedure, the primary means of communication to the Participant from SEMO should be fax.</p> <p>Through enquiry of operational staff, we understand that it would not be feasible to follow all of these steps during an LCF due to time constraints imposed during this situation.</p> <p>We note that a Modification (MOD_06_12) has already been submitted to modify the Code to provide an LCF process that is feasible. An automated digital fax system is also to be implemented as part of this change.</p>	<p>This results in the risk of participant data not being uploaded correctly to the market systems during an LCF.</p>	<p>(First reported in 2009)</p> <p>SEMO have proposed a modification to the Trading and Settlement Code which will ensure that the LCF can be managed within the time constraints imposed during this situation.</p> <p>SEMO have also introduced an electronic fax solution which will assist in reducing the time requirements for the manual process.</p>
<p>6. Publication of Information</p> <p>The Market Operator is required to publish certain information on its website and within certain timelines as specified in the Code.</p> <p>During 2011, SEMO have implemented an audit trail to track the timing of the publication of this information. An assignment of the roles and responsibilities for the approval and publication of information, in accordance with Agreed Procedure 6, has also been performed. Furthermore, a Modification (MOD_04_12) proposed by SEMO to increase the timelines applying to the publication of capacity settlement data was approved in February 2012. The increased period of time for the publication of this information on the SEMO website now allows the processes and system activities required to produce the publications and transfer them to the website to occur.</p> <p>However, during our testing we noted that a number of publications were not published on the SEMO website in accordance with the timelines set out in the Code.</p>	<p>The required information may not appear on the SEMO website within the specified timeframes. This represents non-compliance with the Code.</p>	<p>(First reported in 2009)</p> <p>SEMO has made significant progress in relation to publication times, gaps have been identified and revised times to close these gaps have been agreed. These revised times are currently being tested with a plan to implement once successful testing has been completed. Only six events were identified as not been in line with the Code.</p> <p>The approved Modification has resolved the major non-compliance issue in relation to capacity settlement data.</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response
<p>7. Security Cover</p> <p>In accordance with Agreed Procedure 9, SEMO is required to review the credit cover supplied by a Participant to confirm that it meets the Banking Eligibility criteria under the Code. After this review occurs, SEMO must, within 2 WDs, inform the Participant of the results of these status checks and if their credit cover provider complies with the Banking Eligibility requirements.</p> <p>From our testing there was no documentary evidence that the Market Participants were notified within 2 WDs as this notification was completed via phone calls and no record of such calls being completed was retained.</p>	<p>While not representing non-compliance with specific Agreed Procedures, there is a risk that the lack of documentary evidence of notifying Participants of Banking Eligibility requirements could mean that notifications are not relayed in the correct timeframe thus having a negative effect on the Market.</p>	<p>SEMO performed all the required checks with respect to the Banking Eligibility criteria and contacted the Participants by phone within the 2 WD timeline.</p> <p>The operational processes have been updated to include email communication directly with the Participants in relation to their letter of credit submission, and this will resolve this matter.</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response
<p>8. Testing of System Releases</p> <p>Errors arose in 2011 as a direct result of releases impacting negatively on the Market Systems. These errors were subsequently identified by SEMO and were also noted in our work:</p> <ul style="list-style-type: none"> • Incorrect calculation of currency cost as outlined in point 1 section 3 above. This error arose after a system release in late 2010. • Automation of the invoice day exchange rate. This change did not work when implemented in the live environment. This was part of the May 2011 release. This defect had a lower impact than the currency cost defect. <p>Testing of these releases prior to go-live did not identify these as issues. While testing would not necessarily be expected to identify all defects, particularly in a bespoke, complex environment, there should be an expectation that testing would detect material issues and any defects in functionality being introduced or changed. The test strategy and test cases should be reviewed on a periodic basis to understand why any defects subsequently identified were not captured by testing, and enhanced to prevent similar or related issues recurring.</p>	<p>Gaps in test coverage can lead to issues arising in the market systems that could have been identified prior to implementation in the live environment. These issues can impact negatively on settlement accuracy, as per the two defects identified; system performance or present a security risk to underlying data.</p>	<p>The currency cost calculation module in Settlements was completely reworked as part of the R1.8.0 release. As a result, it did not form part of regression test coverage. Although targeting testing was performed there was a gap in the test script which resulted in a problem with the sign being missed. Supplier charges in the Code are always considered positive while in the Systems they are negative and this is where the issue arose.</p>
		<p>There were no changes to the currency cost module as part of the SEM R1.9.0 release. Regression testing was performed, and as it was a pre-existing problem the tests passed. The exchange rate defect was introduced in the SEM R1.9.0 release to the Central Market Systems. A change request was implemented, resulting in a knock-on effect in downstream processing.</p>
		<p>It should be noted that neither issue had an adverse effect on system performance or had any bearing on data security.</p>
		<p>As a result of these items being encountered SEMO have factored in a number of test cases for the next release (SEM R2.0.0) to cover these issues. In addition, the standard release regression test pack is being expanded to cover specific test cases for these areas going forward.</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response (First reported in 2008)
<p>9. Derivation of Fixed Market Operator Charge</p> <p>The Fixed Market Operator Charge (FMOC) as applied to participants in respect of their generation units is calculated as a factor of the installed capacity for each unit. In the case of interconnector units, no registered capacity is provided as part of the registration details of the unit. Whilst a FMOC was levied against such units, until the publication of the 2011/12 SEMO tariff decision paper (on 18 October 2011) there was a lack of clarity as to how this was calculated.</p>	<p>This issue does not represent a non-compliance with the Code as this merely provides for a fixed cost which may vary by generator unit.</p>	<p>This issue was closed prior to the issue of the 2011 Market Audit Report.</p>

5. FOLLOW UP ON PRIOR PERIOD ISSUES

Prior Period Issue	Update	2011 Classification	Previous Classification(s)
1. Calculation of Dispatch Start-up Cost	Changes were made to SEMO settlement systems in November 2010 to bring the calculation in line with TSC requirements. Specific exceptions have been resolved through resettlement.	Closed.	2009: Significant 2010: Significant
2. Incorrect Ramp Down Rate Used in Instruction Profiler	This issue was corrected as part of the settlement system update in May 2011, and specific exceptions are being resolved through resettlement.	Closed.	2010: Other
3. Calculation of Currency Charge (First reported in 2008)	Some specific issues noted have been resolved and a report has been published to the market regarding the historic impact of the error in the calculation of currency charge. Additional issues in the calculation of currency charge have been identified in the current year.	Significant See related point 1 in Section 3 above.	2008: Significant 2009: Other 2010: Other
4. Calculation of Market Schedule and Dispatch Quantity Cost Correction	This issue was corrected as part of the settlement system update in October 2010, and specific exceptions have been resolved through resettlement.	Closed.	2009: Other 2010: Other
5. Derivation of Fixed Market Operator Charge	Clarification has been received from the RAs regarding the Interconnector FMOC calculation in the 2011/12 SEMO Tariff decision paper.	Other See point 9 in Section 4 above.	2008: Other 2009: Other 2010: Other
6. Approval of Mixed Integer Programming Solver Schedule	No further instances of this issue were noted during our testing in 2011. An improved process has been put in place to achieve compliance with SEMO's internal policies.	Closed.	2010: Other
7. IT Security Policy	This issue is still open.	Other See point 4 in Section 4 above.	2008: Other 2009: Other 2010: Other
8. Limited Communication Failure	This issue is still open.	Other See point 5 in Section 4 above.	2009: Other 2010: Other

5. FOLLOW UP ON PRIOR PERIOD ISSUES (CONT'D)

Prior Period Issue	Update	2011 Classification	Previous Classification(s)
9. Windows Security	This is now resolved.	Closed.	2009: Other 2010: Other
10. Password Settings on Axapta	Axapta settings have been changed to inherit the Windows active directory Password Policy.	Closed.	2009: Other 2010: Other
11. Informing Participants of System Resumptions	New procedures ensure that participants are notified of resumptions via the SEMO website.	Closed.	2010: Other
12. Windows Security and Audit Settings	This is now resolved.	Closed.	2010: Other
13. Unit Registration and Deregistration	No further instances of this issue were noted during our testing in 2011. An improved process has been put in place to achieve compliance with the Code.	Closed.	2010: Other
14. Settlement Query	No further instances of this issue were noted during our testing in 2011. An improved process has been put in place to achieve compliance with the Code.	Closed.	2010: Other
15. Operator Checklist Sign Off	No further instances of this issue were noted during our testing in 2011. An improved process has been put in place to achieve compliance with the Code.	Closed.	2009: Other 2010: Other
16. Banking Arrangements	Modification (MOD 20_11) has been approved to remove the requirement of SEMO to have Sterling SEM bank deposit accounts.	Closed.	2010: Other
17. Publication of Information	Some specific issues is relation to the audit trail supporting information published on the SEMO website have been resolved. Further work is on-going to achieve compliance with the timelines for publishing such information as set out in the Code.	Other See point 6 in Section 4 above.	2009: Other 2010: Other

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS

A.1 Background and Scope

The 2011 SEM Market Audit Scope included testing on a limited basis of System Operators (SOs) and Meter Data Providers (MDPs), focusing on the sourcing, processing and submission of interval demand meter data to SEMO. This work was undertaken on an Agreed Upon Procedures basis, under International Standard for Related Services (ISRS) 4400. This follows a similar approach for the 2010 Market Audit, which included testing on an Agreed Upon Procedures basis in respect of metered generation and dispatch instructions.

An outline of the likely matters to be reviewed was included within the Market Audit Scope and this was developed and refined into a series of testing procedures by the Market Auditor in consultation with the RAs and the SO and MDP in each jurisdiction.

It should be noted that the Code does not contain detailed technical requirements for the provision of Metered Demand data and related data items by the SOs and MDPs to SEMO. Instead, the Code requires each entity to comply with the provisions set out in the relevant Grid or Metering Code. While guided by participant responsibilities set out within the Code, as there are four entities operating across two jurisdictions with separate Grid and Metering Codes, the Agreed Upon Procedures and associated testing were driven from overall control objectives established within the Agreed Upon Procedures rather than seeking to assess compliance with detailed Grid and Metering Code requirements. As a result, testing focused on a narrower set of objectives covering:

- Registration Service;
- Half Hourly Meter Data Collection and Processing;
- Submission of Data to SEMO; and
- Queries and Disputes.

The Procedures were developed to test achievement of the control objectives as outlined above, and set out the type and volume of testing to be performed, including testing performed on a sample basis. The Procedures were reviewed and agreed by the RAs in advance of site visits being undertaken.

The Agreed Upon Procedures were executed at each SO and MDP during site visits between December 2011 and February 2012. The factual findings from executing the Agreed Upon Procedures were documented and discussed with each participant to confirm the factual accuracy of the findings.

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

A.2 Findings and Basis of Reporting

The Agreed Upon Procedures performed are outlined in the table below, including details of modifications to the planned procedures necessary during testing. Such modifications primarily relate to reduction of the size of samples tested for individual processes due to the overall volume of transactions being limited during the year. In particular it is highlighted that the majority of demand sites subject to interval metering in SEM are distribution connected and the majority of testing was therefore performed at the Distribution System Operators in their role as MDPs.

Also detailed in the table below are exceptions identified during execution of the procedures. These are exceptions compared to the AUPs and may or may not represent non-compliance with the Code. Other than as noted in the following table no exceptions were noted from performing the procedures.

The scope of our work in preparing the Report of Factual Findings below (the "Report") was limited solely to those procedures set out below. Accordingly we do not express any opinion or overall conclusion on the procedures we have performed. You are responsible for determining whether the scope of our work specified is sufficient for your purposes and we make no representation regarding the sufficiency of these procedures for your purposes. If we were to perform additional procedures, other matters might come to our attention that would be reported to you.

Our Report should not be taken to supplant any other enquiries and procedures that may be necessary to satisfy the requirements of the recipients of the Report.

The procedures we performed did not constitute a review or an audit of any kind. We did not subject the information contained in our Report or given to us by the participants to checking or verification procedures except to the extent expressly stated within the procedures. This is normal practice when carrying out such limited scope procedures, but contrasts significantly with, for example, an audit. The procedures we performed were not designed to and are not likely to reveal fraud.

A.3 Common Themes

In addition to the exceptions noted below in performing our work we also draw to your attention the following items. Whilst these do not represent non-compliance with the Code or exceptions against the AUPs, they do represent inconsistencies in process across the market:

- Exception criteria and checks are used on a daily basis to identify suspect meter reading data for review and correction, if required. The number and nature of these checks, as well as the specific configuration and limits applied, vary significantly across the four participants. As a result it would be possible for metering data to be considered valid within one jurisdiction that would have been subject to review and potential rejection or amendment in another.
- The frequency of regular inspections used to assess the ongoing accuracy of metering equipment varies significantly across the four participants, with inspections at intervals up to every five years.

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

- Interval demand data for certain sites is collected by the TSOs in both jurisdictions and provided to the DSO for aggregation with other meter data and submission to SEMO. There is a lack of clarity as to the responsibility for performing validation of the metering data collected, and as a result a more limited set of validation tests has been applied to this data when compared with other interval demand meter data.
- There is a lack of consistency in the estimation / substitution processes operating across the four participants, with the requirements contained in the individual Grid/Metering Codes rather than the Trading and Settlement Code. Whilst the need for estimation and substitution is relatively limited given the nature of interval demand metering, and in the majority of cases any substitution/estimation is only temporary, different settlement may be calculated for sites depending on jurisdiction.

A.4 Response to Factual Findings

The factual findings arising from the individual site visits have been shared with the respective SO or MDP. Where exceptions or comments were noted, each participant is developing their response including any action to be taken in respect of the matters raised, which will be provided to the RAs. The RAs will give consideration to addressing the matters raised in the "Common Themes" section above.

A.5 Report of Factual Findings

The following table sets out the factual findings arising from execution of the Agreed Upon Procedures. The results for each SO / MDP were discussed with the participant to confirm their factual accuracy.

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
<p>Registration and Connection</p> <p>1) New connections and disconnections are processed accurately and timely.</p>	<p>a) Document process performed to record registration, meter point and Meter Technical Details ("MTD") within relevant SO/MDP systems (including register mapping, correct configuration of main/sub meter etc). Confirm review and approval process.</p> <p>b) For a sample of 15 connections obtain evidence that registration, meter point and confirmation of MTDs was reviewed and approved in line with the above process.</p> <p>c) Confirm process to ensure unit is registered and active within SO/MDP systems prior to energisation.</p> <p>d) For the sample of new connections obtain evidence to confirm all units active within SO/MDP systems prior to energisation.</p> <p>e) Confirm that testing/certification process is in place for new meter connections.</p> <p>f) For the sample of new connections obtain approvals, proving test certificates or other evidence to confirm meters were assessed as required.</p> <p>g) Where exceptions/deviations noted during testing obtain evidence to confirm these were resolved prior to meter point go-live, or were communicated to SEMO as required.</p> <p>h) Document process for managing unit disconnections and to remove / deactivate within SO/MDP systems at point of disconnection/de-energisation.</p> <p>i) Obtain evidence that disconnection process operated for sample of 15 disconnections.</p>	<ul style="list-style-type: none"> • There were no new connections for transmission connected sites and hence steps b), d), f) and g) were not completed at the TSOs. • There was only one transmission connected site subject to de-energisation and hence testing of step i) was limited at the TSOs. 	<p>Exceptions noted</p>	<p>Within our sample of 15 new connections at one DSO we identified:</p> <ul style="list-style-type: none"> • Two MPRNs where no major meter test had been completed; and • Three MPRNs where the major meter test was completed over 30 days after the energisation date.

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
2) Changes of supplier are processed accurately and timely.	<p>a) Document process performed to manage change of supplier process, including notification and approval required from affected suppliers.</p> <p>b) Confirm controls in place to manage master data to ensure unique allocation of meter point to supplier unit, including maintenance of history to support resettlement data submission.</p> <p>c) For a sample of 25 changes of supplier obtain evidence that these were processed in line with the process documented in (a) above.</p>	<ul style="list-style-type: none"> There was only one transmission connected site subject to change of supplier and hence testing of step c) was limited at the TSOs. 	No exceptions noted	N/A
3) Changes to meters and meter technical details are processed accurately and timely.	<p>a) Confirm process used to validate and approve changes to MTDs.</p> <p>b) For a sample of 15 MTD changes obtain evidence that these were reviewed and approved. Obtain reason for the change and consider whether it represented correction of previous erroneous data and if so whether impact on previously submitted data has been recognised.</p> <p>c) For those items in the sample tested that relate to changes in the physical meter configuration confirm that the meter has been subject to required testing/certification processes and that these were included in the review and approval in (b) above.</p> <p>d) Where exceptions/deviations noted during testing obtain evidence to confirm these were resolved prior to data submission to SEMO or have been corrected in subsequent submissions.</p>	<ul style="list-style-type: none"> There were no changes to MTDs for transmission connected sites and hence testing of steps b) - d) was not performed at the TSOs. 	No exceptions noted	N/A

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
4) Validity of standing data.	a) Document process performed to validate standing data at registration and new connections including: <ul style="list-style-type: none"> • Verification of consistency across physical meter, site visit documentation and relevant SO/MDP systems; • Automated and manual data validation checks used when entering / recording standing data. b) For the sample of new registrations tested under AUP 1 above confirm the above processes have operated.	<ul style="list-style-type: none"> • There were no new connections for transmission connected sites and hence testing was not performed at the TSOs. 	No exceptions noted	N/A

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
<p>Half Hourly Meter Data Collection and Processing</p>				
<p>5) Meter reading data is complete.</p>	<p>a) Confirm configured exception categories/criteria within meter reading system, e.g. comparison of actual vs. expected data, matching of actual vs. expected source, data received from de-energised / sealed meter, communication system failure. b) For sample of 15 days obtain meter reading exception reports and review relevant exceptions to confirm appropriate action taken, including review and approval where relevant. c) Confirm process used to regularly QA the actions of the primary reviewer. d) For a sample of QA reviews (dependent on the frequency of review) obtain results of the QA process, confirm appropriate action taken where exceptions identified and compare to dates reviewed in (b) above and understand reason for any differences between QA and Deloitte conclusions.</p>	<p>N/A</p>	<p>Exceptions noted</p>	<p>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.</p> <p>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 Verification Period as outlined in section 6.48 of the TSC.</p> <p>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.</p> <p>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 adhoc basis. We understand this has been formalised since January 2012.</p>

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
6) Metering data is accurate.	<p>a) Confirm configured exception criteria relating to meter reading data, e.g. missing periods, checksum errors, clock errors, meter alarms and warnings, etc.</p> <p>b) For a sample of 15 days obtain meter reading exception report and review relevant exceptions to confirm appropriate action taken, including review and approval where relevant.</p> <p>c) Confirm process in place to validate meter readings / pulse data obtained, including main/check meter comparison, tolerances and energy limits, automated and manual meter advance reconciliation.</p> <p>d) For a sample of 15 days (as in (b) above) walk through meter data obtained for a sample unit and confirm validation processes appropriately applied.</p> <p>e) For a sample of 10 changes in metered demand data provided to SEMO following initial settlement for 2011 sample testing dates ascertain the reason for the change in metered demand and the validity of this change.</p>	<p>• Due to the small number of transmission connected sites a reduced sample size was applied for the TSOs.</p> <p>• For two entities there was no change to interval metering data provided to SEMO following initial settlement.</p> <p>• For one entity it was not possible to identify interval metering data provided to SEMO that had changed following initial settlement as required in step e) and hence testing could not be performed.</p>	<p>Exception noted.</p>	<p>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.</p> <p>During the period incorrect interval demand meter 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.</p> <p>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.</p> <p>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 adhoc basis. We understand this has been formalised since January 2012.</p>

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
<p>7) Appropriate estimation or substitution is performed where metering data is not available or is of insufficient quality.</p>	<p>a) For all examples where substitution/estimation required from samples in items 5) and 6), and a sample of other instances up to 25 in total, confirm that substitution/estimation performed consistent with relevant metering and grid code requirements and that data has been appropriately flagged. b) Ascertain whether actual meter read data has subsequently been obtained and submitted to SEMO. c) Confirm whether root cause analysis has been performed and appropriate action taken to reduce risk of recurrence of specific errors.</p>	<ul style="list-style-type: none"> There was no use of estimation or substitution for transmission connected sites and hence testing of steps (b) and (c) was not performed at the TSOs. 	<p>No exceptions noted</p>	<p>N/A</p>
<p>8) Meter reading data is transferred completely and accurately between SO and MDP (where appropriate).</p>	<p>a) Confirm arrangements in place for interval metering performed by SO to be provided to MRSO for aggregation and submission to SEMO. b) Identify controls in place to confirm that data is transferred accurately and completely. c) For a sample of 15 days obtain evidence to confirm operation of these controls, including review of exceptions and subsequent resolution where appropriate.</p>	<p>N/A</p>	<p>Exception noted</p>	<p>Whilst sufficient controls are in place to confirm complete and accurate transfer of data, there is little validation applied 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 the specific configuration and limits applied, varies between TSO and DSO and hence inconsistent validation is applied between transmission and distribution connected sites.</p>

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
9) Aggregation of metering data prior to submission to SEMO is complete and accurate.	<p>a) Document controls in place to confirm completeness of aggregation processes (all registers aggregated to meter/MPRN level, all units aggregated for each settlement period for each period, each meter point aggregated only once).</p> <p>b) For a sample of 15 days obtain evidence to verify performance of the controls from (a) and review exceptions to confirm appropriateness of action taken, including review and approval where appropriate.</p> <p>c) Confirm process to manage master data to ensure unique allocation of meter point to supplier unit for aggregation purposes, including allowing for allocation for resettlement following change of supplier.</p>	<p>• One TSO does not perform aggregation and hence testing was not required.</p>	Exception noted	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.
10) Metering data is appropriately adjusted prior to submission to SEMO.	<p>a) Ascertain process in place to identify and apply relevant amendments to metered data (e.g. loss-adjustment, non-participating generation, specific agreed approaches under 3.78/3.79)</p> <p>b) For a sample of units confirm configured adjustment in metering system is consistent with published adjustments.</p>	N/A	No exceptions noted	N/A
11) Exception handling.	<p>a) Ascertain process in place to monitor exception levels in meter data collection processes in order to identify trends and issues requiring escalation and root cause analysis.</p> <p>b) Review a sample of exception reports and corresponding actions to confirm process in (a) operates as expected.</p> <p>c) Review exceptions identified from testing under procedures 5 – 9 and confirm they have been considered as part of the exception monitoring processes, if appropriate.</p>	N/A	Exceptions noted	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 these 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.

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
<p>12) The ongoing accuracy of metering equipment is assessed and appropriate steps taken where exceptions are identified.</p>	<p>a) Confirm process in place to comply with regular inspection requirements. b) Confirm process in place to identify meters requiring adhoc testing. c) For a sample of regular and adhoc inspections/tests required obtain test reports/certificates to confirm performed as required. d) Where exceptions identified (in this sample) confirm appropriate action taken to revise metered data provided to SEMO.</p>	<p>• All meter testing in Northern Ireland is performed by NIE and hence no testing was performed at SONI.</p>	<p>Exceptions noted</p>	<p>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.</p> <p>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.</p>
<p>Submission of Data to SEMO</p>				
<p>13) Data is provided to SEMO in the required file format.</p>	<p>a) For a sample of 1 example of each file type submitted to SEMO confirm these are in line with the requirements as documented by SEMO, TSC Appendix L and/or Agreed Procedure 16. b) Obtain the settlement issue log for the 2011 period from SEM and review to identify any instances of invalidly formatted [interval] demand data. Through enquiry with MDP obtain understanding of underlying root cause of the error and steps taken to address.</p>	<p>• All submission is performed by the DSOs and hence no testing was performed at the TSOs.</p>	<p>No exceptions noted</p>	<p>N/A</p>

APPENDIX A – AGREED UPON PROCEDURES (UNDER ISRS 4400) FOR SYSTEM OPERATORS AND METER DATA PROVIDERS IN RESPECT OF INTERVAL METERING DEMAND SIDE DATA FEEDS (CONT'D)

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
14) Data is provided to SEMO within the timeframes specified in the code in order to meet the settlement calendar.	<p>a) For the same sample of days as tested in 13) confirm files were submitted by MDP and received by SEMO in line with the requirements as documented by SEMO, TSC Appendix L and/or Agreed Procedure 16.</p> <p>b) Obtain the settlement issue log for the 2011 period from SEM and review to identify any instances of [interval] demand data submitted after the required deadline. Through enquiry with MDP obtain understanding of underlying root cause of the error and steps taken to address.</p>	<ul style="list-style-type: none"> All submission is performed by the DSOs and hence testing of step a) was not performed at the TSOs. 	No exceptions noted	N/A
Queries and Disputes				
15) Queries are resolved in a timely manner.	a) For a sample of up to 5 data queries, 5 settlement queries and 1 dispute review timeline for investigation and provision of relevant information / updated settlement data.	N/A	No exceptions noted	N/A
16) Root causes of queries and disputes are identified and action taken to reduce the risk of reoccurrence.	a) Through enquiry obtain understanding of underlying root cause of each query / dispute discussed as part of 15) and ascertain what action taken to reduce risk of recurrence.	N/A	No exceptions noted	N/A