



Regulatory Authority Quarterly Report

Market Operator Performance Criteria

December 2014

Table of Contents

1	INTRODUCTION	3
2	MANAGE CHANGE	4
2.1	SOFTWARE DEPLOYMENTS	4
2.1.1	Release SEM R2.5.0 (Deployed: November 14 th 2014).....	4
2.1.2	Release SEM R2.6.0 (Proposed Deployment: April 2015).....	5
2.3	MODIFICATION MANAGEMENT	6
	MOD_11_14: PAY-AS-BID/PAID-AS-BID FOR INTERCONNECTOR UNITS/.....	10
	MOD_12_14: AMENDMENT TO MAKE WHOLE MECHANISM TO REMOVE SETTLEMENT PERIODS OF SIMULTANEOUS IMPORT AND EXPORT FLOWS	10
	PROPOSER: ELECTRORROUTE	10
3	SERVICE DELIVERY	11
3.1	CORE MARKET OPERATIONS FUNCTION PERFORMANCE EXCLUDING AD-HOC REPRICING AND RE-SETTLEMENT	11
3.2	PLANNED RESETTLEMENT M+4 AND M+13	15
3.3	AD HOC PRICING AND AD-HOC RESETTLEMENT RUNS	15
3.4	ADMINISTRATION OF CREDIT COVER	15
3.5	BREACHES OF THE TRADING AND SETTLEMENT CODE	18
4	REGULATORY AFFAIRS	20
5	PROVIDE INFORMATION	21
5.1	CUSTOMER QUERIES IN A TIMELY MANNER	21
5.1	FACILITATE AND EDUCATE PARTICIPANTS TO ACCEDE TO THE CODE.....	23
5.2	FACILITATE INTERACTION WITH CUSTOMERS.....	23
5.2.1	Stakeholder Events.....	23
6	REQUIRED CREDIT COVER COVERAGE ANALYSIS	24
6.1	FOREWORD ON REQUIRED CREDIT COVER COVERAGE.....	24
6.2	SUMMARY OF REQUIRED CREDIT COVER COVERAGE ANALYSIS.....	24
6.3	OCCURRENCES OF UNDER OR OVER ESTIMATION.....	24
6.4	EXTENT OF UNDER AND OVER ESTIMATION	26
6.5	MARKET MONETARY EXPOSURE.....	27
6.6	ALL QUARTERS SUMMARY.....	27
7	APPENDIX A: REQUIRED CREDIT COVER COVERAGE	28
A)	<i>REQUIRED CREDIT COVER COVERAGE MODELLING ASSUMPTIONS</i>	28

1 Introduction

The Single Electricity Market has been in operation since the 1st November 2007. Under the licence conditions of both EirGrid and SONI to operate the Single Electricity Market (SEM), SEMO has to report to the Regulatory Authorities (RAs) on critical performance metrics. These critical metrics were identified in a letter dated 18th October 2007 from the RAs to SEMO. The letter outlined four main categories of metric:

- Manage Change
- Service Delivery
- Manage Stakeholders
- Provide Information

Following the third quarterly meeting with the RAs, some of the metrics were revised under discussion with SEMO. This report has taken these comments on board in its preparation.

Quarters in this report are defined according to the financial year outlined below:

- Q1 = 1st October to 31st December
- Q2 = 1st January to 31st March
- Q3 = 1st April to 30th June
- Q4 = 1st July to 30th September

2 Manage Change

2.1 Software Deployments

2.1.1 Release SEM R2.5.0 (Deployed: November 14th 2014)

Approval for the proposed scope for this release was received from the Regulatory Authorities on May 1st, 2014. The High Level Impact Assessment (HLIA) was published to the industry on May 7th, 2014.

The scope for this release is as follows:

CR Reference	System	Description
SEM_PC_CR322	STL	Eligible Availability for Energy Limited Units Under Test
SEM_PC_CR327	MI	Event Queuing
SEM_PC_CR333	STL	Functionality to apply PUGDOG, Tariff on a Trading Day basis
SEM_PC_CR332	STL	Issue Zero Invoices
SEM_PC_CR330	MI	Changes to IART Report
SEM_PC_CR336	STL	HMRC VAT Change*
SEM_PC_CR340	MA	DSI-Processing of Bids**
SEM_PC_CR344	MA	SPOT ATC to override ATC Interval file in UUC**

Table 1: Approved Scope for SEM R2.5.0 – Change Requests

The design phase for this release was completed in June.

During June we were advised that HMRC were introducing new rules with respect to the application of VAT to supplies of wholesale electricity in the domestic UK market. As a result *CR336 – HMRC VAT Change* was added to the release scope. Information in relation to this was published to the industry on June 25th. In addition the following two Change Requests (CR340 and CR344) were added to scope in September:

- SEM_PC_CR340 to ensure optimisation data is handled correctly in DSI and
- SEM_PC_CR344 to ensure interval ATC data is utilized in UUC when required (e.g. when an Interconnector Trips).

The software was delivered by our vendors on July 31st.

System Integration Testing of the software ran to schedule and completed in early November 2014.

Although the approved scope did not have a functional impact on the interfaces between Participant systems and the Central Market Systems, a short phase of Market Test was conducted from October 8th, 2014 to October 22nd, 2014 inclusive to facilitate a regression test phase across the SEM.

The release was successfully deployed to schedule on November 14th, 2014.

A subsequent release was delivered on 16th December to facilitate the full implementation of CR340 & CR344.

2.1.2 Release SEM R2.6.0 (Proposed Deployment: April 2015)

The release cut-off date for the SEM R2.6.0 release to the Central Market Systems was Friday September 5th 2014.

As at the Cut-Off Date there were no:

- Approved Modification Proposals or
- New Change Requests submitted to the SDS

As there are no functional changes being proposed, a Change Control Forum (CCF) meeting will not be required. Three technical changes have been proposed by SEMO IT and these are currently being assessed by our vendors. Once assessments are complete SEMO will issue a scope proposal to the Regulatory Authorities and if approved, this will be published to the industry.

2.3 Modification Management

SEMO Modifications Committee Report Period: 01 Oct 2014 to 31 Dec 2014	
Modification Committee Summary	Total
Number of Meetings held	2
<ul style="list-style-type: none"> • Modifications Committee Meeting 57 (October) • Modifications Committee Meeting 58 (December) 	1
	1
Modification Proposal Activity in this period	
Standard Modification Proposals raised	5
Alternative Versions of Proposals raised	0
Urgent Modification Proposals raised	0
Modification Proposals 'Withdrawn'	0
New Modification Proposals 'Deferred' as of end of this period	5
Existing Modification Proposals 'Deferred' as of end of this period	3
Existing Modification Proposals 'Further Work Required' as of end of this period	1
Modification Proposals 'Recommended for Approval'	1
Modification Proposals 'Recommended for Rejection'	0
RA Determinations in this period	
RA Decision Papers 'Extension Granted'	0
RA Decision Papers 'Further Work Required'	0
RA Decision Papers 'Approved'	0
RA Decision Papers 'Rejected'	0
Summary of All Modifications to Date (31st January 2015)	
Total raised to date	341
Total 'Withdrawn' to date	48
Currently 'New or Deferred' in process (includes anything deemed "further work required")	9
Currently 'Recommended for Rejection'	0
Currently 'Recommended for Approval'	2
Currently 'Approved' (awaiting Implementation)	0
Total 'Implemented' to date	269
Total 'Rejected' to date	13

Details of all Modifications Proposals can be found at <http://www.sem-o.com/MarketDevelopment/Modifications/Pages/Modifications.aspx?Stage=Active>

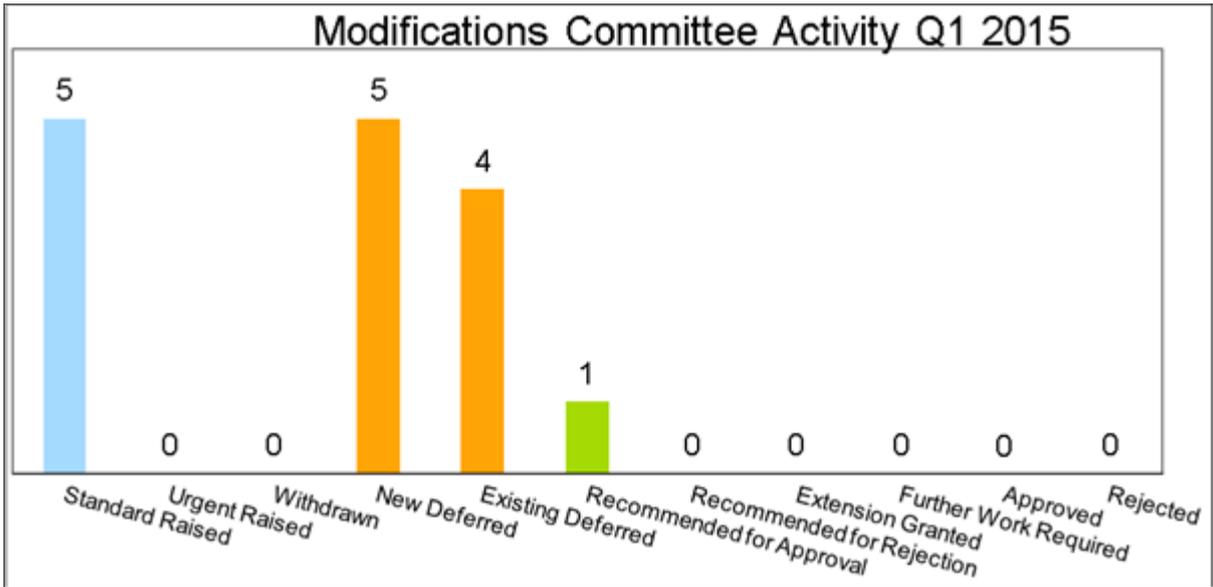


Figure 1: Modifications Summary Quarter 1 2015

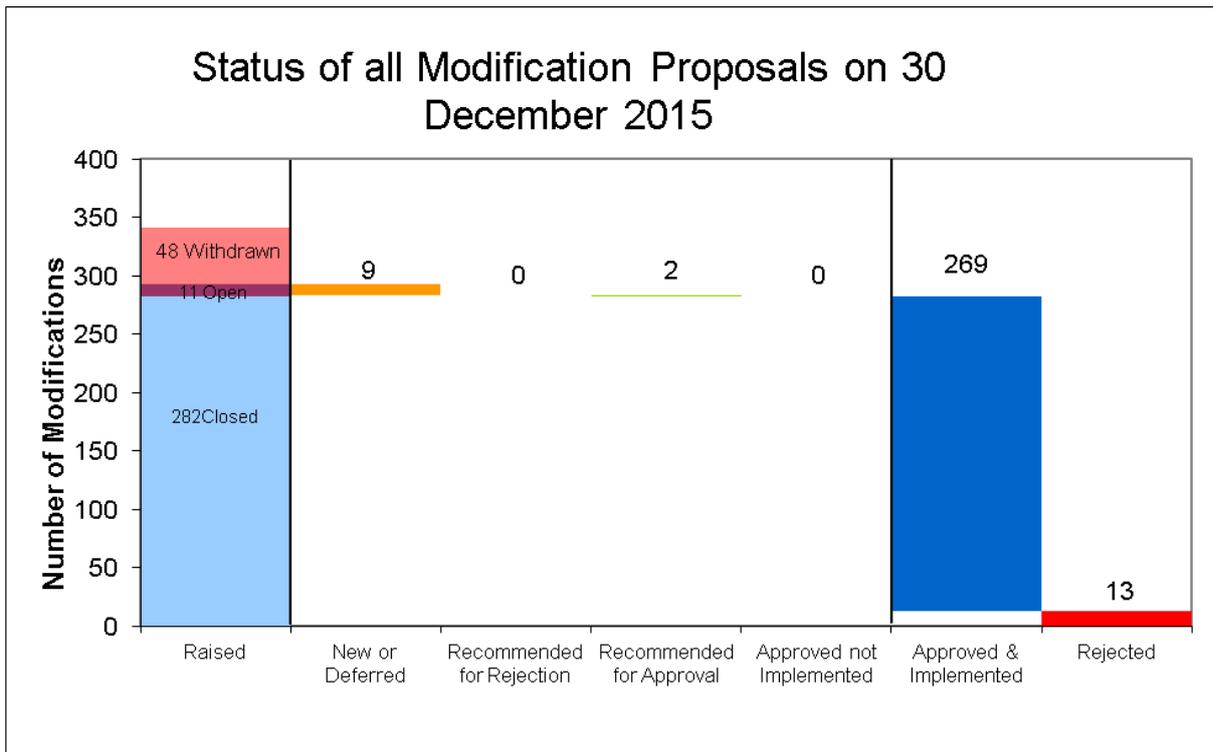


Figure 2: Modifications Status to Date on 30 December 2014

2.4 Modifications Process Development

Modifications in Quarter 4 2014

Two Modifications Committee Meetings convened in Q1 of 2015. Modifications Committee Meeting 57 took place on 2nd October and Meeting 58 took place on 4th December.

Modifications Recommended for Approval

Mod_12_13 Amendment to Special Units Pumped Storage definition to include Energy Storage

The proposal was put forward by AES Kilroot and seeks to generalise the treatment in the market rules of energy storage units with similar storage capabilities, as opposed to defining rules for every new storage technology that has similar capabilities to that of pumped storage. The proposal was recommended for Approval subject to legal drafting change from “Energy storage” to “Pumped Storage and Battery storage” at Meeting 57. The legal drafting is currently being finalised. Following this a FRR (Final Recommendation Report) will be circulated to the Committee for review, prior to being issued to the RAs for final decision.

Deferred Modifications

Mod_11_12: Proposal to extend the definition of Special Units to include Compressed Air Energy Storage

SO Alternate advised that a scope for internal studies is still being agreed upon and the proposal is progressing internally.

Secretariat advised that there is a remaining open action in relation to the proposal being discussed at the Grid Code panel upon completion of the SO RCUC IA. Secretariat advised that it was decided that the proposal would not be discussed at the October Grid Code meeting as it was felt it would be more productive to discuss the proposal at a meeting after procurement of the IA results. Proposer was supportive of this. The proposal will be discussed again at the next Modifications Committee Meeting on 12th February 2015.

Mod_02_13: Registration of Charges

External Counsel to be directed to update deed of charge taking into account the issues raised by Participants at the conference call, to be circulated for a 2 week review period. The below actions were recorded at Meeting 58 and are being progressed internally prior to External Counsel being directed to draft a revised Deed of Charge. Discussions are taking place between members of Market Development, legal and finance teams in relation to budgeting issues for the advice.

- Secretariat to convene conference call to discuss updated deed following Committee and WG member review period
- SEMO to consider any possible risks around currency cost issue in relation to Clause 10.1 Currency conversion and indemnity

- SEMO to consider potential removal of clause 7.4 Application of proceeds and how the expenses are recovered and whether there are any implications with removal of section
- SEMO to consider modification of definition from Secured obligations to Payment obligations to avoid confusion regarding performance obligations being charged also

New Modifications

Mod_08_14: Collateral Reserve Accounts

The proposal seeks to reflect the fact that SEM Collateral Reserve Accounts may be held in either Ireland or the United Kingdom rather than in either Ireland or Northern Ireland as currently implied by Section 6.19.

- Participants to consider the proposal in terms of both the related modification Mod_16_11 Credit Worthiness Test for the SEM Bank and Credit Cover Provider Banks and the updated deed of charge in relation to Mod_02_13 Registration of Charges and brought feedback to Meeting 58
- Participants were also asked to encourage internal legal review of the proposal
- Following Meeting 58 SEMO Finance to revert to Committee with written response to questions regarding the SEM Bank and location of SEM Collateral Reserve Accounts
- The proposal was Deferred

Mod_13_14: DSU's as Price Takers

Background presentations to the modification advised that Demand Side Units are currently prohibited from being registered as predictable price takers. Proposer advised that the business is built on the provision of capacity and capacity payments; DSUs, which are scheduled by the market, do not rely on the energy market payments. Proposer advised that autonomous generators run their CHPs 24/7 as they see fit, and don't enter the market for 2 reasons, firstly it is not efficient for a unit that size to take part in the market, secondly the current provisions within the Code, do not allow for the units to register within the market as high efficiency CHPs, even though the units provide greater flexibility to the TSO.

- Participants to submit any feedback and/or specific items for clarification in relation to the proposal to Secretariat and Proposer to respond to this feedback and provide a worked example of the proposal
- The proposal was deferred

***Mod_09_14: Amendments to Make Whole Payments for Interconnector Units/
Mod_10_14: Make Whole Payments for Interconnector Units***

Proposer RA's

There has been a significant increase in the level of Make Whole Payments in the SEM recently and this increase has been predominantly attributable to IC Unit exporting and importing in different gates. RA Member advised that the purpose of Mod_09_14 Amendment to MWPs for IC Units, is to amend the Code so that Interconnector Users receive Make Whole Payments based on their aggregate position across all gate windows (EA1, EA2 & WD1) in which they have traded. In the current Code wording each gate window is considered separately for the calculation of Make Whole Payments. The purpose of Mod_10_14 Make Whole Payments for IC Units is to amend the Code so that Interconnector Units no longer receive Make Whole Payments in the market. The proposals were discussed at Meeting 57 and the following action was recorded.

- RAs to provide further clarification on proposals and responses to feedback submitted by Participants

Feedback on the proposals was submitted by Participants. The Secretariat is awaiting feedback from the RAs in relation to the responses.

***Mod_11_14: Pay-as-bid/Paid-as-bid for Interconnector Units/
Mod_12_14: Amendment to Make Whole Mechanism to Remove Settlement Periods of Simultaneous Import and Export Flows***

Proposer: Electroroute

The purpose of Mod_11_14 Pay-As-Bid / Paid-As-Bid for Interconnector Units is to amend the code to remove disjointed price signals by introducing a Pay-As-Bid/Paid-As-Bid settlement process for all Interconnector Units. Interconnectors currently 'bid to flow'. The proposals were discussed at Meeting 57 and the following action was recorded.

- Proposer to provide further clarification on proposals and responses to feedback submitted by Participants
- Secretariat to schedule Extraordinary meeting/call for mid January, following receipt of further clarification from proposers

Feedback on the proposal was submitted by Participants. The Secretariat is awaiting feedback from the Electroroute in relation to the responses. Once the feedback has been received and circulated, a conference call will be convened, in advance of Meeting 59.

3 Service Delivery

This metric is to indicate how timely SEMO was in producing reports to Participants.

3.1 Core Market Operations Function Performance excluding ad-hoc Re-pricing and Re-settlement

SEMO's daily obligations include closing the market gate, issuing Ex-Ante Indicative schedules, running Indicative and Initial pricing runs and issuing Initial and Indicative Settlement runs. The following series of graphs shows the percentage of all reports issued in the Quarter that were on time, late by less than an hour or late by over an hour. In summary, the majority of reports are published on time or within an hour of the required time. Priority is given to the Initial Reports (Ex-Post Initial Pricing Schedule and Initial Settlement Statements).

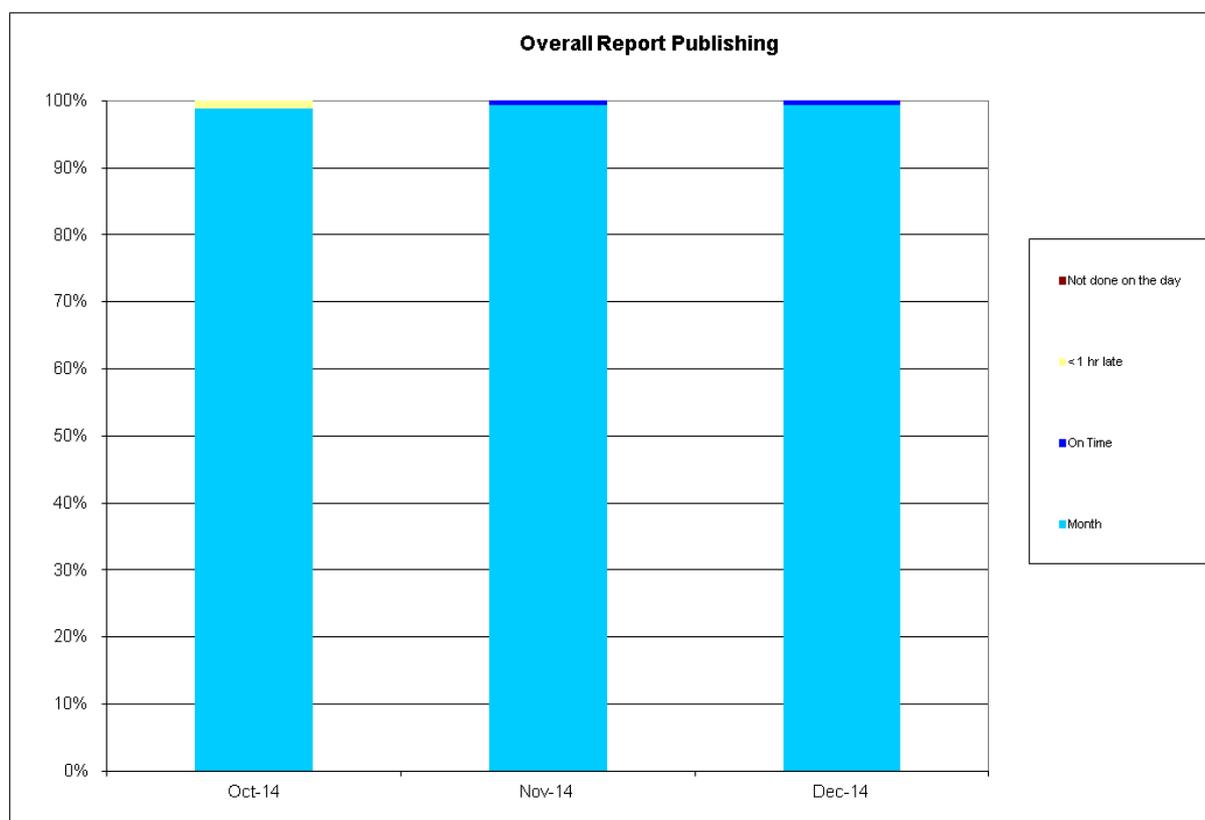


Figure 3 - Overall Daily Report Publication

Gate closure is a significant market event as all bids and offers are required to be captured at that point.

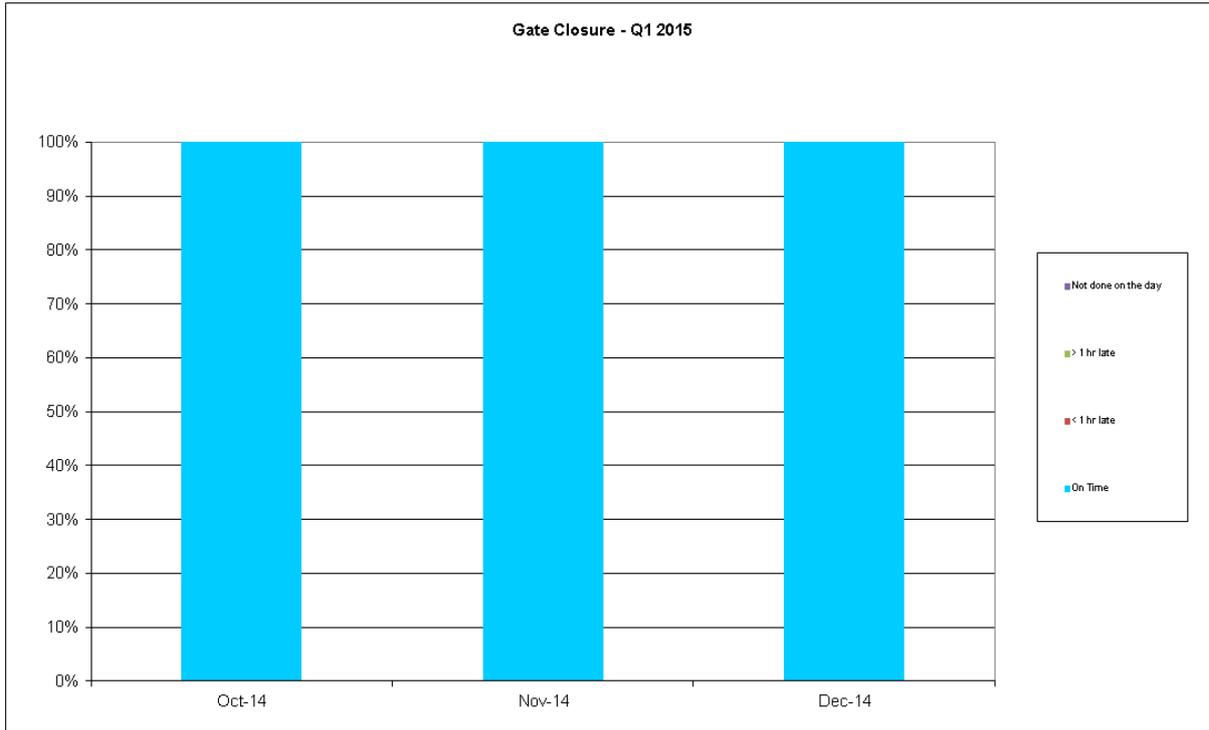


Figure 4 - Gate Closure performance

The Initial Reports (Pricing and Settlement) are published on a calendar and Working Day respectively. It is these reports that are used in the final settlement of the market.

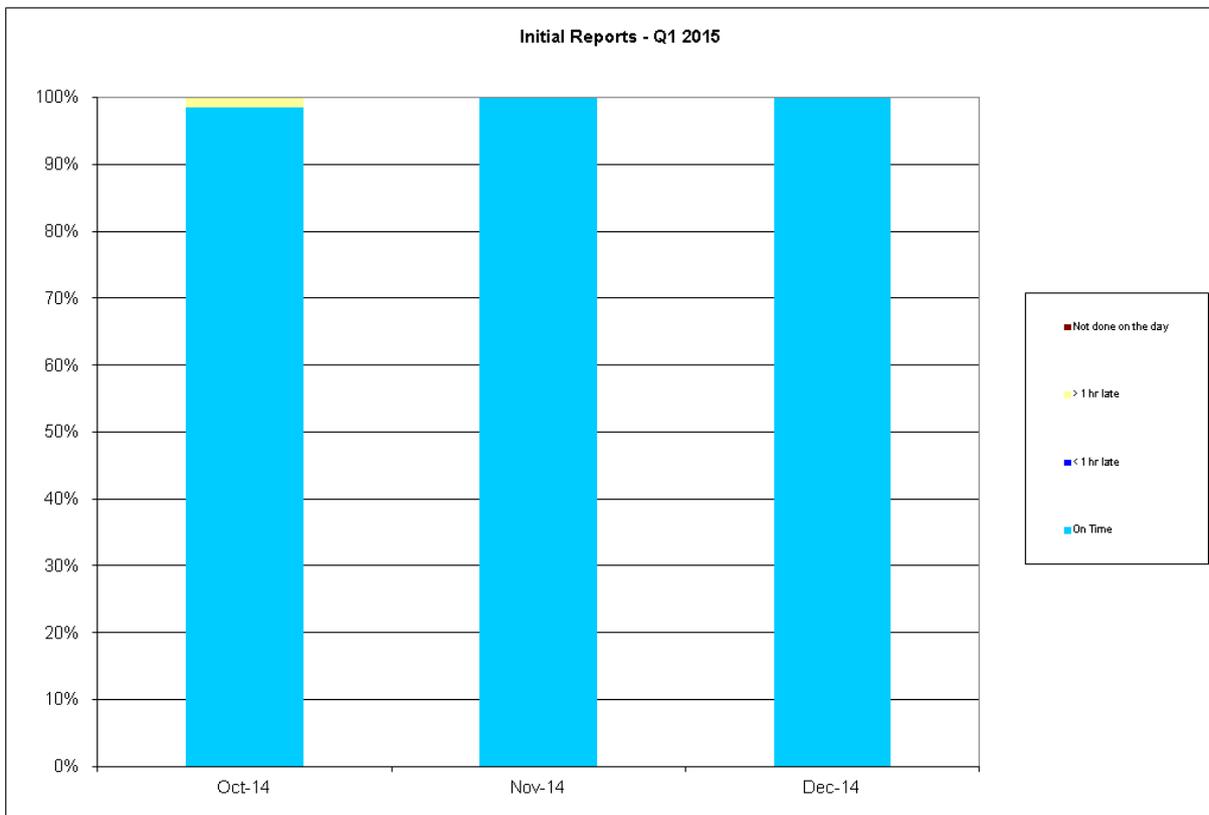


Figure 5 - Initial report performance

All Initial Market Schedules were published within the Trading and Settlement Code time scales.

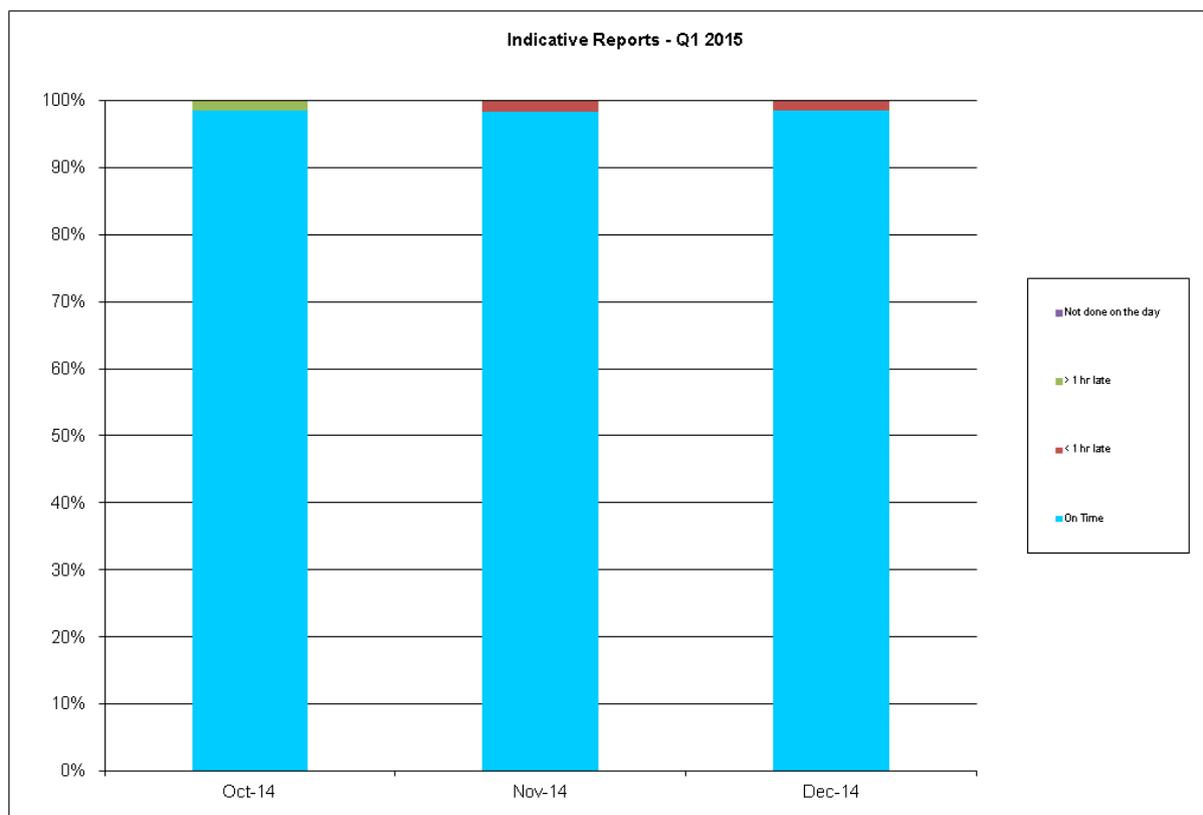


Figure 6 - Indicative report performance

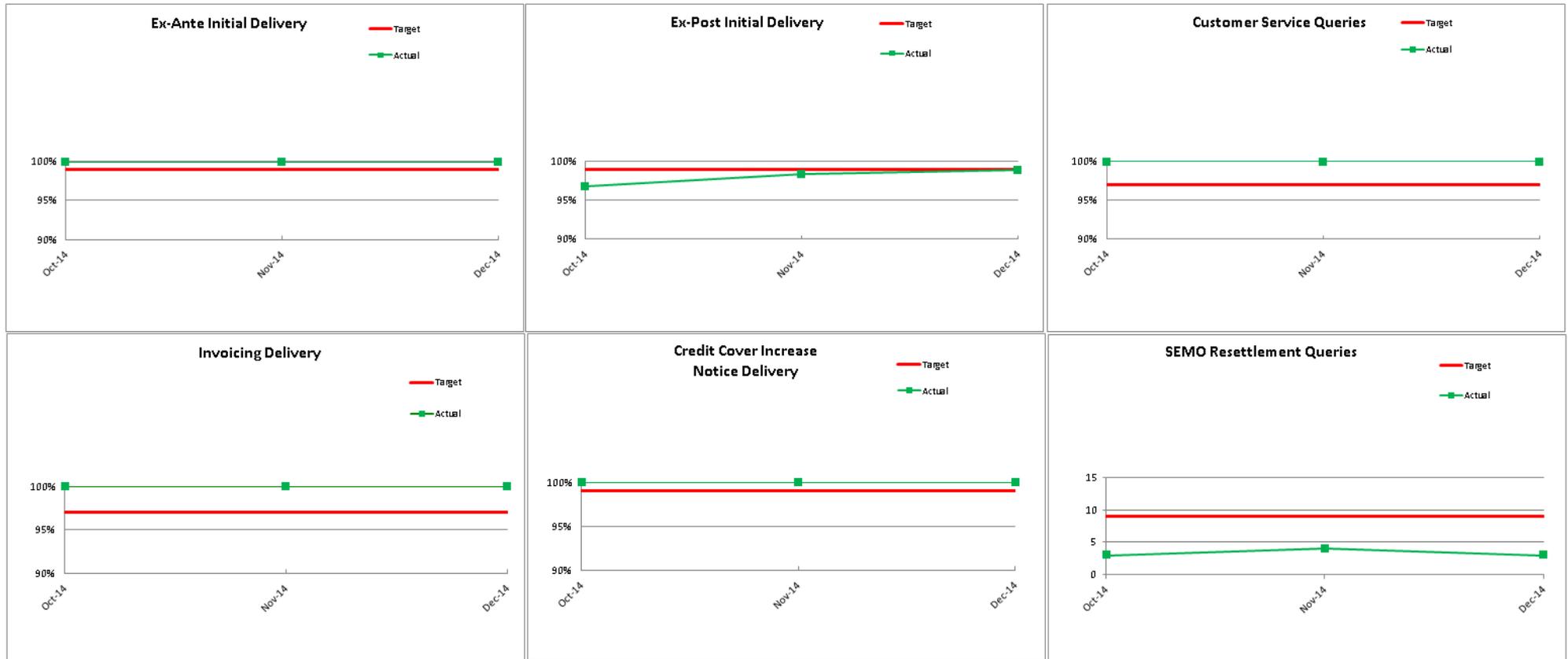
The Ex-Post Indicative (EP1) Market Schedule for Trading Day 02/10/2014 was published after the 16:00 deadline. This was due to a delay in the receipt of a data file.

Indicative Energy and VMOC Reports for Settlement Day 19/11/2014 were published after the 17:00 deadline. This was due to a delay in the publication of the Ex-Post Indicative (EP1) Market Schedule.

Indicative Energy and VMOC Reports for Settlement Day 17/12/2014 were published after the 17:00 deadline. This was caused by a delay in M+13 Capacity Resettlement processing which was given priority.

3.2 SEMO Key Performance Indicators

The following graphs display SEMO performance in line with the Key Performance Indicators as set out in the SEM Revenue & Tariffs decision paper.



3.2 Planned Resettlement M+4 and M+13

Scheduled Re-Settlement has continued to run on time and on schedule.

3.3 Ad hoc Pricing and Ad-hoc Resettlement Runs

Ad hoc Settlement Runs

- **Week 30, 2013:** Ad hoc Energy Resettlement was required for Week 30, 2013. This was due to an internal error when carrying out M+13 Resettlement for the same period.
- **Week 44, 2013:** Ad hoc Energy Resettlement was required for Week 44, 2013. This was due to system defect affecting the calculation of Constraint Payments for a Demand Side Unit
- **November 2013:** Ad hoc Capacity Resettlement was required for November 2013. This was due to an internal error when carrying out M+13 Resettlement for the same period.

3.4 Administration of Credit Cover

The SEM has been fully collateralised according to the Trading and Settlement Code provisions during Q1, Oct 2014 – Dec 2014. However at times Posted Credit Cover may be less than the calculated requirement leading to Participants being issued with Credit Cover Increase Notices (CCINs). There was two CCIN that was not fully honoured within the two days allowed in the code. These CCINs were resolved next day. For more information on Credit Cover in the SEM, please refer to [section 6](#).

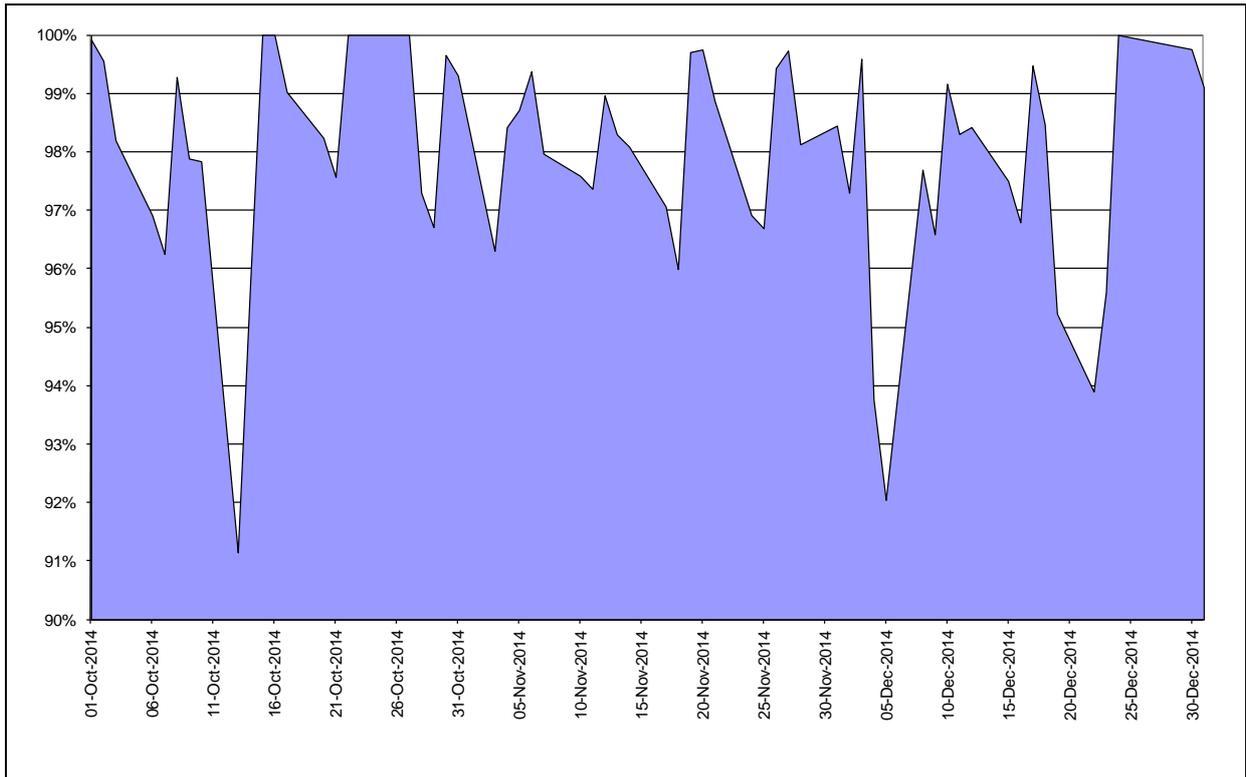


Figure 7 Market Collateralisation in Accordance with Trading and Settlement Code Requirements

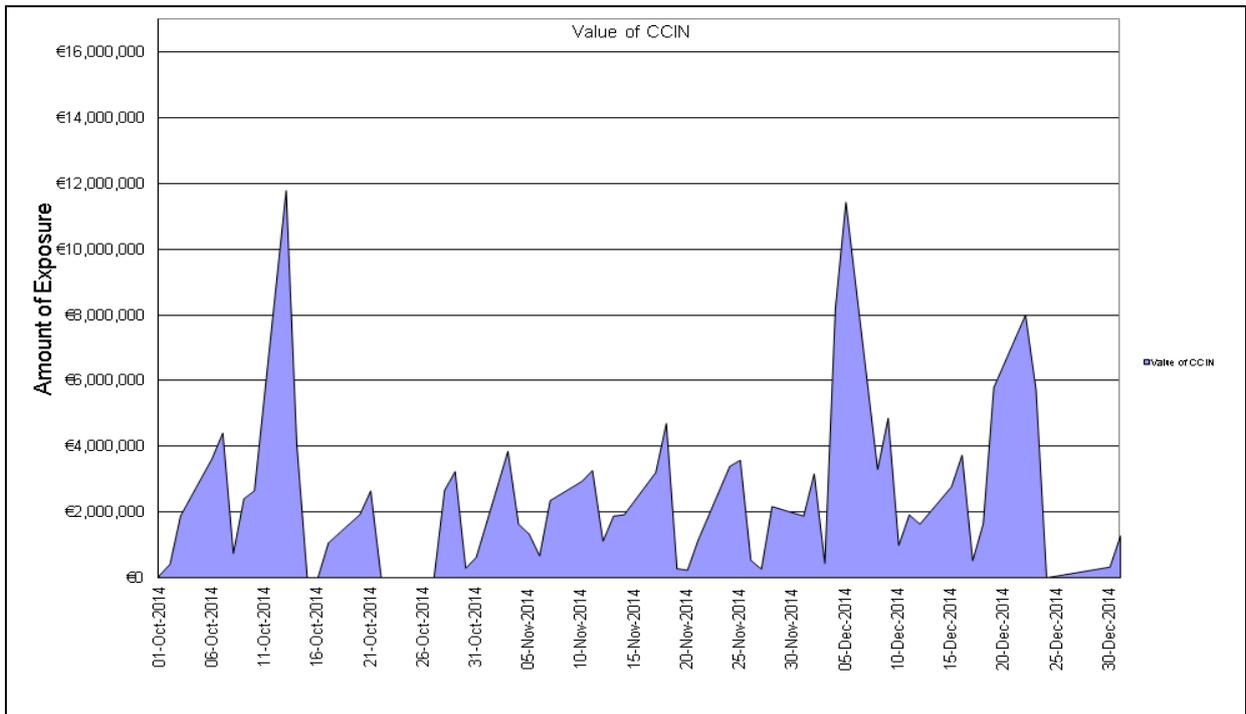


Figure 8 Credit Cover Increase Notice Total Amounts per Day

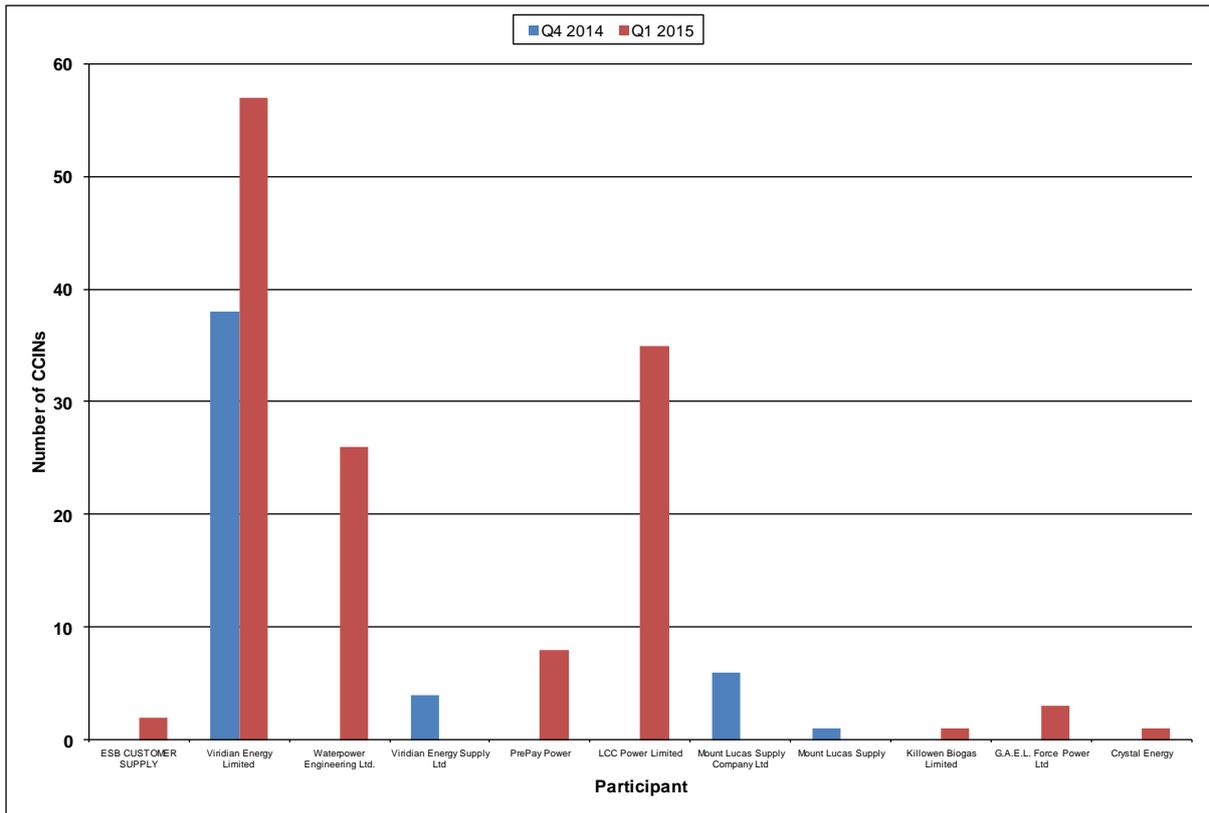


Figure 9 –Number of Credit Cover Increase Notices Issued

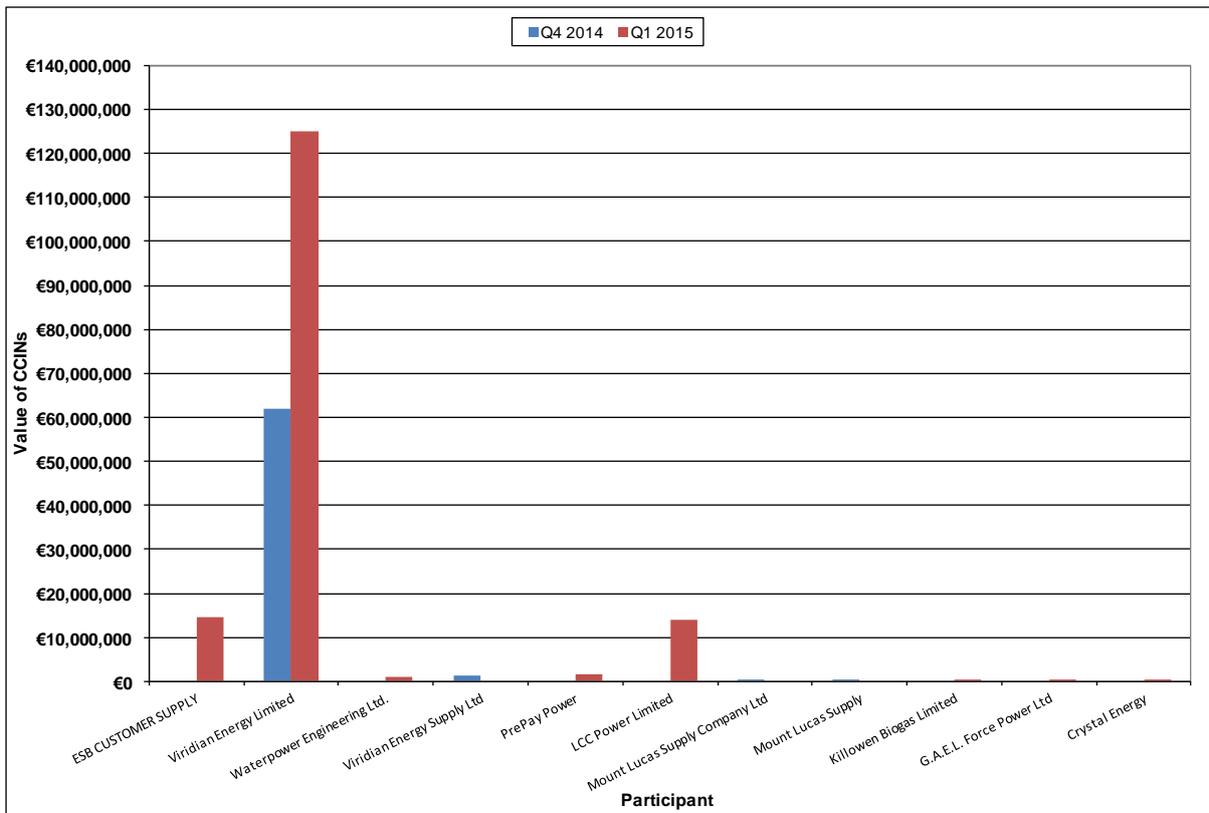


Figure 10 -Value of Credit Cover Increase Notices

The frequency of CCINs increased in Q2 2013 compared to Q1 2013 (185 compared to 176 last quarter) with the greatest number of CCINs issued in March 2013 (83).

These CCINs were distributed across 8 Participants this quarter. The total value of the CCINs issued was just over €156 million compared to €63 million in the previous quarter.

3.5 Breaches of the Trading and Settlement Code

There were 20 breaches of the Trading & Settlement Code in Q1 2015 that SEMO is aware of. This is down from 27 in Q4 2014.

SEMO was responsible for a total of 12 breaches in the last quarter, up from 4 in Q4 2014.

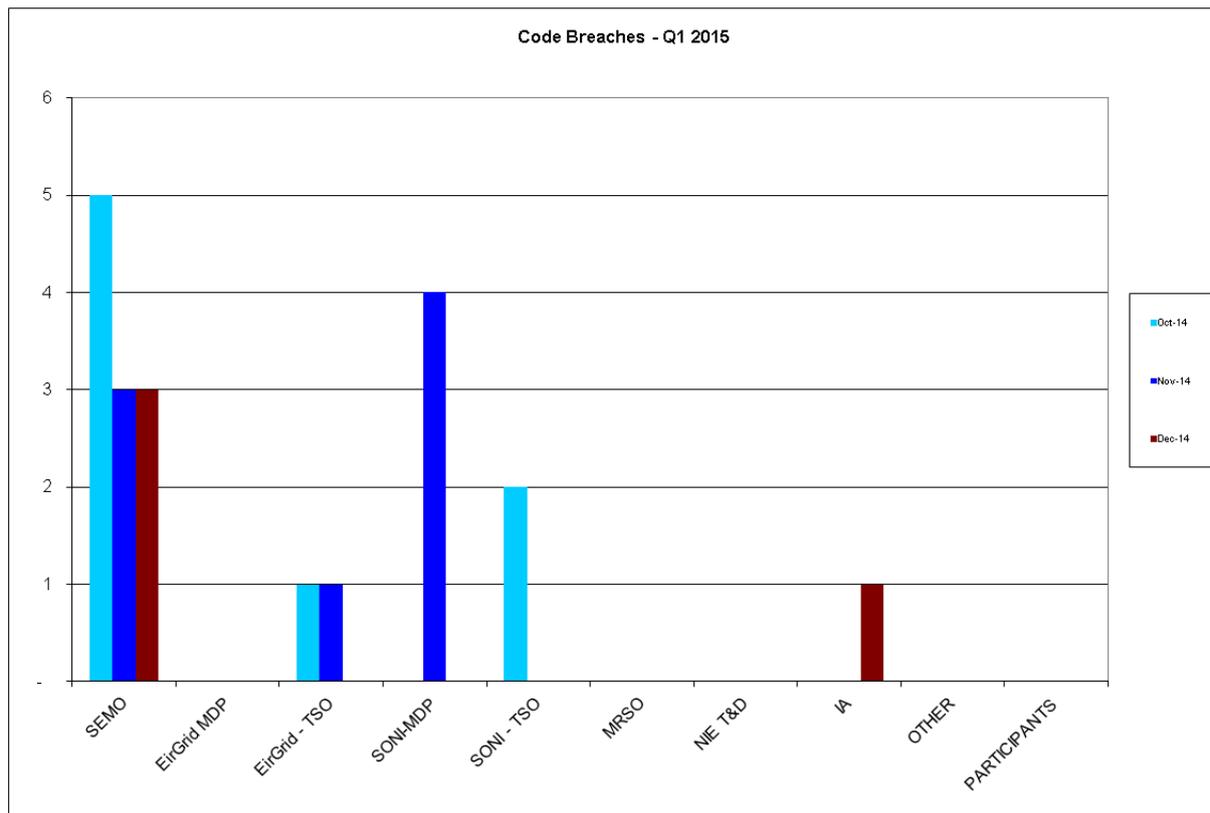


Figure 11 - Number of Trading and Settlement Code Breaches

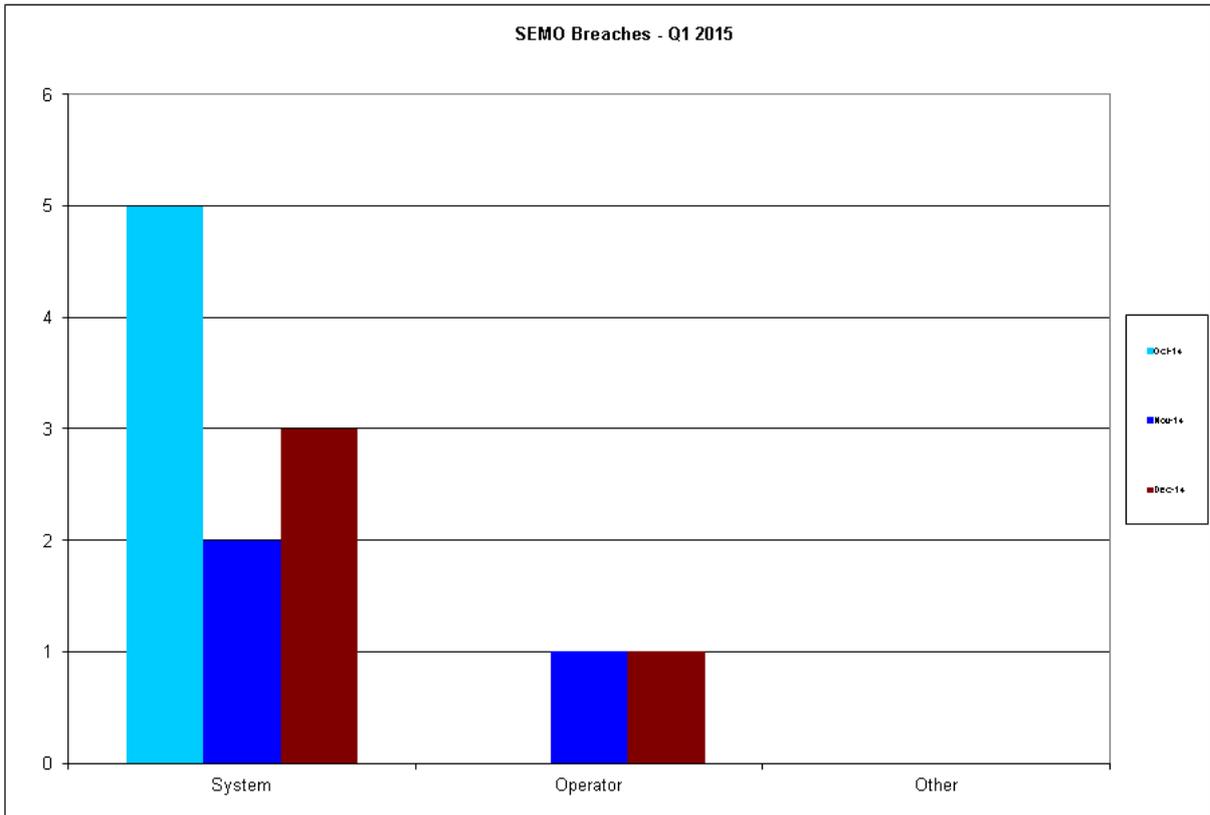


Figure 12 - Source of SEMO Trading and Settlement Code Breaches

4 Regulatory Affairs

SEMO has no update for the Regulatory Affairs section.

5 Provide Information

The Trading and Settlement Code obligates SEMO to answer Data Queries and Settlement Queries within a given time line. Since 1st November 2007, with the exception of two Settlement Queries, all such queries have been answered within the timelines prescribed. This is still the case for this quarter. General queries have no prescribed timeline for response; however, SEMO aims to answer these within 15 working days. We aim to answer Urgent General Queries within 3 working days; the number of queries answered within SEMO guideline timeframes continues to be a focus for SEMO.

There were no new Disputes raised in this quarter.

5.1 Customer Queries in a Timely Manner

Details of Data, Settlement and General Queries can be found in the below table and graphs for the Quarter ending 31/12/2014.

Query Type	Received	Resolved in period	Resolved in the period	Resolution Time
Settlement	29		31	6.22
Data	4		4	6.87
Dispute	0		1	49.1
Urgent	4		4	0.2
General	535		547	3.03

Table 2: Query Statistics for Quarter

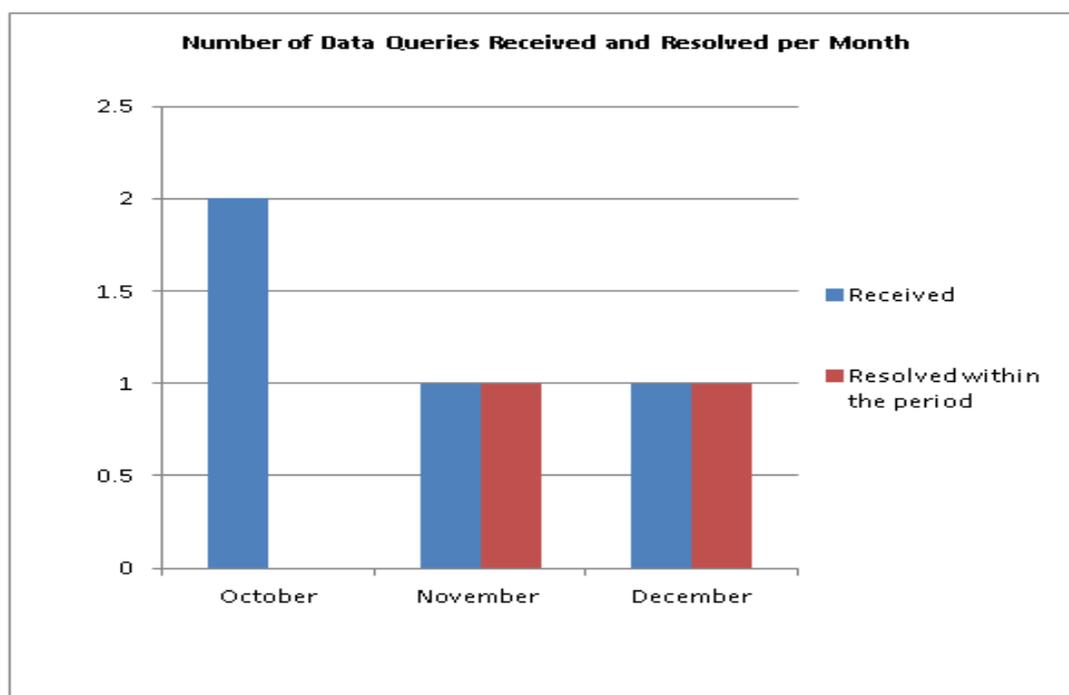


Figure 13 - Number of Data Queries submitted and Resolved per month

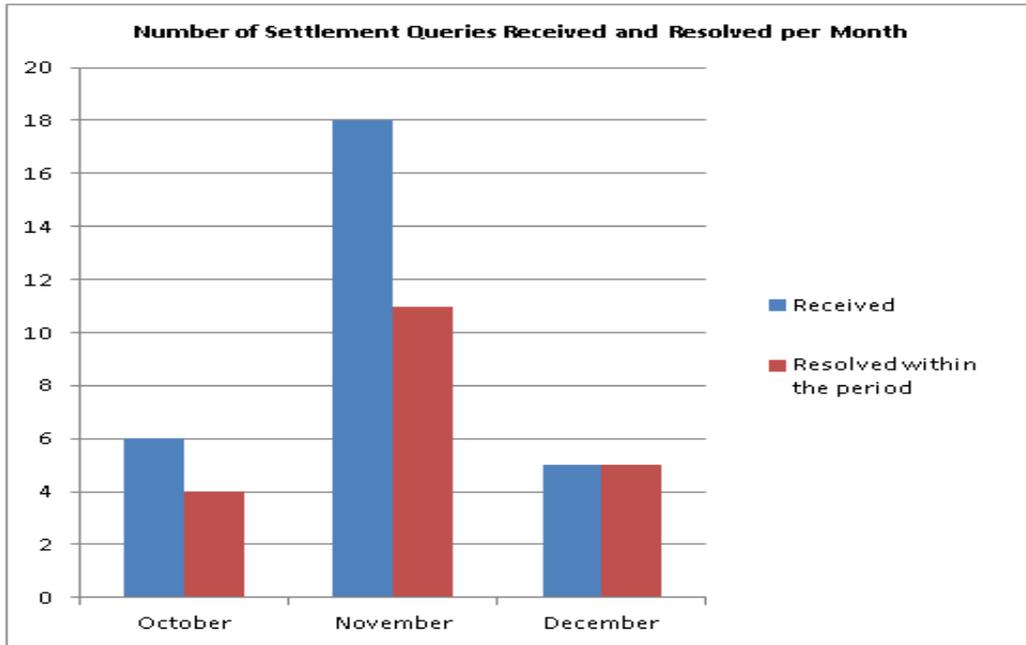


Figure 14 - Number of Settlement Queries submitted and resolved per month

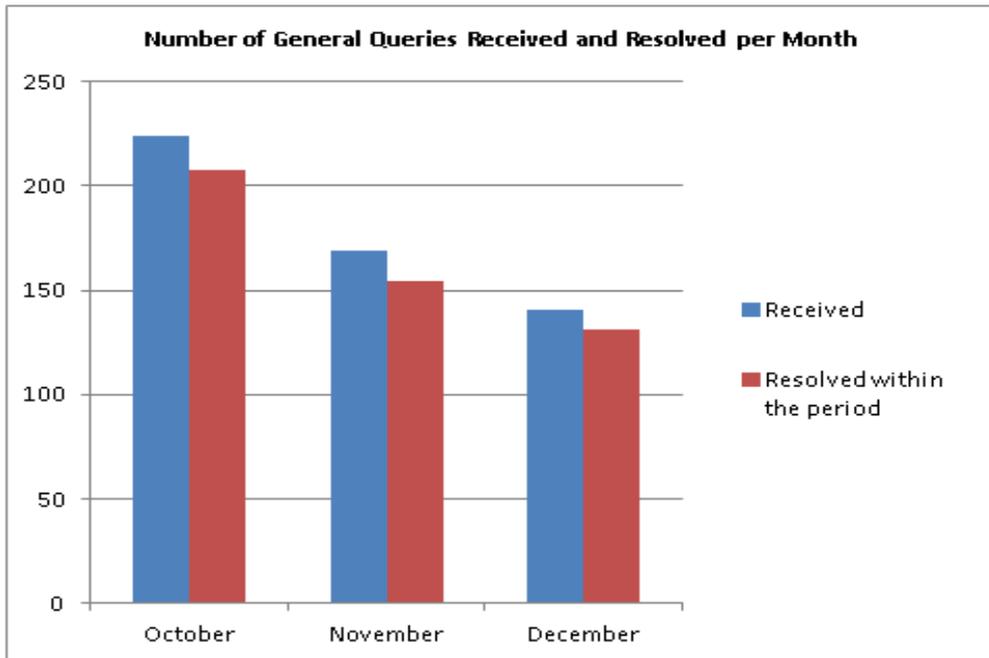


Figure 15 - Number of General Queries submitted and resolved per month

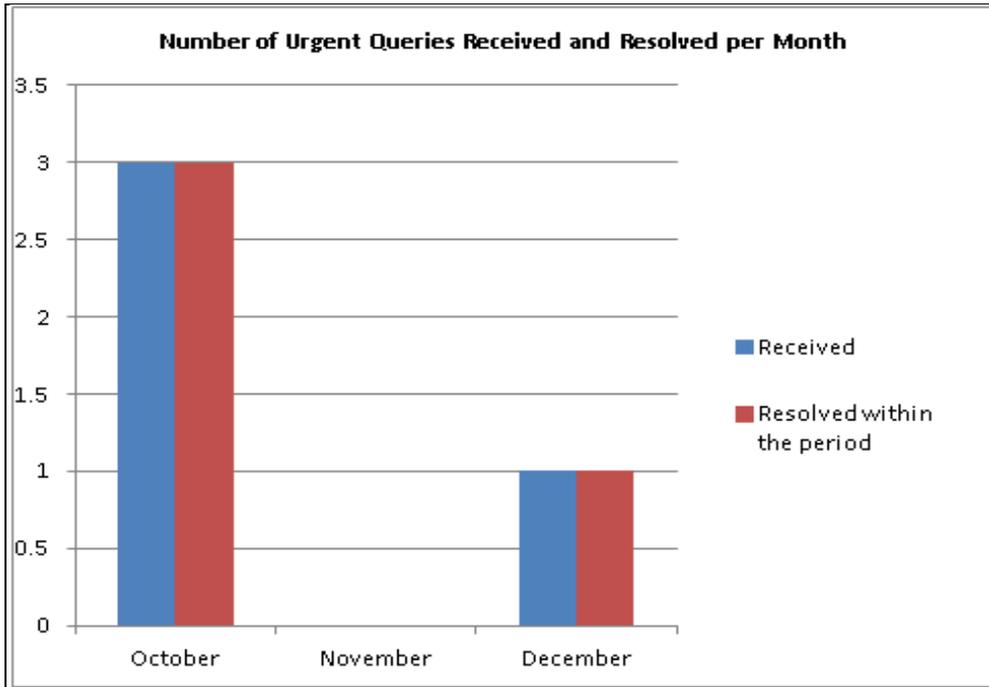


Figure 16 - Number of Urgent Queries submitted and resolved per month

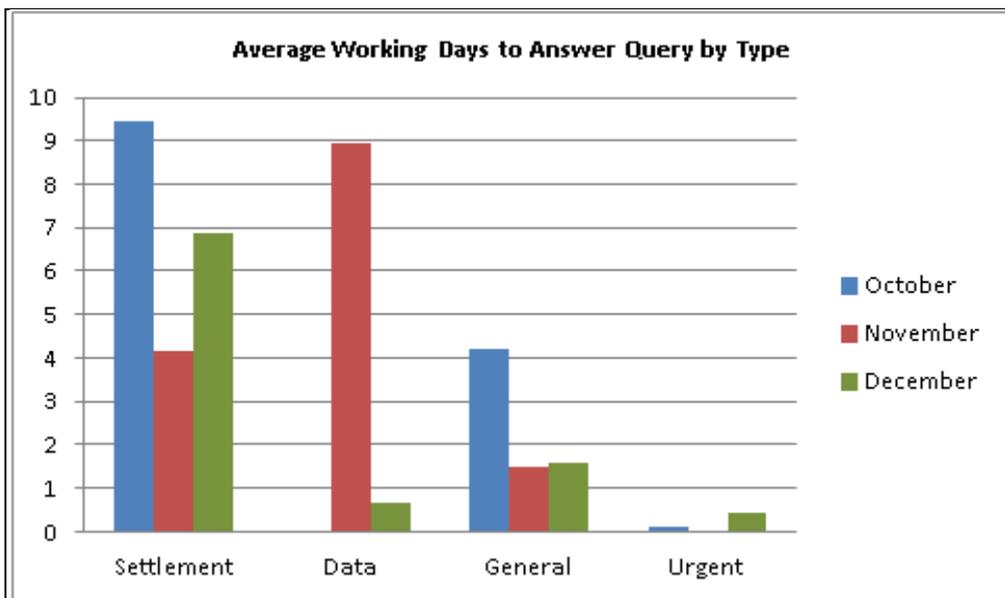


Figure 17 - Average Working Days to answer query type per month

5.1 Facilitate and Educate Participants to accede to the Code

In this period two parties have registered in the Single Electricity Market:

5.2 Facilitate Interaction with Customers

5.2.1 Stakeholder Events

SEMO organised one Market Operator User Group Conference Call (16/12/2014).

6 Required Credit Cover Coverage Analysis

6.1 Foreword on Required Credit Cover Coverage

On a quarterly basis the Market Operator (MO) is obliged under decision paper SEM/07/10 to "compare the extent to which calculated RCC was sufficient to meet the actual liabilities realised in respect of each Participant". This report compares how well the calculated Required Credit Cover (RCC) matches the actual (or realised) RCC in the SEM.

Given the complex nature and volumes of data involved in performing an exact comparison of calculated to realised RCC, the modelling performed was based on a number of assumptions which simplified the analysis. Full details of the assumptions used in the RCC Coverage modelling are provided in Appendix A.

In the results below the term 'under-estimation' refers to situations where the calculated RCC was less than the realised RCC meaning the RCC at the time of calculation was less, in hindsight, than it should have been. The reverse is true for 'over-estimation' where the calculated RCC was more than what was actually required.

Occurrences of under-estimation identified in the analysis do not necessarily mean that the market itself was under-collateralised as this is dependent on the level of Posted Credit Cover. The majority of Participants tend to have sufficient levels of Posted Credit Cover to meet fluctuations in RCC. The under-estimation merely identifies where the calculation of RCC was less than ideal relative to the realised RCC.

6.2 Summary of Required Credit Cover Coverage Analysis

The key conclusions on the RCC Coverage are:

- RCC Coverage was under-estimated 21% of the time in Q1 2015. This showed an increase of 16% compared against Q4 2014. This figure is also higher than the long term average of 18% under-estimation since market start. It is; however, lower than the values seen in the same quarter last year of 29%).
- The value of each occurrences of under-estimation has decreased from the previous quarter from 1.31% to 1.09%, higher the long term average of 0.87%.
- In Q1 2015, where the RCC Coverage is not sufficient, the market is under-estimated by an average of approximately €2,500,000 on a total market exposure of just under €227 million. The long term average equates to an under-estimation of €2 million on a total average market exposure of €237 million from the beginning of the market.

6.3 Occurrences of Under or Over Estimation

Figure 17 below illustrates the trend in the number of RCC calculations under or over-estimated. For the SEM as a whole, Q1 2015 period has seen the RCC under-estimated on 21% of credit cover calculations. This is a decrease of 8% from the same period last year and an increase of 16% from previous quarter reported. The average SMP price and the demand both increased only slightly compared to the previous quarter.

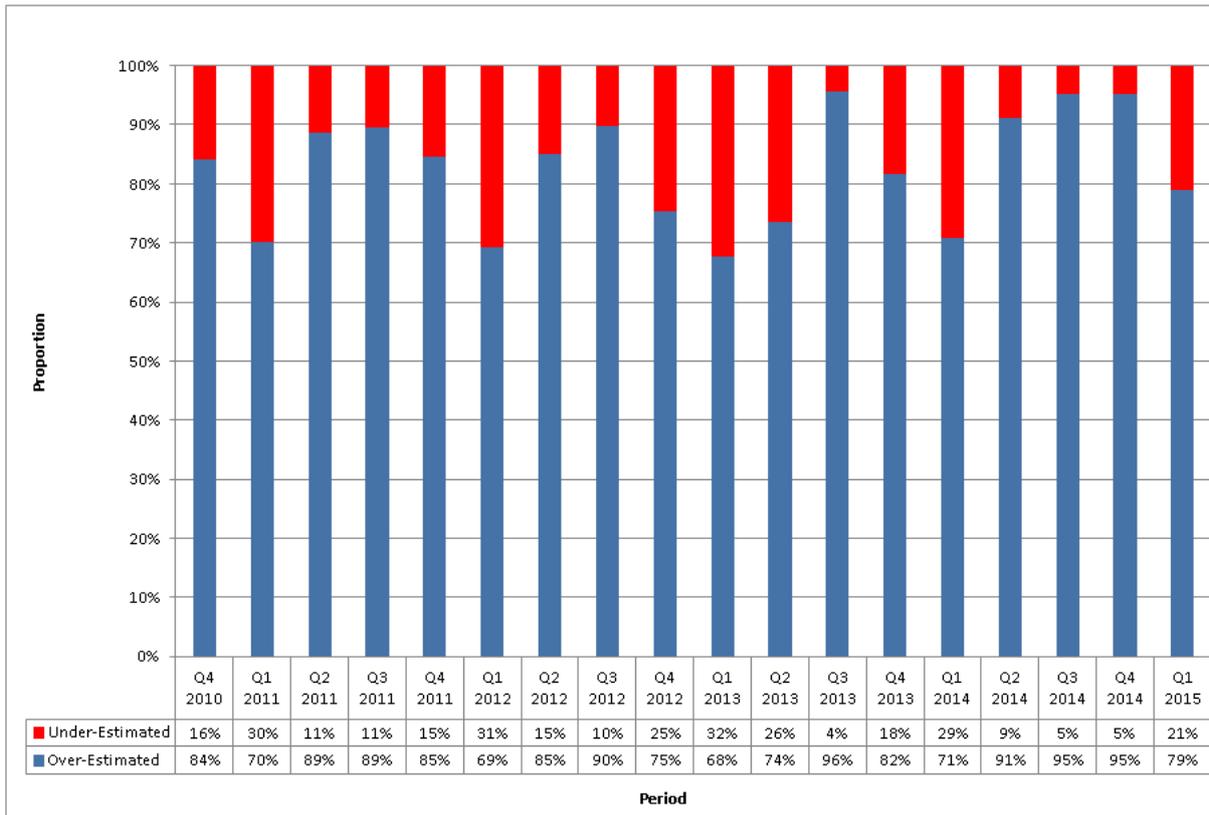


Figure 17- Occurrences of Under or Over Estimation

As discussed in previous reports on RCC Coverage the key factor in the proportion of under or over estimation is the historical SMP relative to the current period SMP.

Figure 18 below illustrates the trend in average daily SMP for Q1 2015, the daily time weighted average was €57, which is slightly higher than in Q4 2014 (€51). The SMP has historically been higher and more volatile in the first years of the market. It had then stabilised at lower values from around Feb 09 until April 2010. From this time on, we have seen SMP only slightly increasing in average value; however, there has been more deviation with higher peak prices being seen a few times in Q1 2015.

Another factor impacting on the proportion of under or over estimation is the variation in the System Demand which, in this quarter, has increased by 29% from previous quarter.

These small variations have limited the amount of under estimation in the current quarter, particularly as demand shows an increasing trend across the Q1 2015.

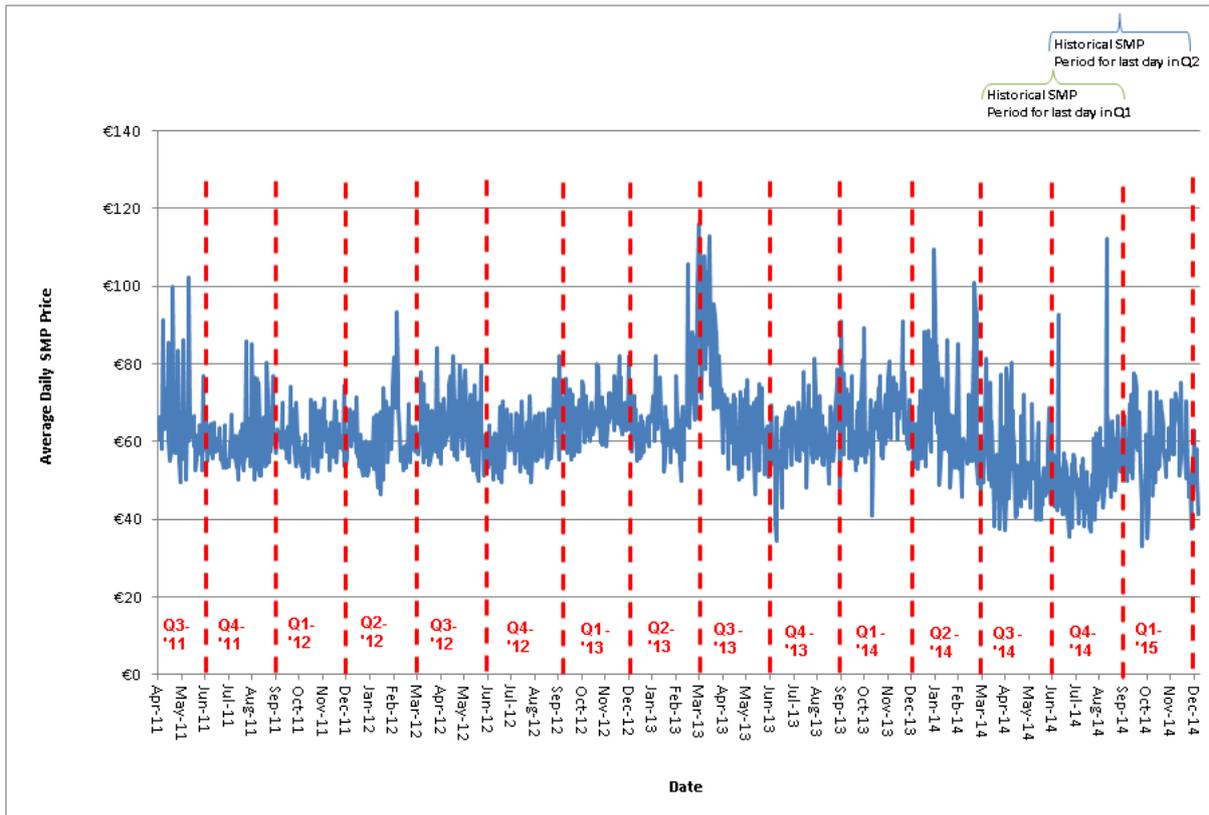


Figure 18- Trend in Average Daily SMP

6.4 Extent of Under and Over Estimation

Figure 19 below illustrates the trend in the extent to which RCC is under or over-estimated, when it occurs.

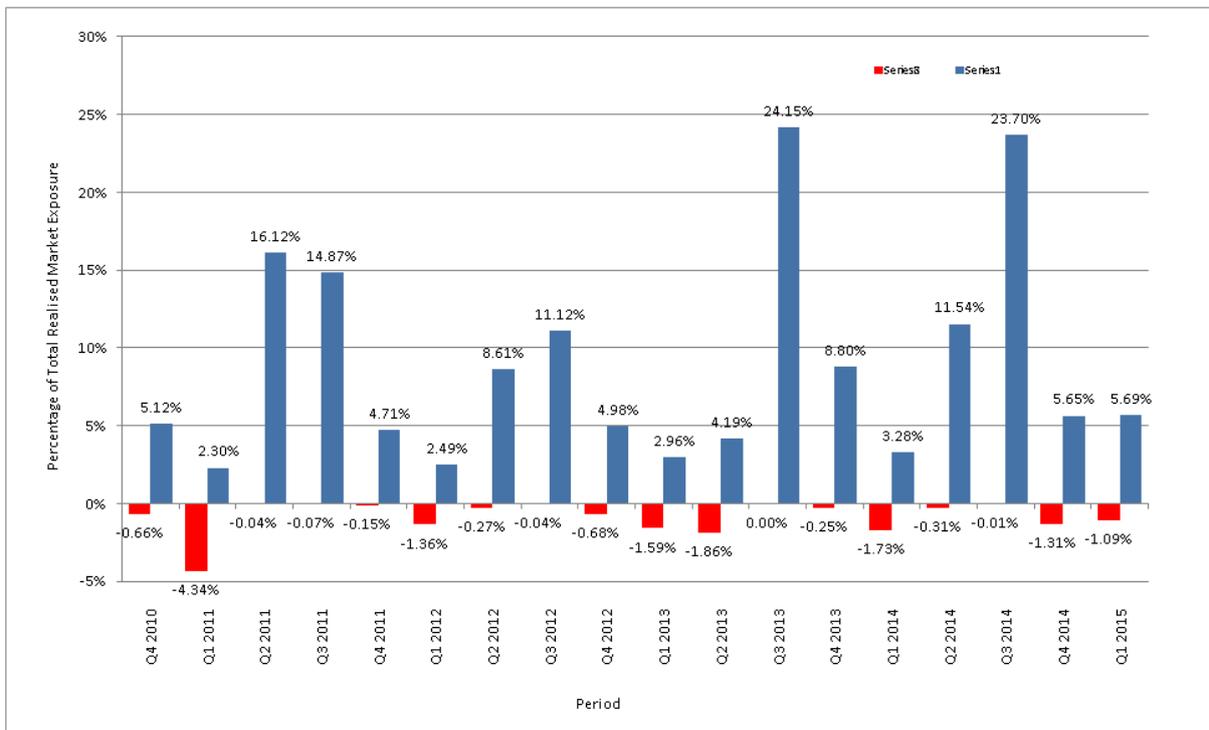


Figure 19 – Extent of Under or Over Estimation when Under or Over Estimation Occurs

The majority of under-estimation, since the start of the market, is below 1%. Q1 2013 is slightly higher with a figure of 1.09%.

Where over-estimation occurs, this has been on average between approximately 1.5% and 27% since the start of the market. In the quarter under analysis, the extent of over-estimation increased to 5.65% compares to 5.69% in the previous quarter. This is lower than the long term average of 9.04%.

6.5 Market Monetary Exposure

Figure 20 below shows the actual monetary exposure of the SEM (excluding VAT) to these under or over estimations.

In Q1 2015, from an average exposure of the market of just under €227 million, the market has had an average RCC under-estimation of just over €2.4 million and an average RCC over-estimation of € 12.8 million on any given day.

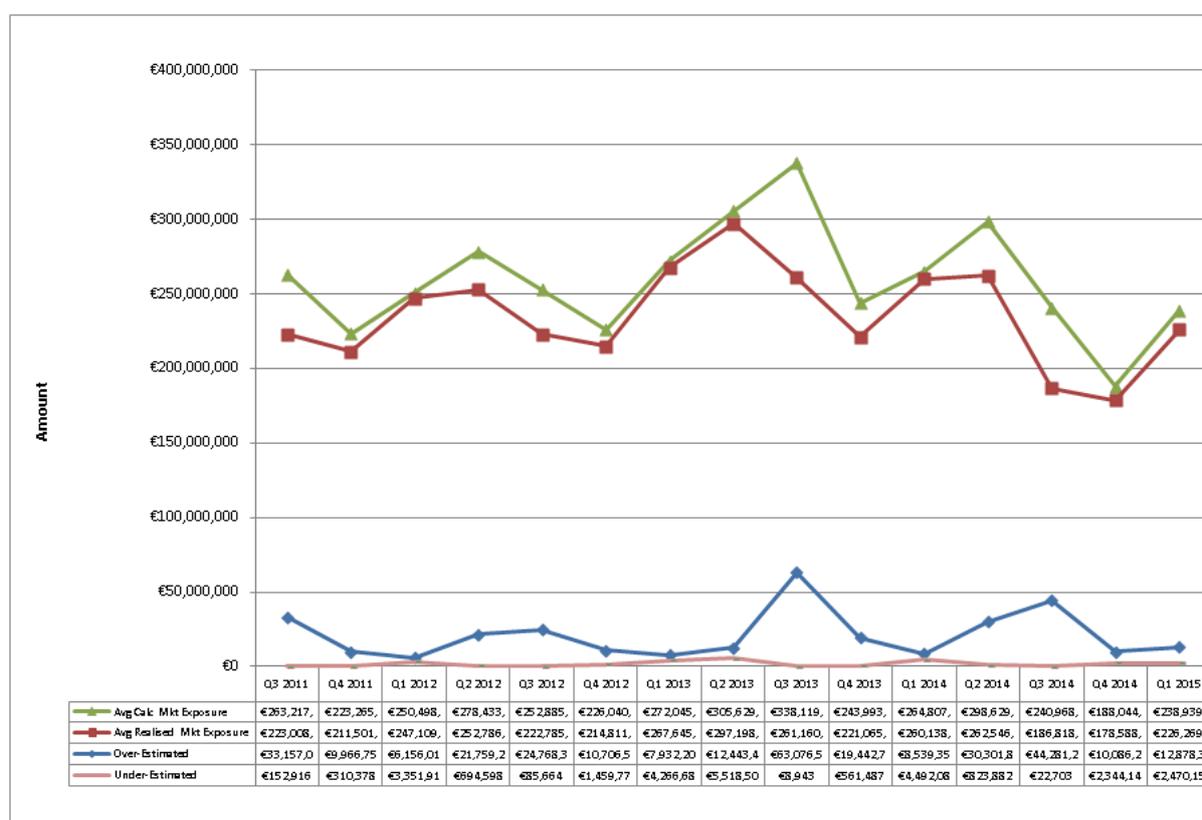


Figure 20 – Monetary Exposure due to Accuracy of Credit Cover Calculations

6.6 All Quarters Summary

For the SEM as a whole, from market start to the end of September 2014, RCC has been under-estimated 18% of the time. Of these occurrences the under-estimation as a percentage of the total realised market exposure is on average less than 1%, or €2.5 million out of a total average realised market exposure of € 255 million.

With regard to over-estimation, the SEM as a whole has been over-estimated 82% of the time with the over-estimation as a percentage of the total realised market exposure being on average 9.17%, or €23million out of a total average realised market exposure of €255 million.

7 Appendix A: Required Credit Cover Coverage

a) Required Credit Cover Coverage Modelling Assumptions

Given the complex nature and volumes of data involved in performing an exact comparison of calculated to realised RCC, the modelling performed was based on a number of assumptions which simplified the analysis.

- Only Participants with Supply Units were considered in the RCC analysis as they are the only Participants that have a positive RCC liability as a result of initial settlement. Generators are considered to have a negative RCC liability (i.e. no liability) as a result of initial settlement. Generators may have a liability due to resettlement but this is covered in credit cover calculations by the fixed credit cover requirement.
- Analysis was performed on a Participant Account basis for supply accounts only.
- All values were converted into Euros for easy of comparison. The exchange rate used was for trade date 16th Jan 2015. The value was 0.7753 for Euro to Pounds sterling.
- Settlement values used in the analysis are Initial Settlement values, with the exception of some Indicative Settlement values which were used for the last few days of analysis as initial values were not available. This is also the reason for small adjustments to figures published last quarter.
- When compiling the current report, data was available for the retrieval of the realised versus calculated UDE for the whole period up to the end of December 2014
- Results for previous reporting periods may have changed slightly due to adjustments made to the model. This was to exclude units prior to enough historical data being available for the correct comparison of calculated and actual values. The change in values is not material to the results.
- VAT was not included in calculated or realised figures for Actual, Undefined or total market exposure. Proportions and percentages were determined without the application of VAT. This assumption was deemed to have little bearing on the final results as it is a percentage based tax which would apply to both calculated and realised amounts in the same proportions.
- A methodology was employed that simplified the analysis required in determining Actual Exposure and both calculated and realised Undefined Exposure (UDE). The volumes of processing required would otherwise involve repeating calculations for each day of the market for each Participant for both Energy and Capacity, using the snapshot of inputs for that particular day. This functionality is not available in the Credit Risk Management system implemented for the market and is not practical to perform external to the market systems at this point in time.
 - The Energy UDE and Actual Exposure were determined using settlement amounts for each day of the period being analysed (Nov 2007 to Dec 2014).
 - The UDE period for Energy was kept constant at 16 days when comparing calculated and realised RCC. The modelling does not allow for holidays or delays receiving settlement data for weekends, however, the comparison basis is the same for both calculated and realised RCC. Therefore, this assumption should have minimal effect on the results.

- The Actual Exposure for Energy was kept constant at 14 days. This is based on the average Actual Exposure being 7 days invoiced and 7 days un-invoiced.
- Part of the analysis required the comparison of the under or over estimation to the total market exposure. In order to determine the total market exposure the following methodology was used.
 1. Determine Energy UDE
 2. Determine Energy Actual Exposure
 3. Determine Proportion of Total Exposure made up by Energy and Capacity individually
 4. Determine the Capacity contribution to total exposure using the proportions of Energy and Capacity, and the Energy UDE and Energy Actual Exposure.
- The total market exposure proportion was determined using the following assumptions:
 - Energy has a significantly greater effect on the total exposure in the market relative to Capacity. Energy, based on 2014 financial year, is typically 76% of total market exposure, while Capacity is 24% of total market exposure. This is based on the figures for the period Oct 2009 to Sep 2014, of operation of the market, in which the Energy market was approximately €2.1 billion and a Capacity market of approximately €555 million.
 - VAT was not included in Total Market Exposure figures.
 - Fixed Credit Cover used to provide collateral for resettlement was not considered as it forms a small proportion of the total exposure and should not affect the calculated versus realised comparisons.
- The first quarter of 2007 only consists of two months, November and December 2007. This is as a result of the market starting on 1st November 2007. All subsequent quarters are three months, and align with the standard reporting year for the market.
- There are only 14 days of analysis included in Q4 2007 as 45 days worth of historical data (HAP) are needed before the calculation of UDE can be determined.
- Please note that as of October 2010 report, reporting graphs now reflect the Financial Year not the Calendar Year as previously presented i.e. Quarter 1 (October – December 2010), Quarter 2 (January – March 2013) and Quarter 3 (April – June 2013).