

SEM MARKET AUDIT

INDEPENDENT MARKET AUDITOR'S REPORT FOR THE 12 MONTHS ENDED 31 DECEMBER 2013

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 (UR) (together the Regulatory Authorities (the RAs)) on the SEM Market Audit for the 12 months ended 31 December 2013 dated 27 March 2014 (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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No work has been carried out nor have any enquiries of RAs or Single Market Operator management been made since 21 February 2014. The Report does not incorporate the effects, if any, of any events or circumstances which may have occurred or information which may have come to light subsequent to that date. Deloitte makes no representation as to whether, had Deloitte carried out such work or made such enquiries, there would have been any material effect on the Report. Further, Deloitte has no obligation to notify You if any matters come to its attention which might affect the continuing validity of the comments or conclusions in the Report.

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This notice shall be governed and construed in accordance with the laws of Ireland. The courts of Ireland will have exclusive jurisdiction to settle any claim, dispute or difference which may arise out of or in connection with this notice.

CONTENTS

1	Introduction.....	1
1.1	Background	1
1.2	Requirement for Market Audit.....	2
1.3	Report Structure	2
1.4	Market Operator Monthly Reporting	3
2	Market Audit Opinion	4
3	Report of Significant Issues	7
4	Other Matters Arising.....	8
5	Follow up on prior period issues	14
	Appendix A – Agreed Upon Procedures for Meter Data Providers (Non-Interval Metering Demand Data).....	16

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 (“UR”), together the Regulatory Authorities (“RAs”). The Single Electricity Market Operator (“SEMO”) is responsible for the operation of the SEM. 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-13-046” published on 22 July 2013. The scope of the Market Audit for the period from 1 January 2013 to 31 December 2013 focuses on SEMO compliance with the relevant aspects of the Code and its Agreed Procedures. The scope for SEMO excludes activities undertaken by the Transmission System Operators (“TSOs”), Meter Data Providers (“MDPs”) 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 established an extension to previous periods to include a limited examination of certain activities of the MDPs on an Agreed Upon Procedures (“AUPs”) basis, under International Standard for Related Services (“ISRS”) 4400 issued by the International Auditing and Assurance Standards Board (“IAASB”). The detailed AUPs were agreed with the RAs in September 2013. 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 RAs, SEMO, other parties and ourselves are set out in our engagement letter to the RAs.

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

1 INTRODUCTION (CONT'D.)

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-13-046” published on 22 July 2013 it covers the 12 months from 1 January 2013 to 31 December 2013, 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 2013.

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-13-046” published on 22 July 2013.

As per the terms of reference 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 €5.866m (prior period €5.514m) 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 noncompliance and accordingly there is no requirement to report these matters under the terms of the “Terms of Reference for the Market Audit SEM-13-046” published on 22 July 2013. 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.

1 INTRODUCTION (CONT'D.)

1.3 Report Structure (cont'd.)

Appendix A contains our consolidated factual findings in respect of the **Agreed Upon Procedures (under ISRS 4400) performed at Meter Data Providers** over non interval metering demand data in accordance with the Market Audit Scope and the detailed Agreed Upon Procedures agreed with the RAs in September 2013. 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 noncompliance 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 ("UR") (together "The Regulatory Authorities").

We have performed assurance work over the extent to which the Single Electricity Market Operator ("SEMO") has complied with the Trading and Settlement Code ("Code") and relevant Agreed Procedures as defined in the "Terms of Reference for the Market Audit SEM-13-046" published on 22 July 2013 during the 12 month period ended 31 December 2013.

This report is made solely for the Regulatory Authorities, 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 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 to the Code 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, Regulatory Authorities and Parties to the Code (together the "Responsible Parties")

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 and Agreed Procedures as listed in appendix d to the Code, insofar as they are applicable to SEMO.

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.

2 MARKET AUDIT OPINION (CONT'D.)

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 2013 Market Audit. In the context of this engagement the terms ‘Audit’ and ‘Market Audit’ mean 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 2013 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.

2 MARKET AUDIT OPINION (CONT'D.)

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 which are evaluated against the relevant paragraphs of the Code and applicable Agreed Procedures as set out in the Terms of Reference for the 2013 Market Audit.

Our assurance work includes examination, on a sample basis, of evidence relevant to the Code and Agreed Procedures including the review of risks, control objectives and controls associated with SEMO’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 staff and, on a sample basis, testing the operation of controls and the validity and accuracy of the calculations underlying settlement output.

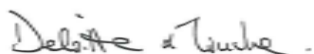
We planned and performed our assurance work so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that SEMO have complied with the Code and relevant Agreed Procedures as defined in the Terms of Reference for the 2013 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 and subject to the exclusions noted in the Responsibilities of the Market Auditor section above, in our opinion, during the period from 1 January 2013 to 31 December 2013 the Single Electricity Market Operator (“SEMO”) has, in all material respects, complied with the Code and relevant Agreed Procedures as set out in the “Terms of Reference for the 2013 Market Audit” published by the Regulatory Authorities on 22 July 2013.



Deloitte & Touche
Chartered Accountants
Dublin, Ireland

27 March 2014

3 REPORT OF SIGNIFICANT ISSUES

No significant issues identified.

4 OTHER MATTERS ARISING

Issue	Effect	SEMO Response
1. Treatment of Interconnector Units with multiple Price-Quantity Pairs		
<p>Errors were noted in certain calculations for interconnector units with more than one price-quantity pair within their commercial offer details as follows:</p> <ul style="list-style-type: none"> The Market Offer Price (MOP) and Dispatch Offer Price (DOP) were incorrectly calculated when the value of market schedule quantity (MSQ) or dispatch quantity (DQ) were such that the MOP / DOP values should have been based on the second or higher price-quantity pairs. The capacity payment generation price factor (CPGPF) was incorrectly calculated as zero if the unit was not scheduled and had submitted more than one price-quantity pair. <p>We note that this issue is similar to Other Matter 1 in the 2012 Market Audit report which was resolved in the May 2013 release. However testing of the associated change was limited to confirming that the price-quantity pairs were imported into the settlement system and hence this did not provide an opportunity to detect the additional defect as it did not include full regression testing of all impacted calculations.</p>	<p>Errors in the calculation of MOP and DOP may impact on constraint payments depending on the values of MSQ and DQ for the affected periods. For the sample of dates tested as part of the Market Audit no significant differences were noted.</p> <p>Errors in the calculation of CPGPF results in underpayment of capacity payments to the affected units. We estimate the impact of this difference is of the order of €10,000 or less per capacity period.</p>	<p>This issued was resolved prior to publication of this report. This issue was fixed in an emergency release on 07/10/2013.</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response
2. Error in treatment of consecutive dispatch instructions		
<p>Differences were noted in the dispatch quantity (DQ) calculated for 28 variable price taker generator (VPTG) Wind generators for one period on one of the sample dates included in our testing.</p> <p>Following investigation by SEMO and the software vendor this was confirmed to be due to a defect in the process used to pre-process and merge dispatch instructions prior to profiling in the circumstances where consecutive and identical MWOFF instructions were present. This defect arose following the software release in November 2013. For the particular period identified this resulted in the profiling of a constraint with an instructed value of zero MW to be profiled rather than the correct constrained value of seven MW.</p>	<p>For the affected periods the DQ was incorrectly calculated as a constraint to zero MW was profiled. This resulted in over-payment of uninstructed imbalance payments to the affected units with a total value of less than €3k.</p> <p>Further investigation is being undertaken by SEMO to identify the frequency with which the specific scenario of dispatch instructions that triggers this defect has occurred.</p>	<p>This defect will be resolved in the May 2014 release and any errors will be corrected as part of the M+4 and M+13 resettlement process.</p>
3. Error in Instruction Profiling on change of unit type		
<p>An error was noted in the DQ calculated for one unit on one of the dates selected for testing. The unit, a variable price taker generator (VPTG), did not have DQ set equal to actual output as required when the unit was unconstrained.</p> <p>Further investigation confirmed that this unit had changed status from an autonomous price taker generator to a VPTG on the date in question and this error was restricted to the first period the unit was trading as a VPTG.</p>	<p>In the particular example noted the unit was incorrectly assigned a non-zero dispatch quantity, which represents a non-compliance with the requirements of the TSC.</p>	<p>This issued was resolved prior to publication of this report. This resolution of this issue was included in the November 2013 release (2.3.0).</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response
4. Errors in calculation of Payment Period Currency Cost (PPCC)		
<p>The payment period currency cost for energy settlement applied to week 50 was manually calculated (as there was a requirement to include the PPCC for week 47 invoices which had not been applied to week 48 in error). Therefore the value to be applied to week 50 was the net PPCC calculated based on invoices from week 47 and week 49.</p> <p>In performing the calculation for week 49 invoices an incorrect exchange rate was applied for the payment date for self-billing invoices. This related to extended payment timeframes for these invoices due to public holidays in the Christmas period.</p>	<p>The PPCC relating to week 49 invoices was a cost to the market and was understated by £29,600. As a result participants were under-charged currency cost as part of invoicing for the energy market for week 50.</p>	<p>There was an operational oversight when calculating the PPCC manually. The manual process is only used on the rare occasion that the system is not working. This adjustment will be applied to the next calculation of the currency costs for the outstanding amount.</p>
5. Operational Checklist		
<p>The Support Activities Controller manually reviews and approves by sign-off the completion of daily operational checklists by the Market Operators to confirm that all trading, pricing and data information has been received from participants and data providers.</p> <p>During testing of the operational and support activities checklists the following deviations were observed:</p> <ul style="list-style-type: none"> • For two of the dates selected, the initial settlement checklist was signed off and approved by the same person. • For one of the dates selected, there were no checklists or support activities approved. • On three of the dates selected, the daily checklist was not signed off by the Support Activities Controller. • On three dates of the dates selected, the support activities checklist was completed by the same person that had signed off on operational checklists. 	<p>This represents non-compliance with SEM operating procedures.</p>	<p>Agreed.</p> <p>A change in procedure has been initiated. If the controller on Support Activities also performs a run on the same day then they will ask an alternative member of staff to approve their checklist. It remains the responsibility of the Support Activities Controller to ensure that all approvals have been completed on any given Operational Date.</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response
6. Registered Bank Charge		
<p>When a participant is being registered in the Market, and requests SEMO to open a SEM Collateral Reserve Account on its behalf there is a requirement to “register a charge over the “SEM Collateral Reserve Account”. This is the responsibility of the Participant to do so, or if not done by them, it is SEMO’s responsibility. This procedure was not performed for a number of Participants. This issue was noted as part of the 2012 Market Audit.</p>	<p>This represents non-compliance with the Code.</p>	<p>Agreed. The legal drafting for an amended Deed of Charge was completed by external legal counsel and submitted in advance of Mods Meeting 52 on 5th December 2013. This was not approved then nor at the February 2014 Mods Meeting. A working group is going to be scheduled for further discussion of the proposal.</p>
7. Party Registration Meeting		
<p>There is a requirement for the Market Operator to organise a final registration meeting with all relevant parties to determine the effective date of registration and discuss any outstanding clarifications or issues. This meeting must be organised within 1 WD of completion of the process. During our testing it was noted that the meeting with the Market Participant did not take place within the required timeline as specified in the Code.</p>	<p>This represents non-compliance with the Code.</p>	<p>Agreed. Written communication confirming the effective date of a party is issued instead of holding a meeting. It is SEMO’s intention to draft a modification to the Code.</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response
8. Party Registration Publication		
<p>There is a requirement for the Market Operator to publish the fact that the applicant has or will become a party within 2 WDs of the completed accession deed. During our testing we noted the SEMO website was not updated within the required timeframe as specified within the Code.</p>	<p>This represents minor non-compliance with the Code.</p>	<p>Agreed.</p> <p>There was an oversight regarding the updating of Parties on the list of participants.</p> <p>SEMO will update the checklist and liaise with all controllers working in the registration area to ensure timelines are adhered to in the future.</p>
9. Authorisation to change Banking Details		
<p>There is a verification process for the change of Participants' banking details. As part of this process, the Participant submits revised banking details which are authorised by two signatories. The change request must be submitted to the Market Operator via registered post.</p> <p>The Market Operator must then amend the Participant's bank details within 5 WDs of the amendment details being received. We noted that there is no record maintained detailing when amendment details are received from Participants.</p>	<p>This represents potential minor non-compliance with the Code.</p>	<p>Agreed.</p> <p>There was an oversight in relation to Authorisation of changing banking details.</p> <p>To mitigate this, SEMO will update the template letter sent to participants specifically asking them to return change of bank details letters directly to SEMO.</p> <p>All such letters will be dated and stamped upon receipt in future.</p>

4 OTHER MATTERS ARISING (CONT'D.)

Issue	Effect	SEMO Response
<p>10. Invoice Compliance</p> <p>A review checklist must be completed and signed by two controllers before an invoice can be issued. We noted during our audit procedures for a number of samples selected the review checklist was signed by one controller only.</p>	<p>This represents minor non-compliance with SEMO internal operating procedures.</p>	<p>Agreed.</p> <p>There are multiple checks (both within Operations and by SEMO Finance) performed on the invoice content to ensure inaccurate invoicing does not occur.</p> <p>The invoice checklist signoff is more for completeness.</p> <p>SEMO have built into their processes daily signoff of checklists and assignment of responsibilities which will mitigate any future risk.</p>

5 FOLLOW UP ON PRIOR PERIOD ISSUES

Prior Period Issue	Update	2013 Classification	Previous Classification(s)
1. Calculation of CPGPF for Interconnector Units	This defect was fixed in the SEM R2.2.0 release (May 2013) and is being resolved through the normal M+4 and M+13 resettlement process.	Closed (note however similar item reported as Other Items Point 1 above)	Other
2. July 2012 Capacity Currency Cost	This defect was fixed in the SEM R2.2.0 release (May 2013) and was resolved through M+13 resettlement for July 2012.	Closed	Other
3. Loss adjustment of interconnector units for cross border VAT Calculation	This defect was fixed in the SEM R2.2.0 release (May 2013). Due to the nature of the calculation and the underlying low value associated with the issues, no historic correction will occur through resettlement.	Closed	Other
4. Data Migration for IDT implementation	Data migration phases include formalised testing activities with clearly defined exit criteria.	Closed	Other
5. Key Man Dependency during IDT implementation	DBA recruited in June 2013.	Closed	Other
6. Error in Make Whole Payment	The specific error was corrected through resettlement. In addition changes were made as part of the SEM R2.3.0 release (November 2013) to reduce the risk of reoccurrence of the underlying operational error.	Closed	Other
7. Failure to Invoice Payment Period Currency Cost for Week 46	This was invoiced in the invoice run for week 6 2013. SEMO have implemented a log that will include the billing calendar detailing when currency costs are to be applied.	Closed (note however similar item reported as Other Items Point 4 above)	Other

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

Prior Period Issue	Update	2013 Classification	Previous Classification(s)
8. Limited Communication Forms and Authorised Users	Updated procedures and training have been put in place to ensure all requests are validated against the approved authorised users list.	Closed	Other
9. General Systems Failure Procedures	Mod_09_13 was approved at the Mods Meeting 51 and became effective on 18th October 2013.	Closed	Other
10. Registered Bank Charge	The legal drafting for an amended Deed of Charge was completed by external legal counsel and submitted in advance of Mods Meeting 52 on 5 th December 2013. This was not approved then nor at the February 2014 Mods Meeting.	Open (See point 6)	Other
11. Party Registration	Mod_08_13 was raised and recommended for approval at Meeting 49. The timeline to sign and return the Accession Deed has now moved to 10 Working Days. This modification has been effective as of 28th June 2013.	Closed	Other
12. Correction of historic errors in Currency Cost	The correction invoices were issued on 19th July 2013 and all relevant payments/receipts processed.	Closed	Other
13. Remediation of IT Security Gaps	A full review of the gap analysis, remediation planning and progress of remediation actions has been completed. A report outlining how the remediation of gaps was completed and the identification of exceptions was presented to management and issued to the EirGrid Group Security Forum in March 2013.	Closed	Other
14. Interpretation of Dispatch Instructions	Mod_07_13 was raised to account for this, effective as of 17th July 2013.	Closed	Other

APPENDIX A - AGREED UPON PROCEDURES FOR METER DATA PROVIDERS (NON-INTERVAL METERING DEMAND DATA)

A.1 Background and Scope

The 2013 SEM Market Audit Scope approved by the Regulatory Authorities extended testing on a limited basis to Meter Data Providers (“MDPs”), focusing on the sourcing, processing and submission of non-interval metered demand data to SEMO. This work was undertaken on an Agreed Upon Procedures basis. This follows a similar approach to the 2011 Market Audit, which included testing on an Agreed Upon Procedures (“AUPs”) basis in respect of System Operators and Meter Data Providers in relation to interval metering demand side data.

An outline of the likely procedures was included within the Market Audit Scope and this was further developed and refined into a series of testing procedures by the Market Auditor in consultation with the two MDPs, prior to finalisation and agreement with the RAs. As discussed within the consultation paper and subsequent decision paper, the extension to Scope does not seek to test compliance with these parties’ obligations under the Trading & Settlement Code, instead focusing on a narrower set of objectives covering the completeness, accuracy, validity and compliance with relevant rules for collection and submission of non-interval metered demand data.

A.2 Findings and Basis of Reporting

As there are two entities operating across the two jurisdictions with separate Metering Codes and retail market arrangements, testing focused on factors impacting the overall accuracy of non-interval demand data submitted to settlement rather than seeking to assess compliance with detailed Code requirements.

The AUPs performed are outlined in the table below, including details of modifications to the planned procedures necessary during testing. Such modifications primarily relate to the need to perform live observational testing when historic data was not available and to the reduction of the size of samples tested for individual processes due to the overall volume of transactions being limited during the year.

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 identified 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. The RAs are responsible for determining whether the scope of our work specified is sufficient for their purposes and we make no representation regarding the sufficiency of these procedures for their purposes. If we were to perform additional procedures, other matters might come to our attention that would be reported to the RAs.

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.

APPENDIX A - AGREED UPON PROCEDURES FOR METER DATA PROVIDERS (NON-INTERVAL METERING DEMAND DATA (CONT'D.))

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.

The procedures outlined below do not cover every obligation on the MDP under the Trading and Settlement Code in respect of non-interval metering, but instead have been focused on those areas that are considered to have a more significant impact on overall settlement accuracy or where there is evidence from existing Market Audit work of significant volumes of errors or corrections. The following broad aspects of the T&SC have not been included:

- Obligations and responsibilities in the event of certain parties to the Code being suspended or terminated
- Requirements to acknowledge and confirm receipt of data transmissions, including emergency communication requirements
- Obligations relating to the facilitation of physical or data access to metering assets
- Timing of submission of data items, particularly those items that are required to be submitted significantly in advance of the settlement period and/or to the Regulatory Authorities

A.3 Response to Factual Findings

The factual findings arising from the individual site visits have been shared with the respective MDP. Where exceptions or comments were noted, each participant has provided a response including details of any action to be taken in respect of the matters raised, which has been provided to the RAs.

A.4 Report of Factual Findings

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

APPENDIX A - AGREED UPON PROCEDURES FOR METER DATA PROVIDERS (NON-INTERVAL METERING DEMAND DATA (CONT'D.))

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
Registration and Connection				
1) Registration and Change of Supplier	<p>a) Obtain documented process/procedures notes for new meter point registration/connection and disconnection processes. Perform walkthrough of one example of each transaction to confirm operating consistent with documented process.</p> <p>b) Identify key validation / exception checks incorporated within the registration/connection and disconnection processes that require MDP action (anticipated to include monitoring for completed meter works that have not updated the meter point registration database). Obtain an understanding of any processes in place for management to regularly review / QA exception resolution activity. For a sample of management review/QA checks obtain results and confirm appropriate action taken where issues identified. If no regular review/ QA performed by management then for a sample of process exceptions obtain evidence that the exception was resolved consistent with the documented procedures.</p> <p>c) Obtain documented process/procedures for change of supplier process. Perform walkthrough of one example of each transaction to confirm operating consistent with documented process.</p> <p>d) Identify key validation / exception checks incorporated within the change of supplier process that require MDP action. Obtain an understanding of any processes in place for management to regularly review / QA exception resolution activity. For a sample of management review/QA checks obtain results and confirm appropriate action taken where issues identified. If no regular review/ QA performed by management then for a sample of process exceptions obtain evidence that the exception was resolved consistent with the documented procedures.</p> <p>e) Obtain an understanding of regular monitoring performed by MDP over the registration/connection, change of supplier and disconnection processes (e.g. monitoring for overall levels of activity, invalid market messages by supplier). For a sample of monitoring reports confirm these were reviewed by MDP and follow-up actions taken, if required.</p>	For one of the MDPs, as there are no documented management review / QA checks and data on historic exception resolution is not retained, testing in respect of procedures (b) and (d) was performed through observation of the resolution of a sample of exceptions during our fieldwork.	No exceptions noted.	N/A

APPENDIX A - AGREED UPON PROCEDURES FOR METER DATA PROVIDERS (NON-INTERVAL METERING DEMAND DATA (CONT'D.))

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
2) Maintenance of meter technical details	<p>a) Obtain documented process/procedures notes for creation/update of meter technical details (MTD) including energisation status and profile class for a meter point. Perform walkthrough of one example of each transaction to confirm operating consistent with documented process. Where multiple variants of the transaction exist (e.g. use of electronically submitted details and use of a paper-based form) walkthrough each process variant.</p> <p>b) Identify key validation / exception checks incorporated within the processes that require MDP action (anticipated to include matching of MTD against meter database, valid meter/profile combinations, duplicate meter details). Obtain an understanding of any processes in place for management to regularly review / QA exception resolution activity. For a sample of management review/QA checks obtain results and confirm appropriate action taken where issues identified. If no regular review/ QA performed by management then for a sample of process exceptions obtain evidence that the exception was resolved consistent with the documented procedures.</p> <p>c) Obtain understanding of sources of exceptions relating to MTD (e.g. meter engineer exception reports, supplier queries). Document monitoring performed by management to confirm issues are investigated and resolved on a timely basis. Obtain ageing of open items and obtain explanations for a sample of long-running items. For a sample of exceptions that have required retrospective adjustment to MTD / energisation status / profile class obtain evidence these were done in line with documented procedures and were subject to necessary review and approval.</p>	For one of the MDPs, as there are no documented management review / QA checks and data on historic exception resolution is not retained, testing in respect of procedure (b) was performed through observation of the resolution of a sample of exceptions during our fieldwork.	No exceptions noted.	N/A
Meter Data Collection and Processing				
3) Collection, validation and processing of reads – validity of reads, completeness of meters being read	<p>a) Obtain evidence that all Meter Points are assigned to a meter reading portion / schedule.</p> <p>b) Obtain documented process/procedures notes for regular monitoring/management of meter read schedule. Perform walkthrough of one example to confirm operating consistent with documented process.</p> <p>c) Confirm validation rules applied to meter read at point of reading.</p> <p>d) Confirm, through review of system configuration and documentation or via walkthrough, that validation rules are also applied to other reads received (including from engineer visits, customer reads or supplier provided reads).</p>	N/A	No exceptions noted.	N/A

APPENDIX A - AGREED UPON PROCEDURES FOR METER DATA PROVIDERS (NON-INTERVAL METERING DEMAND DATA (CONT'D.))

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
4) Calculation and validation of meter advances	<p>a) Through review of system documentation / inspection of system configuration confirm validation rules applied within SAP system on receipt of reading / calculation of meter advance.</p> <p>b) Obtain documented process/procedures notes for review and resolution of validation exceptions. Perform walkthrough of one example to confirm operating consistent with documented process.</p> <p>c) Obtain an understanding of any processes in place for management to regularly review / QA exception resolution activity. For a sample of management review/QA checks obtain results and confirm appropriate action taken where issues identified. If no regular review/ QA performed by management then for a sample of validation exceptions obtain evidence that the exception was resolved consistent with the documented procedures.</p>	For both MDPs, as there are no documented management review/QA checks and data on historic exception resolution is not retained, we performed testing of procedure (c) through observational testing of the resolution of a sample exception during our fieldwork.	No exceptions noted.	N/A
5) Meter read performance standards	<p>a) Confirm internal and regulatory standards in place in relation to meter read performance (expected to include targets for meters read per cycle and minimum number of reads per meter point per year).</p> <p>b) Obtain evidence that performance standards are subject to regular monitoring. Obtain a sample of monitoring reports/dashboards from across 2013 and confirm appropriate action has been taken if performance has fallen below target.</p> <p>c) Confirm management monitor for sites with long-term no-access and have programmes in place to address.</p>	N/A	No exceptions noted.	N/A

APPENDIX A - AGREED UPON PROCEDURES FOR METER DATA PROVIDERS (NON-INTERVAL METERING DEMAND DATA (CONT'D.))

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
6) Meter inspections and dealing with meter failures, theft/losses	<p>a) Obtain understanding of sources of exceptions relating to meter readings such as stuck meters or read queries (e.g. meter engineer exception reports, supplier queries, special read requests).</p> <p>b) Review monitoring performed by management to confirm issues are investigated and resolved on a timely basis. Obtain ageing of open items and obtain explanations for a sample of long-running items. For a sample of exceptions that have required retrospective adjustment to meter reading/advance obtain evidence these were done in line with documented procedures and were subject to necessary review and approval.</p> <p>c) Review monitoring performed by management to identify trends / patterns in exceptions and confirm appropriate action taken if required.</p>	N/A	Exceptions noted.	<p>For one MDP, 8 of the 22 exceptions that related to a stopped meter (from a total of a 27 exceptions that required retrospective adjustment to meter reading selected for testing) 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.</p> <p>For one MDP, whilst we did not identify any exceptions which were not handled appropriately, monitoring is performed at a departmental level on exceptions within their work queue but there is no overall monitoring performed to confirm issues are investigated and resolved on a timely basis.</p> <p>At both MDPs there is no monitoring performed to identify trends / patterns in exceptions.</p>
Profiling and Aggregation				
7) Profile production – determining daily/period profile coefficients	<p>a) Obtain documented process/procedures notes for calculation of profile coefficients and the subsequent review and signoff of profiles.</p> <p>b) Obtain evidence that for the profile calculation that relates to the majority of 2013 the profiles were reviewed and approved in line with the process from (a).</p> <p>c) Obtain evidence that the subsequent loading of profiles to SAP was verified / approved.</p>	N/A	Exceptions noted.	At one MDP there was no formal evidence of review and approval of the 2013 profile calculation. An email trail of peer review and approval was introduced and maintained for 2014 profiles.

APPENDIX A - AGREED UPON PROCEDURES FOR METER DATA PROVIDERS (NON-INTERVAL METERING DEMAND DATA (CONT'D.))

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
8) Recalculation of Estimated Annual Consumption (EAC) / Estimated Usage Factor (EUF) and Actual Usage Factor (AUF)	<p>a) Perform walkthrough of calculation of annualised usage factors for a sample of 5 meter points.</p> <p>b) Identify key validation / exception checks incorporated within the calculation of annualised usage factors. Obtain documented process/procedures notes for review and resolution of exceptions. Perform walkthrough of one example to confirm operating consistent with documented process.</p> <p>c) For a sample of validation exceptions obtain evidence that the exception was resolved consistent with the documented procedures.</p> <p>d) Confirm internal / regulatory targets in place in relation to the use of annualised usage factors based on actual meter readings. Obtain evidence that these are subject to regular monitoring and that appropriate action has been taken if performance has fallen below target.</p>	There are no validation / exception checks incorporated within the calculation of annualised usage factors and so steps b) and c) were not performed.	Exceptions noted.	<p>At both MDPs there are no validation checks incorporated within the calculation of annualised usage factors, although we note that checks are performed at the point of aggregation (see AUP 10 below).</p> <p>At one MDP internal / regulatory targets are not in place in relation to the use of annualised usage factors based on actual meter readings.</p>
9) Use of defaults/averages	<p>a) Confirm process to assign appropriate initial EAC / EUF for new connections.</p> <p>b) Confirm that average values in use have been appropriately authorised.</p>	N/A	No exceptions noted.	N/A
10) Aggregation of EACs/EUFs and AUFs and breaking down into interval values	<p>a) Confirm daily process in place to schedule the required aggregation runs based on the settlement calendar.</p> <p>b) Identify key validation / exception checks incorporated within the aggregation calculation process (including completeness of meter points and validation of usage). Obtain documented process/procedures notes for review and resolution of exceptions. Perform walkthrough of one example to confirm operating consistent with documented process.</p> <p>c) Obtain an understanding of any processes in place for management to regularly review / QA exception resolution activity. For a sample of management review/QA checks obtain results and confirm appropriate action taken where issues identified. If no regular review/ QA performed by management then for a sample of validation exceptions obtain evidence that the exception was resolved consistent with the documented procedures.</p> <p>d) Where profiles are subject to weather adjustment confirm controls in place to ensure weather data is loaded prior to aggregation and test on a sample basis.</p>	Profiles are not weather adjusted in ROI and hence procedure d) was not required.	Exceptions noted.	<p>At one MDP checks are performed each day following the aggregation run including a check for large usage factors included in aggregation (process introduced in July 2013). On two of the five days tested since this process was implemented the check for large usage factors had not been performed.</p> <p>In addition although not representing non-compliance the following changes could be made to enhance the post-aggregation validation process in place at both MDPs:</p> <ul style="list-style-type: none"> • Incorporating as much validation as possible before the aggregation run.

APPENDIX A - AGREED UPON PROCEDURES FOR METER DATA PROVIDERS (NON-INTERVAL METERING DEMAND DATA (CONT'D.))

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
				<p>Currently although large usage factors are identified and investigated the usage factors 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).</p> <ul style="list-style-type: none"> Reducing the threshold for inclusion on the large usage factor report for one MDP where it is significantly higher than that applied in the other jurisdiction. This could be reduced whilst still remaining at a level that is unlikely to capture valid usage factors. This could be facilitated by setting separate thresholds by DUoS group. <p>Finally we note that at one MDP, although not an exception to the procedures or a non-compliance on the part of MDP, a significant proportion of the usage factors requiring investigation and adjustment are due to the receipt of customer reads shortly after agent reads hence calculating the usage factor over a small number of days. There may be benefit in investigating whether a minimum read period should be included in the relevant market rules relating to usage factor calculation.</p>

APPENDIX A - AGREED UPON PROCEDURES FOR METER DATA PROVIDERS (NON-INTERVAL METERING DEMAND DATA (CONT'D.))

AUP	Test Procedure	Change to AUP	Findings	Details of Exceptions/Comments
11) Submission of data to SEMO (and suppliers)	<ul style="list-style-type: none"> a) Obtain documented process/procedures notes for daily submission of files to SEMO and monitoring for successful receipt. b) For a sample of days (either through individual control checks or periodic SLA monitoring) confirm that data successfully submitted to SEMO and confirmed through receipt of confirmation email. c) Obtain a listing of dates where submission errors have occurred. For a sample of these dates confirm appropriate follow-up action performed to resolve the issue. d) Obtain the settlement issue log for the 2013 period from SEMO and review to identify any instances of invalidly formatted [non-interval] demand data. Through enquiry with MDP obtain understanding of underlying root cause of the error and steps taken to address. 	N/A	No exceptions noted.	N/A
Queries and Disputes				
12) Disputes	<ul style="list-style-type: none"> a) For a sample of up to 5 SEM queries/disputes review timeline for investigation and provision of relevant information / updated settlement data. b) Through enquiry obtain understanding of underlying root cause of each query / dispute discussed as part of above sample and ascertain what action taken to reduce risk of reoccurrence. c) For a sample of 5 supplier queries sent directly to the MDP and which have affected MTD and/or metered demand, review details of query and resolution to confirm timely submission of updated settlement data and any action take to address root cause, if required. 	There were no SEM queries in the period at one MDP and so steps a) and b) were not be performed.	No exceptions noted.	N/A