



**Regulatory Authority Quarterly Report**

**Market Operator Performance Criteria**

**June 2015**

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# 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 R2.6.0 (Deployed May 15<sup>th</sup> 2015)

SEM R 2.6.0 Release was deployed successfully on Friday 15<sup>th</sup> May. No issues have resulted following this deployment.

#### 2.1.2 Release SEM R2.7.0 (Proposed Deployment: October 2<sup>nd</sup> 2015)

The release cut-off date for the SEM R2.7.0 release to the Central Market Systems was Friday March 6<sup>th</sup> 2015.

As at the Cut-Off Date there were no:

- Approved Modification Proposals or
- Two new Change Request submitted (CR349 – REMIT) & (CR338 – Make Whole Payments)

The SEM R2.7.0 Release has been brought forward from November to October to align with ACER's REMIT legislation going live on the 7<sup>th</sup> October.

ABB have been provided with a substantial change request to be delivered for testing by July. These changes need to be implemented fully by REMIT GO LIVE on October 7<sup>th</sup>

| CR Reference | System | Description         |
|--------------|--------|---------------------|
| SEM_PC_CR349 | MI     | REMIT               |
| SEM_PC_CR338 | MI/STL | Make Whole Payments |

**Table 1: Approved Scope for SEM R2.7.0 – Change Requests**

### 2.1.3 Modification Management

| <b>SEMO Modifications Committee<br/>Report Period: 01 April 2015 to 30 June 2015</b>                               |              |
|--|--------------|
| <b>Modification Committee Summary</b>  | <b>Total</b> |
| Number of Meetings held  | 2            |
| <ul style="list-style-type: none"> <li>• Modifications Committee Meeting 61 April &amp; Meeting 62 June</li> </ul> | 1            |
| <b>Modification Proposal Activity in this period</b>   |              |
| Standard Modification Proposals raised   | 5            |
| Alternative Versions of Proposals raised   | 0            |
| Urgent Modification Proposals raised   | 0            |
| Modification Proposals 'Withdrawn'   | 2            |
| New Modification Proposals 'Deferred' as of end of this period   | 2            |
| Existing Modification Proposals 'Deferred' as of end of this period  | 2            |
| Existing Modification Proposals 'Further Work Required' as of end of this period                                   | 1            |
| Modification Proposals 'Recommended for Approval'  | 4            |
| Modification Proposals 'Recommended for Rejection'   | 0            |
| <b>RA Determinations in this period</b>  |              |
| RA Decision Papers 'Extension Granted'   | 0            |
| RA Decision Papers 'Further Work Required'   | 0            |
| RA Decision Papers 'Approved'  | 2            |
| RA Decision Papers 'Rejected'  | 0            |
| <b>Summary of All Modifications to Date (31<sup>st</sup> January 2015)</b>   |              |
| Total raised to date   | 349          |
| Total 'Withdrawn' to date  | 51           |
| Currently 'New or Deferred' in process (includes anything deemed "further work required")                          | 4            |
| Currently 'Recommended for Rejection'  | 3            |
| Currently 'Recommended for Approval'   | 4            |
| Currently 'Approved' (awaiting Implementation)   | 2            |
| Total 'Implemented' to date  | 272          |
| 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>

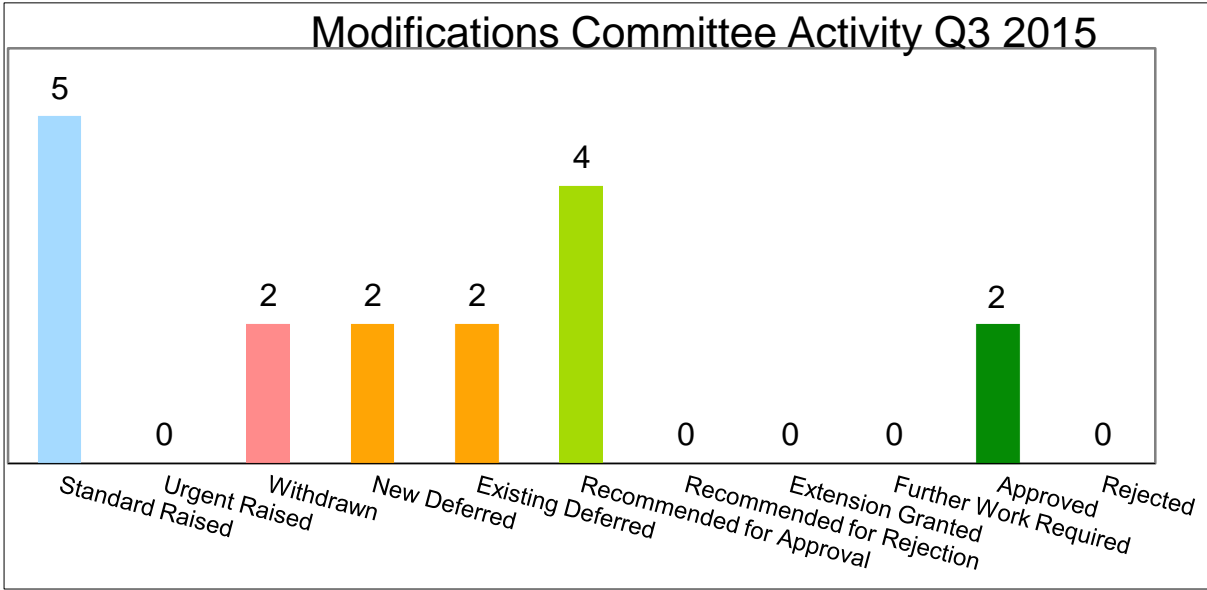


Figure 1: Modifications Summary Quarter 3 2015

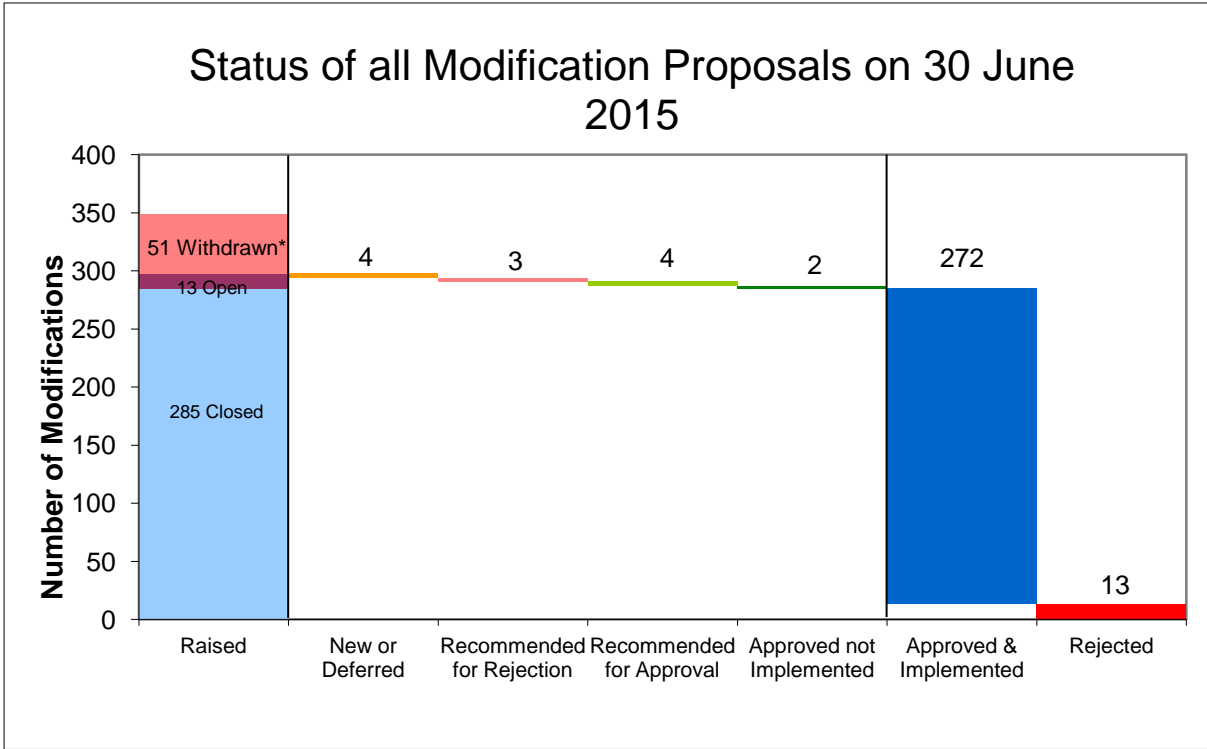


Figure 2: Modifications Status to Date on 30<sup>th</sup> June 2015

## **2.2 Modifications Process Development**

### ***Modifications in Quarter 3 2015***

Two Modifications Committee Meetings convened in Q3 of 2015. Modifications Committee Meeting 61 took place on 15<sup>th</sup> April and Committee Meeting 62 took place on 16<sup>th</sup> June. A conference call also took place on 14<sup>th</sup> April relating to Mod\_02\_13.

### ***Modifications Recommended for Approval***

#### ***Mod\_08\_14: Clarification of Location of SEM Collateral Reserve Accounts***

The proposal seeks to reflect 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.

Generator Member noted that progress had been made on this proposal and whilst they were not in agreement with it they felt it appropriate that a vote should be taken. Chair echoed those thoughts and advised that more discussion had also taken place on this proposal on the Deed of Charge conference call as the proposals are connected. Generator Member asked that the work undertaken during this proposal be communicated to those drafting the Trading & Settlement Code for the ISEM project. The Final Recommendation Report has been issued to the RA's for a final decision.

#### ***Mod\_03\_15 Correction of Error in AP04***

MO Member advised that the proposal is being raised in order to correct an error in the description of the field 'Energy Limit Flag' in AP04. Currently the definition states that the flag '...will only be Y if the Unit is a Pumped Storage Unit'. This is incorrect as the flag is only applied to hydro-electric Generators as defined on section 5.93 of the T&SC, and not Pumped Storage.

Chair communicated a Generator Members comments on this proposal in his absence stating that this proposal should be approved as this correction was indeed required. The committee agreed with this sentiment and were happy to proceed to a vote. The proposal was approved unanimously. Secretariat published the AP Notification with this modification effective as of 7<sup>th</sup> May 2015.

#### ***Mod\_05\_15 Representation of Interconnector User Participants on the Modifications Committee***

Electroroute advised that the proposal was raised in order to improve the deliberation of the Modifications Committee, as Interconnector views may not align with those of standard Generator Units, Supplier Units or Demand Side Units that currently account for the participant membership of the committee.

This modification proposal proposes the introduction of one (1) new seat at the SEM Modifications Committee for Interconnector User Participants. Secretariat advised that for this proposed Interconnector Member to be included in the upcoming annual elections the proposal would need to be approved at this meeting, further adding that there is the possibility of running an ad-hoc Interconnector election.

The committee were minded to vote to approve this proposal but sought a clarification from the Secretariat as to the election process and voting mechanism in the event of this new member. The proposal was approved unanimously. The Final Recommendation Report was submitted to the RA's. The RA Decision has been received and this modification was effective as of 15<sup>th</sup> June 2015.

***Mod\_07\_15 Amendment to AP07 to Include the use of the SEMO Public Website and Email Notification as the Main Communication Channel in the Event of a GCF***

MO Member advised that it is proposed to amend AP7 to include the use of Market Messages on the Market Operator public website and e-mail alerts to replace the current emergency communication methods relating to a General Communication Failure. The methods currently set out in AP7 are fax, postal and telephony based. The use of fax, post and telephone calls does not lead to efficient communication with affected parties in the event of a General Communication Failure whereas using the Market Operator public website and e-mail alerts is instant and the established participant communication method.

MO Member advised that in the situation of a General Communication Failure there would be significant concerns for the Market Operator however such an eventuality must be considered. SEMO has a reliable back up procedure, with two servers being available in Belfast and Dublin, plus a number of staff having access rights from home. These should cover nearly all scenarios. Chair asked if an SMS/Text facility was open to use by the Market Operator or if it had been considered. MO Member advised that such a system relied on the accuracy of a contact list that required regular maintenance and questioned who should be on such a list and how to access it from a mobile.

The committee were satisfied with the rationale behind this proposal and were happy to vote to approve this modification. This proposal was approved unanimously. The AP Notification has been published by the Secretariat with this modification being effective as of 3<sup>rd</sup> July 2015.

***Modifications Withdrawn***

***Mod\_11\_12: Proposal to extend the definition of Special Units to include Compressed Air Energy Storage***

Proposer advised that following meetings with SO, MO and communications with RA's they wish to withdraw the proposal. Gaelectric is currently involved in Euphemia trials and believes that this issue will be captured and addressed by the ISEM market design process. Gaelectric thanked the Committee and Secretariat for the support through this detailed process. The view was expressed by members that all the data and information collated through this proposal lifecycle should be collated in order to have this captured by the ISEM team in the market design process. Secretariat advised that a Withdrawal Notification will be published.



A withdrawal notification advising Participants that the proposal has been withdrawn was published on 1<sup>st</sup> May 2015.

***Mod\_13\_14: DSU's as Price Takers***

Proposer advised that following detailed discussions with the SO they wished to withdraw the proposal.

A withdrawal notification advising Participants that the proposal has been withdrawn was published on 1<sup>st</sup> May 2015.

***Deferred Modifications***

***Mod\_02\_13: Registration of Charges***

Following a conference held on Monday 14<sup>th</sup> April amendments were made to the deed as agreed. Following internal legal and financial reviews version 7 has been circulated for a final conference call scheduled for Wednesday 22<sup>nd</sup> July with a vote to take place at Meeting 63 in August on version 3 of the modification.

***Mod\_04\_15: Modification to Relevant Meter Operator Role and Support Requirements for Meter Communication Channels***

EirGrid/SONI as TSO is currently the Meter Data Provider for TSO/DSO connected Generator units registered in the SEM, where Price Effecting Meter Data is to be provided to the SEM on a seven day basis. DSO meters are installed by ESB Networks/NIE who is the Relevant Meter Operator for Distribution connected Units.

Where metering is installed by the Relevant Meter Operator, it would be the responsibility of the Relevant Meter Operator to have support arrangements in place for Meter Communication Channels and back-up power supplies for meter installations.

The purpose of this modification will require the Relevant Meter Operator and Generator where it provided Meter Communication channels, to provide 2 day support arrangements (on a 7 day basis) for Meter Communication Channels and associated power supplies to energy metering systems. This is required for the provision of meter data to the SEM as per T&SC requirements under Appendix L "Meter data Transactions".

The proposer is to provide a cost/benefit analysis for this proposal to allow the committee a greater understanding of what this entails. This proposal will be discussed at Meeting 63 in August.

***Mod\_06\_15 : REMIT Data Reporting by the Organised Market Place to ACER***

Eirgrid Legal Representative advised that the proposal is being raised in order to address the REMIT data reporting requirement provision. Eirgrid Legal Representative advised that the

proposal was not detailed to allow for discussion on this matter and to allow for participants position on this to be considered. Eirgrid Legal Representative also advised that this proposal still required a thorough legal and technical review and welcomed comment and feedback from the Committee to allow them to develop this proposal.

MO Member advised that all questions regarding REMIT could also be addressed to [remit@sem-o.com](mailto:remit@sem-o.com) and that not many comments were received after the workshop. Eirgrid Legal Representative asked that all these questions and comments be addressed to both [remit@sem-o.com](mailto:remit@sem-o.com) and [modifications@sem-o.com](mailto:modifications@sem-o.com) for consideration in the development of the modification proposal.

Secretariat proposed that the Committee have a 2 week review period ending 30<sup>th</sup> June to submit feedback and comments on the reporting approach and approach to be used for furthering this discussion. Eirgrid Legal Representative and MO Member will then use this feedback in the development of a detailed modification proposal or alternative solutions to be circulated to the committee as soon as available to be vote on prior to the October 7<sup>th</sup> REMIT deadline. The committee were satisfied with this approach.

This proposal will be discussed at Meeting 63 in August.

### 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).

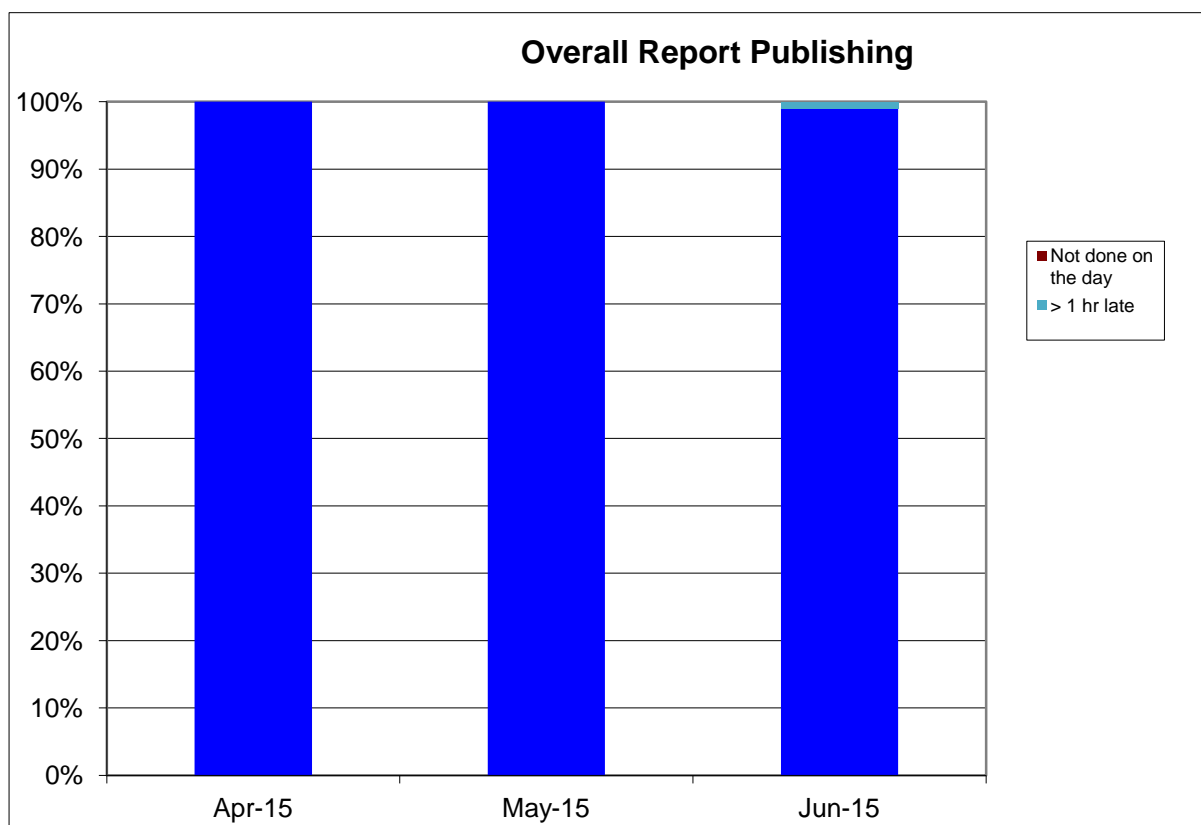
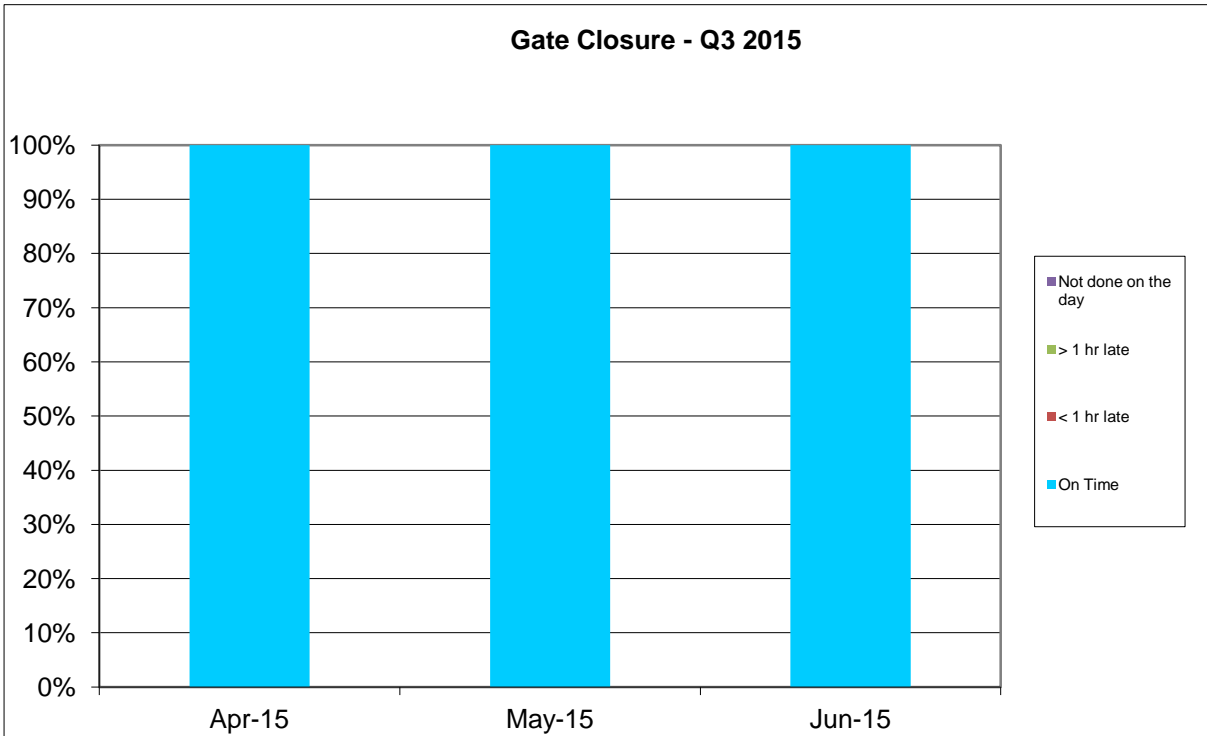


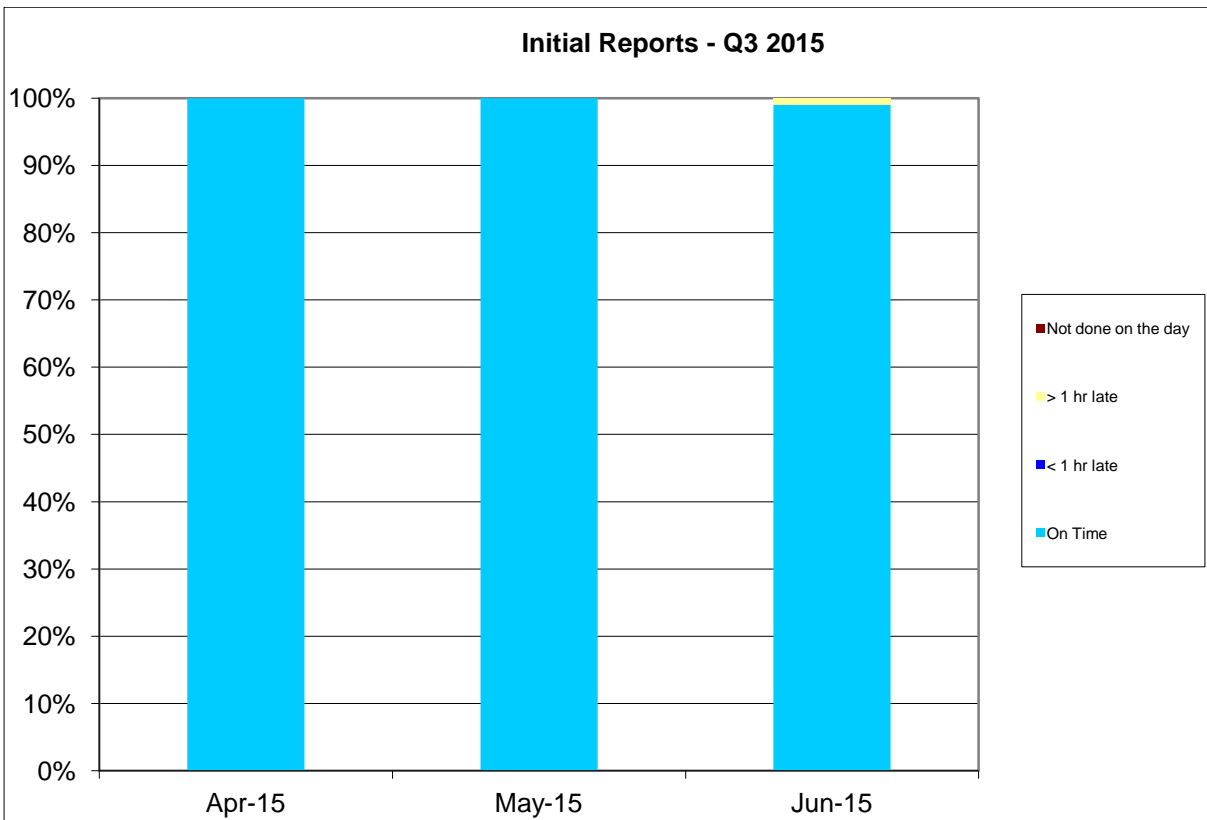
Figure 3 - Overall Daily Report Publication

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.

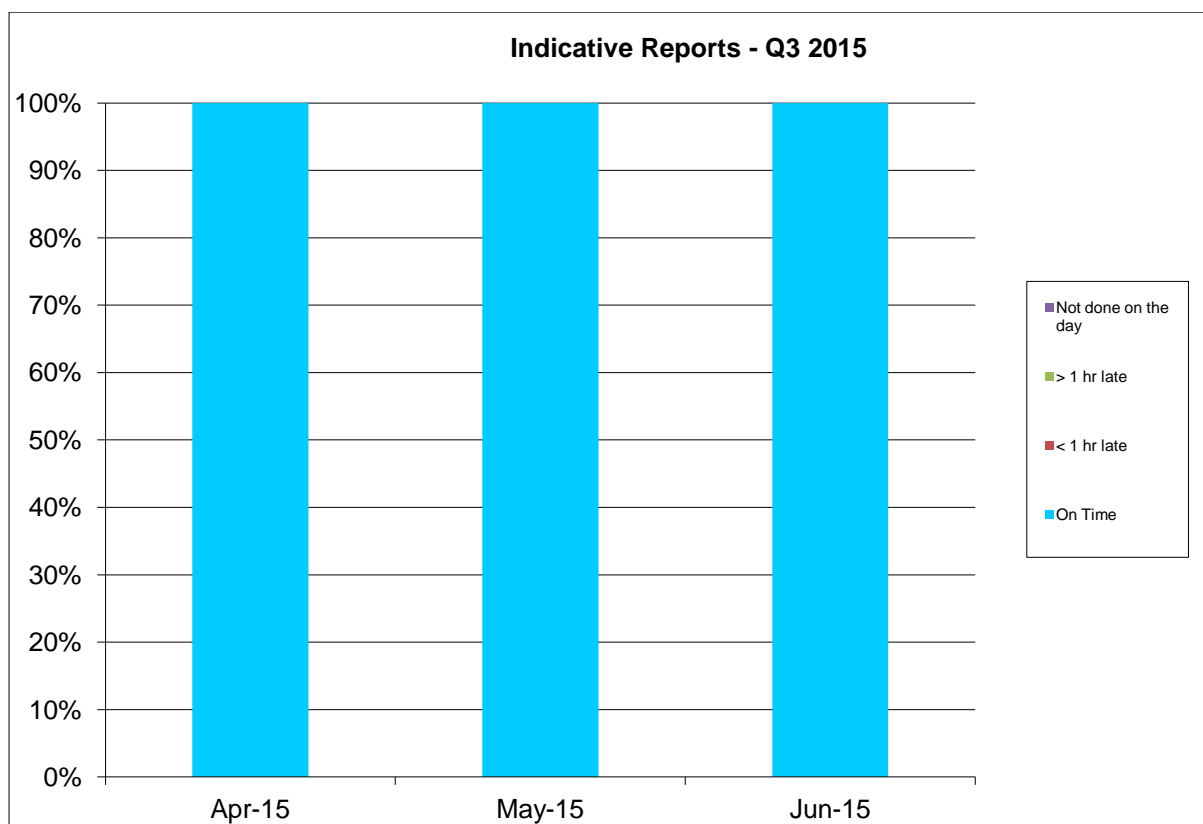


Figure 6 - Indicative report performance

### 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

#### Adhoc Reprices

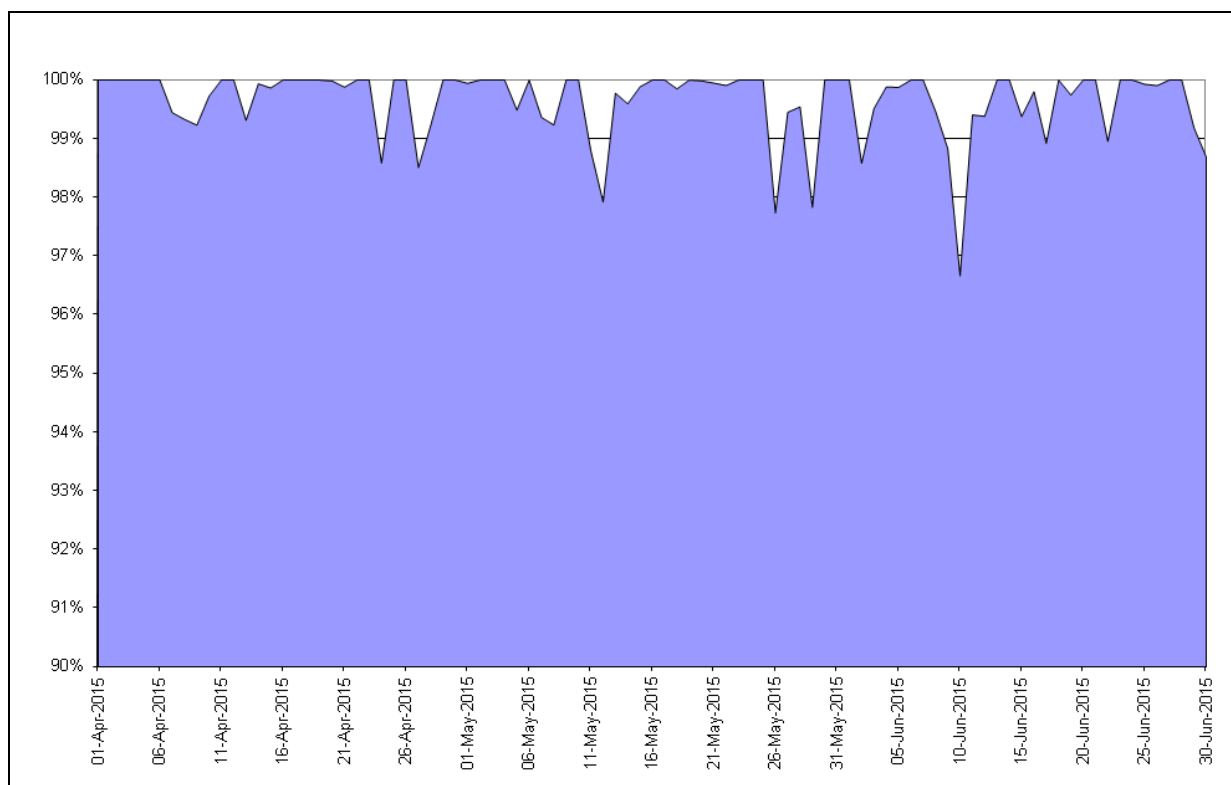
The publication of Ad hoc multiple re-prices took place in June 2015.

#### Ad hoc Resettlement

**Week 13 2014:** Ad hoc Statements and Participant Information Reports (PIRs) for Billing Period Week 13 2014 was required to correct Market Schedule Quantities for one Market Participant.

### 3.4 Administration of Credit Cover

The SEM has been fully collateralised according to the Trading and Settlement Code provisions during Q3, Apr 2015 – Jun 2015. 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 were four CCINs that were 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**

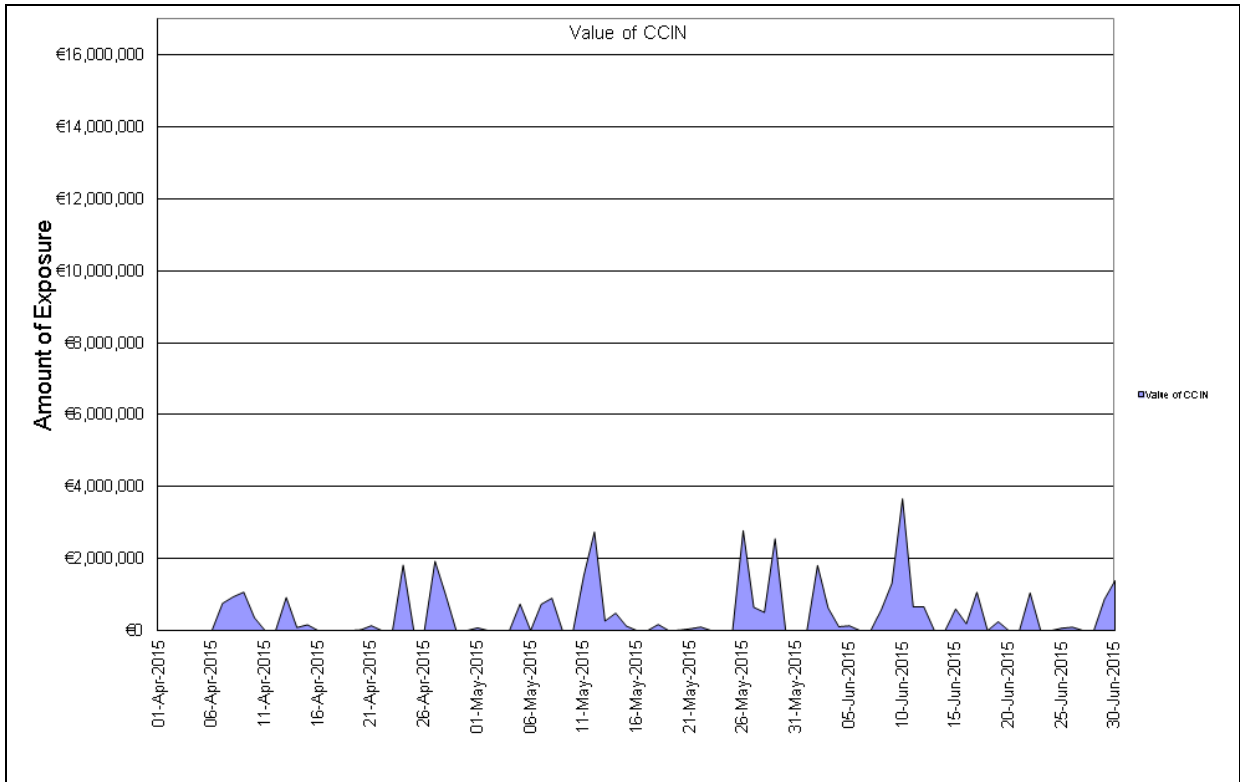


Figure 8 Credit Cover Increase Notice Total Amounts per Day

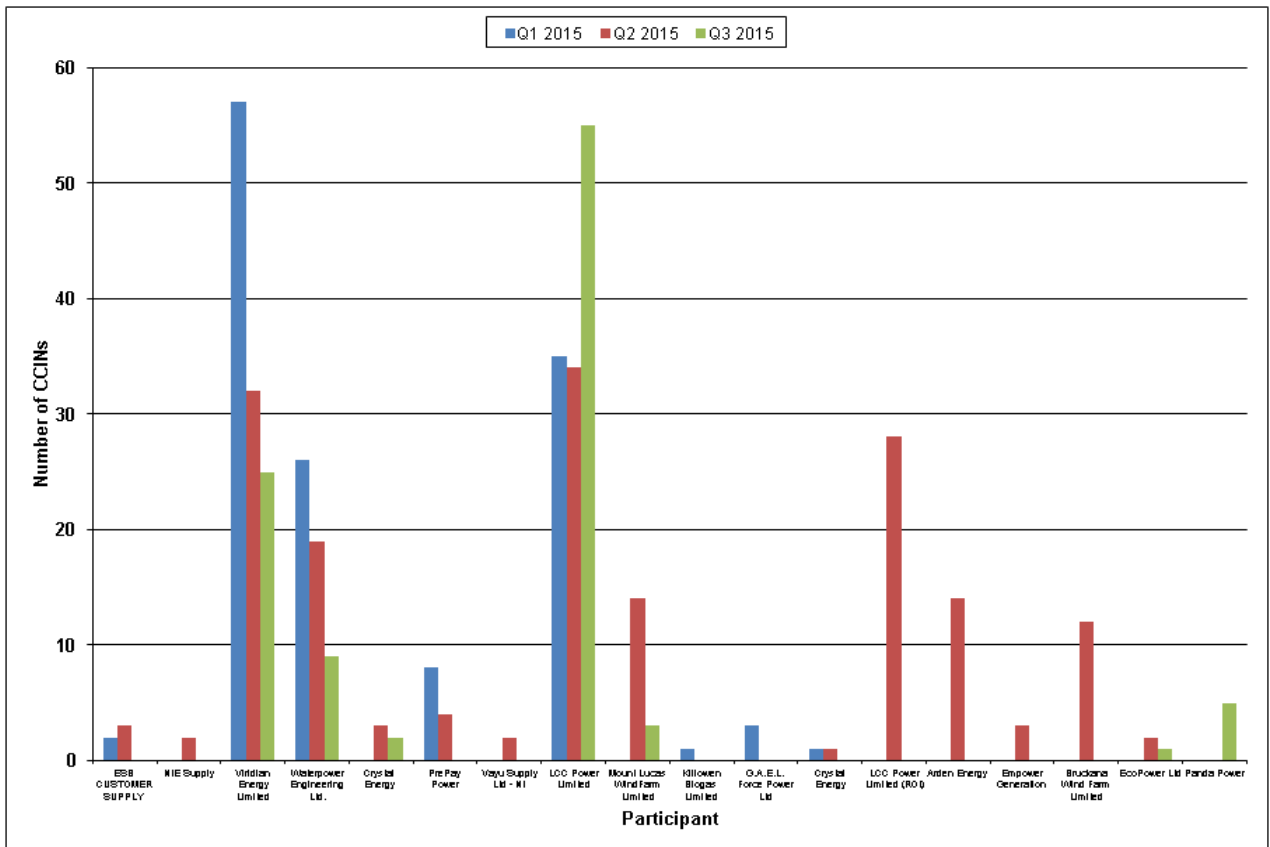
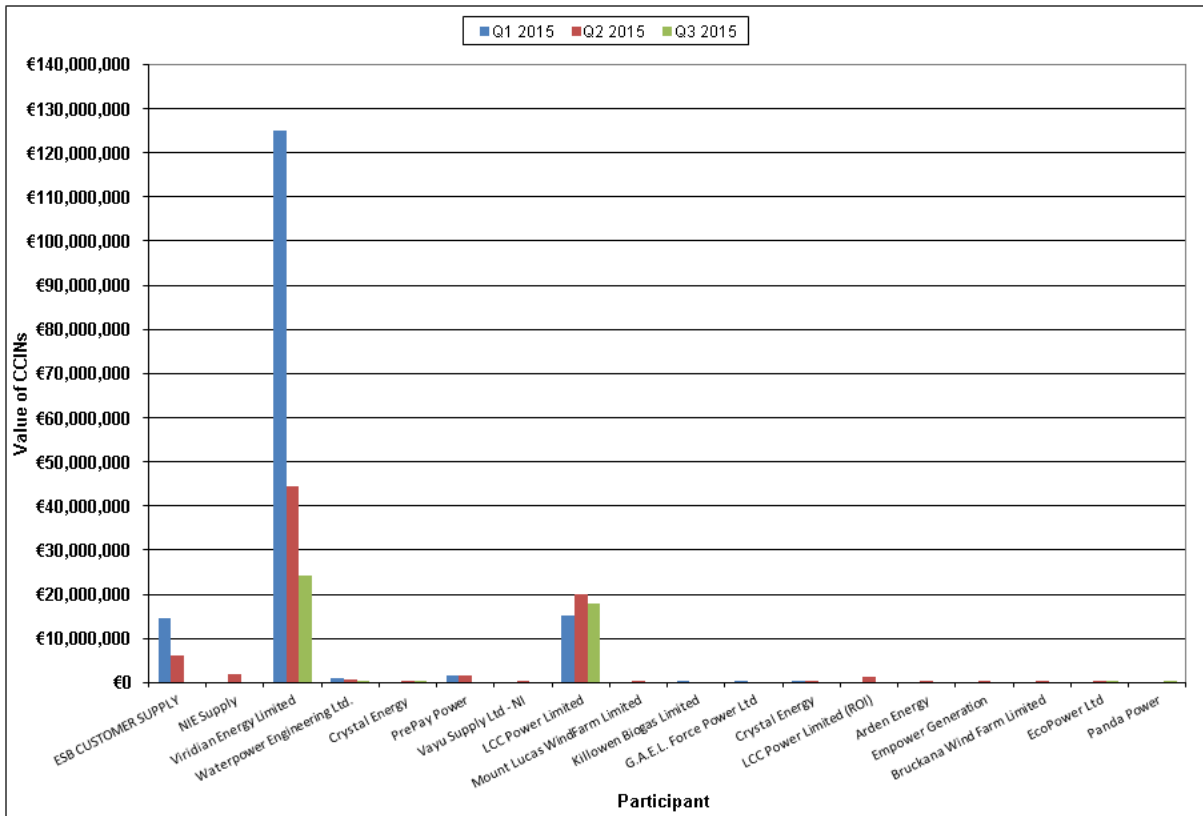


Figure 9 –Number of Credit Cover Increase Notices Issued





**Figure 10 - Value of Credit Cover Increase Notices**

The frequency of CCINs decreased in Q3 2015 compared to Q2 2015 (100 compared to 173 last quarter) with the greatest number of CCINs issued in June 2015 (38).

These CCINs were distributed across 7 Participants this quarter. The total value of the CCINs issued was just over €39 million compared to €70 million in the previous quarter.

### 3.5 Breaches of the Trading and Settlement Code

There were 23 breaches of the Trading & Settlement Code in Q3 2015 that SEMO is aware of. This is up from 13 in Q2 2015.

SEMO was responsible for a total of 17 breaches in this quarter, up from 7 in Q2 2015.

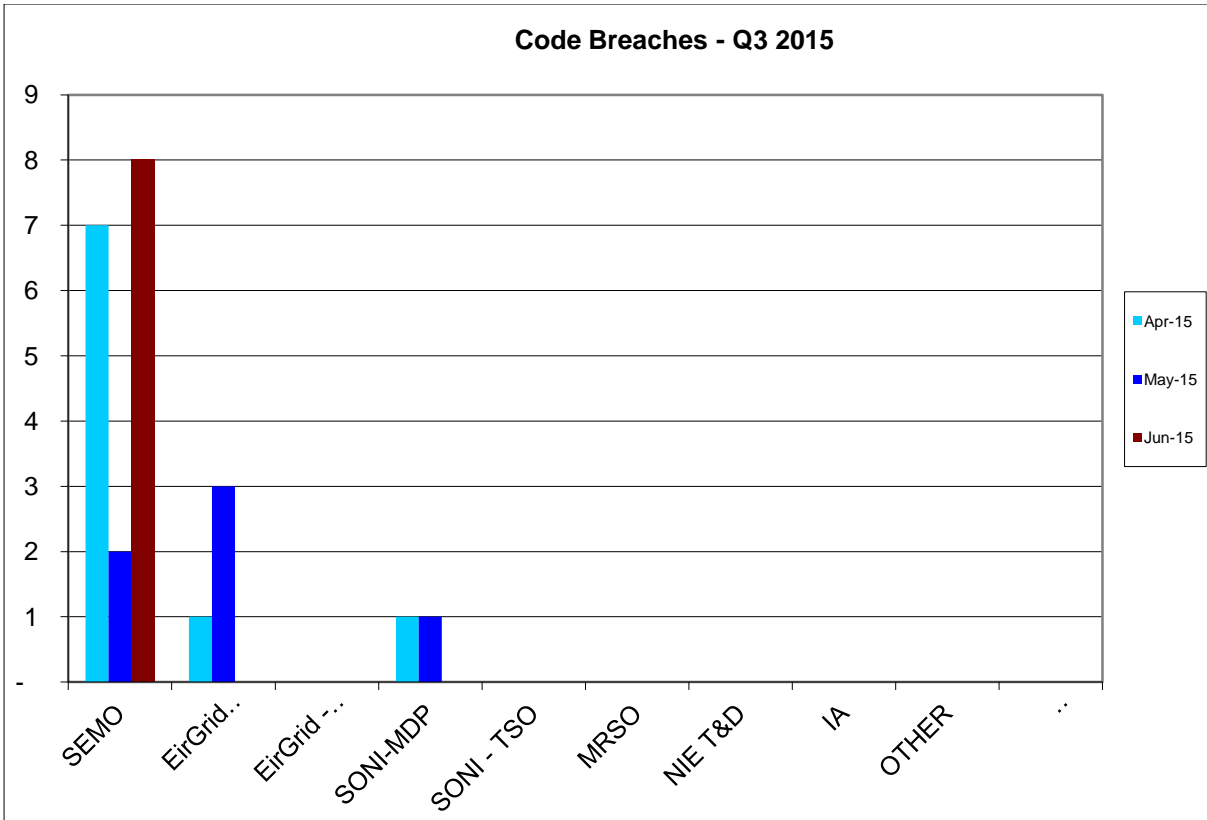


Figure 11 - Number of Trading and Settlement Code Breaches

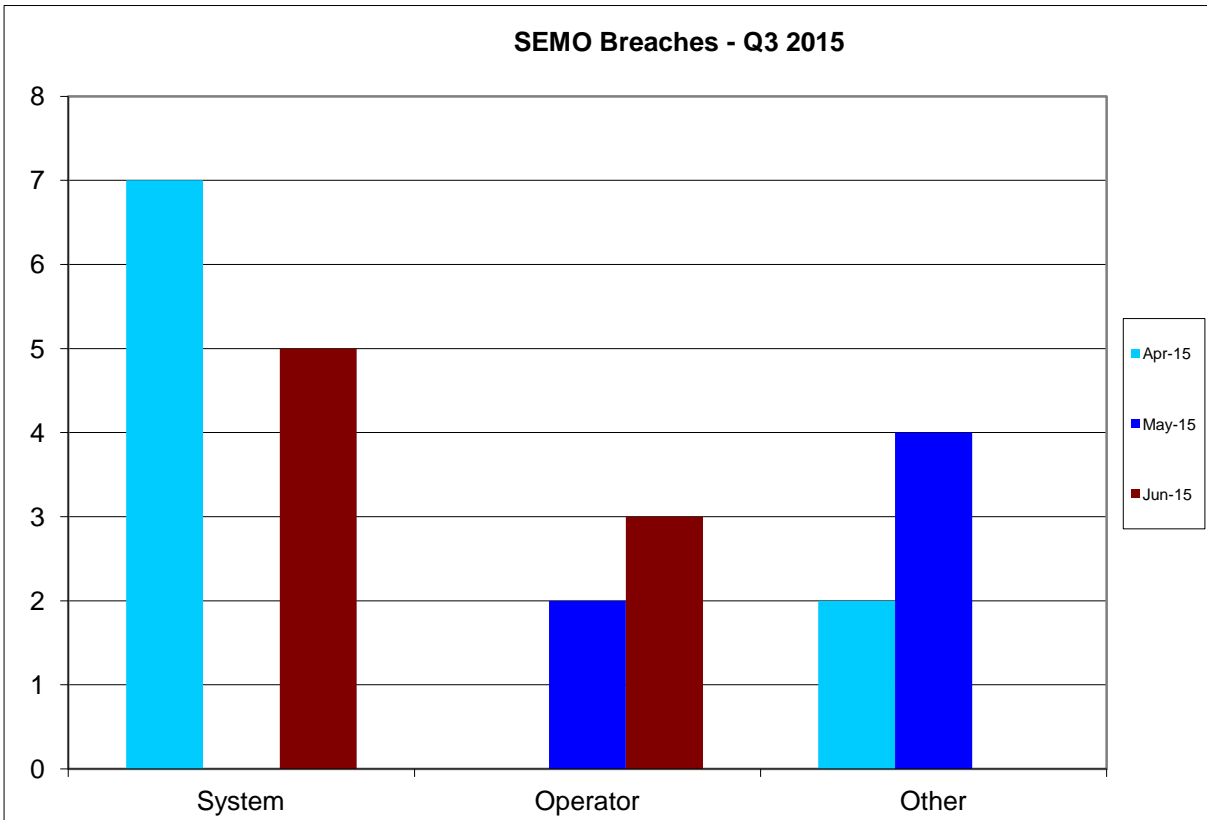


Figure 12 - Source of SEMO Trading and Settlement Code Breaches

## **4 Regulatory Affairs**

The Market System Development Plan has been prepared and published by SEMO.

This document is the sixth Market System Development Plan (MSDP6) developed by SEMO and covers the period from October 2013 to September 2015.

The plan identifies the issues that SEMO face in relation to the operation, administration and development of the Single Electricity Market (SEM).

The MSDP has been approved by the Regulatory Authorities and has been published on the SEMO website for comments.

## 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 two 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 30/06/2015.

| Query Type | Received | Resolved in period | Resolution Time |
|------------|----------|--------------------|-----------------|
| Settlement | 23       | 23                 | 6.26            |
| Data       | 5        | 5                  | 4.89            |
| Dispute    | 1        | 1                  | 18.35           |
| Urgent     | 7        | 7                  | 0.52            |
| General    | 458      | 477                | 1.52            |

Table 2: Query Statistics for Quarter

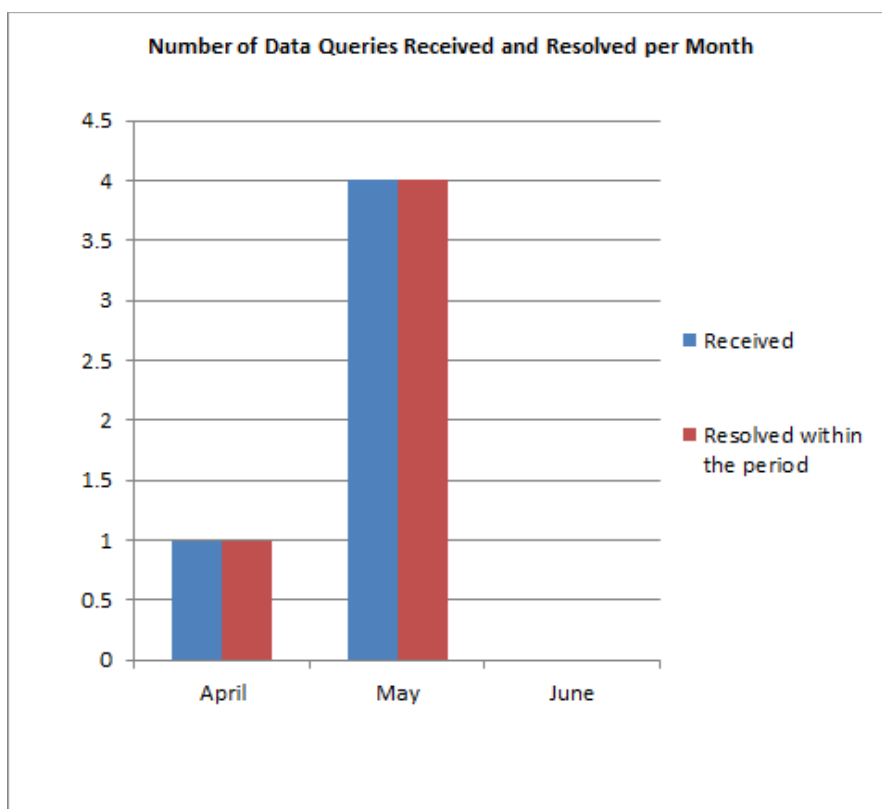
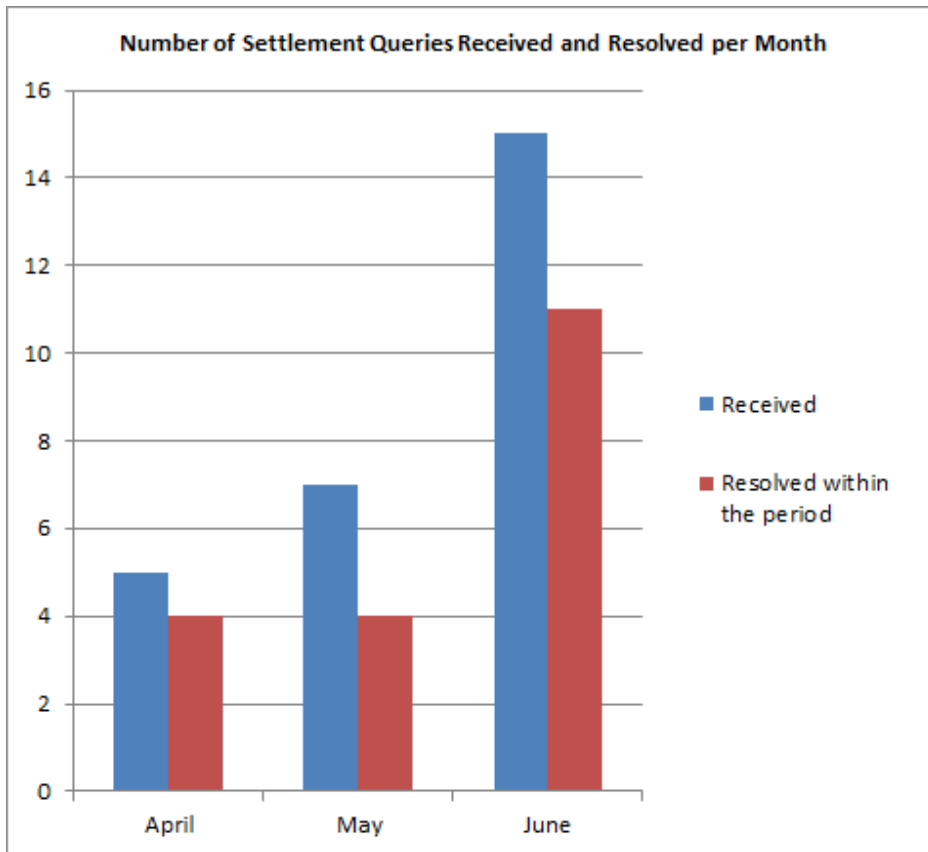
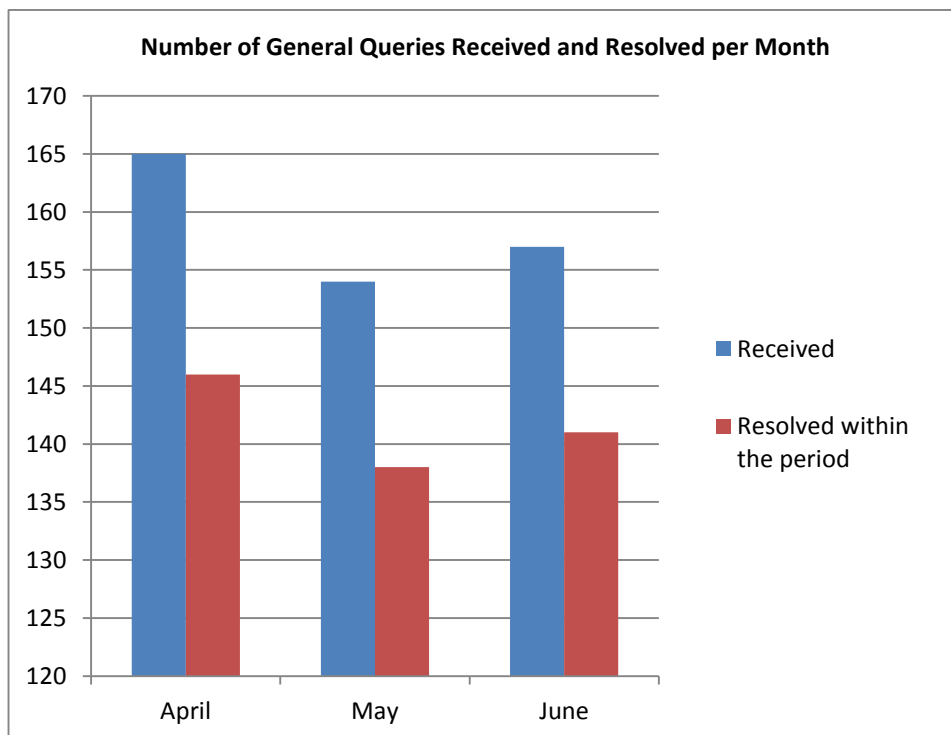


Figure 13 - Number of Data Queries submitted and Resolved per month



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



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

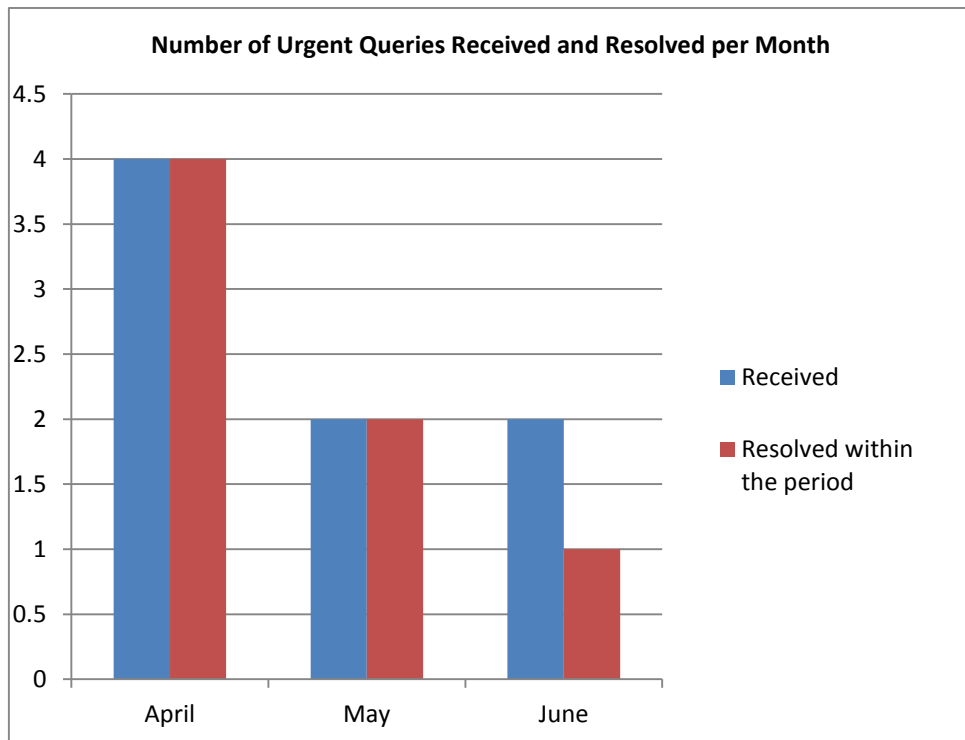


Figure 16 - Number of Urgent Queries submitted and resolved per month

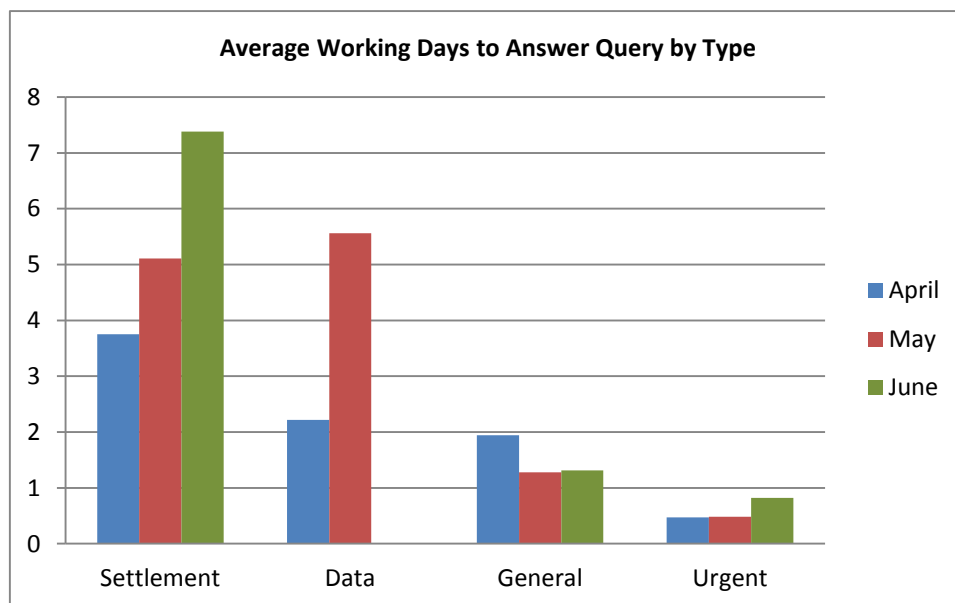


Figure 17 - Average Working Days to answer query type per month

### 5.1 Facilitate and Educate Participants to accede to the Code

Four new Parties have acceded to the Code in this period:

- Erova Energy Limited PY\_000137
- Project Plug ‘TA’ ClickEnergy PY\_000138
- KiWi Power Ireland PY\_000139

- Axpo Trading AG PY\_000141

## **5.2 Facilitate Interaction with Customers**

### **Stakeholder Events**

SEMO organised one Market Operator User Group Conference Call (30/06/2015).

We also hosted three individual stakeholder information meetings.

## 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

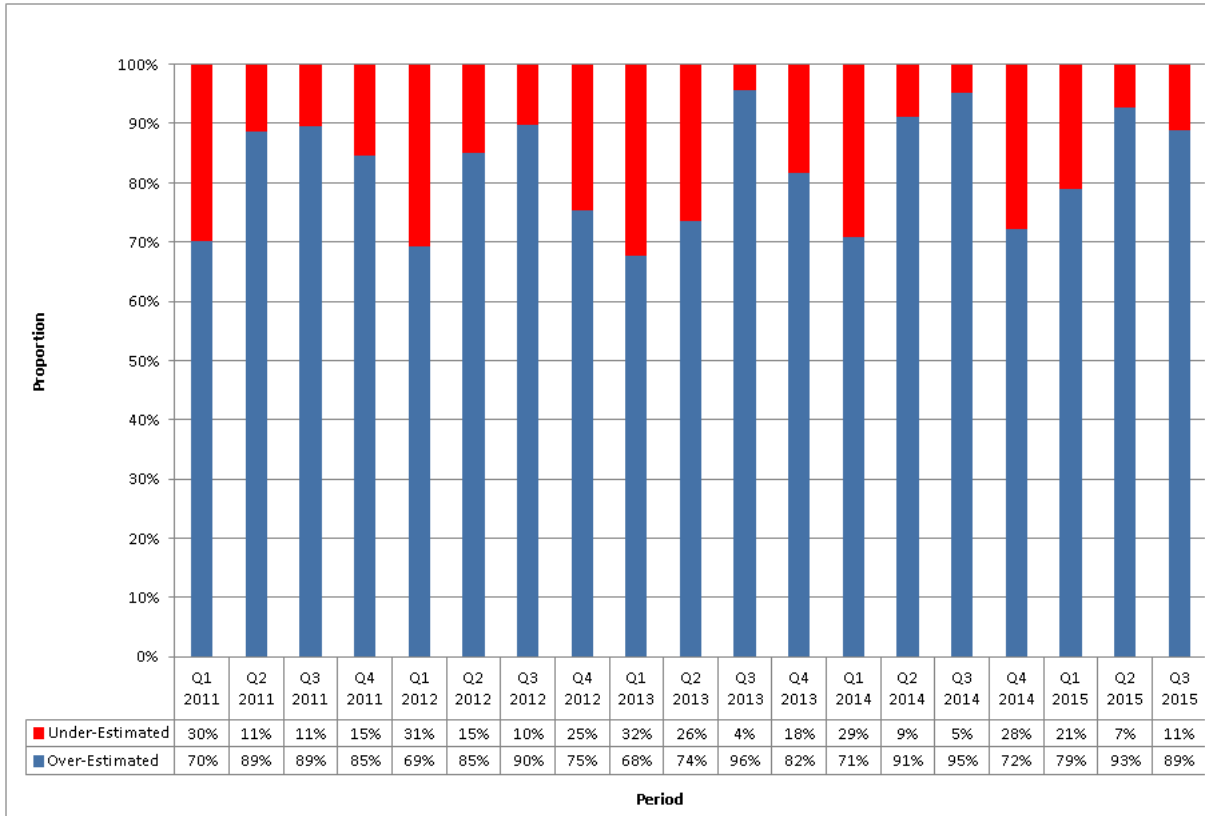
The key conclusions on the RCC Coverage are:

- RCC Coverage was under-estimated 11% of the time in Q3 2015. This showed an increase of 4% compared against Q2 2015. This figure is also lower than the long term average of 18% under-estimation since market start. It is, higher than the values seen in the same quarter last year of 5%.
- The value of each occurrences of under-estimation has decreased from the previous quarter from 0.03% to 0.00%, lower than the long term average of 0.84%.
- In Q3 2015, where the RCC Coverage is not sufficient, the market is under-estimated by an average of approximately €1.9million on a total market exposure of just over €241million. The long term average equates to an under-estimation of €2 million on a total average market exposure of €265 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, Q3 2015 period has seen the RCC under-estimated on 11% of credit cover calculations. This is a increase of 6% from the same period last year and an increase of 4% from previous quarter reported. The average SMP price and the demand both decreased 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 Q3 2015, the daily time weighted average was €52, which is lower than in Q2 2015 (€54). 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 Oct 12 until June 2015. From this time on, we have seen SMP only slightly increasing in average value; however, there has been less deviation with higher peak prices being seen a few times in Q3 2015.

Another factor impacting on the proportion of under or over estimation is the variation in the System Demand which, in this quarter, has decreased by 12% from previous quarter.

These small variations have limited the amount of under estimation in the current quarter, particularly as demand shows a decreasing trend across the Q3 2015.

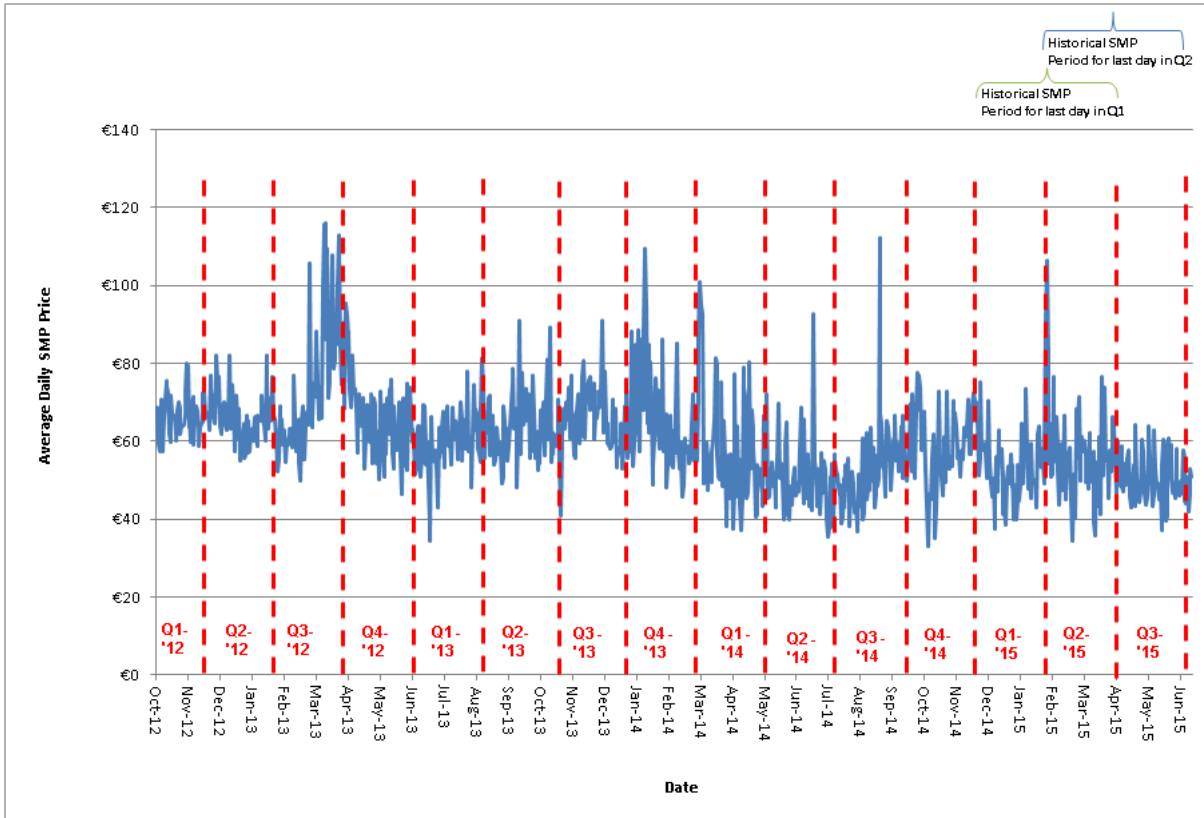


Figure 18- Trend in Average Daily SMP

#### 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.

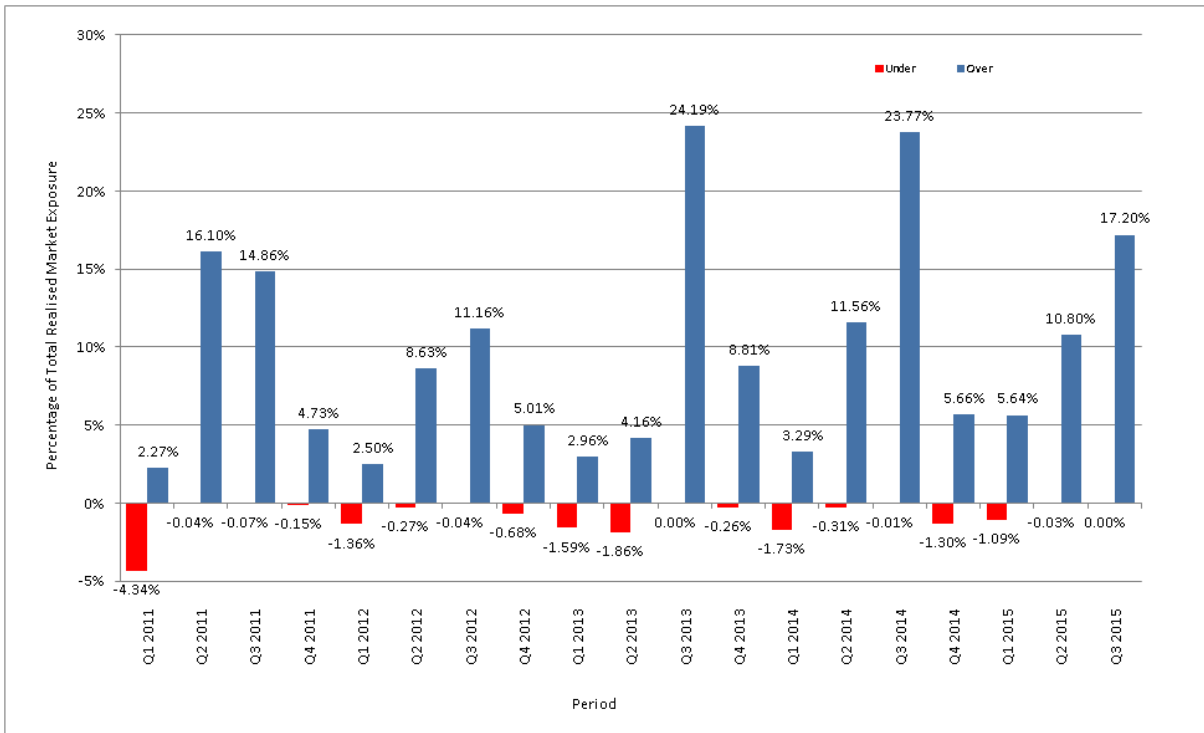


Figure 19 – Extent of Under or Over Estimation when Under or Over Estimation Occurs

The majority of under-estimation, since the start of the market, is below 1%. Q3 2015 is slightly lower with a figure of 0.00%.

Where over-estimation occurs, this has been on average between approximately 1.54% and 27% since the start of the market. In the quarter under analysis, the extent of over-estimation increased to 17.20% compares to 10.80% in the previous quarter. This is higher than the long term average of 9.30%.

### 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 Q3 2015, from an average exposure of the market of just over €260 million, the market has had an average RCC under-estimation of just over €4000 and an average RCC over-estimation of € 32 million on any given day.

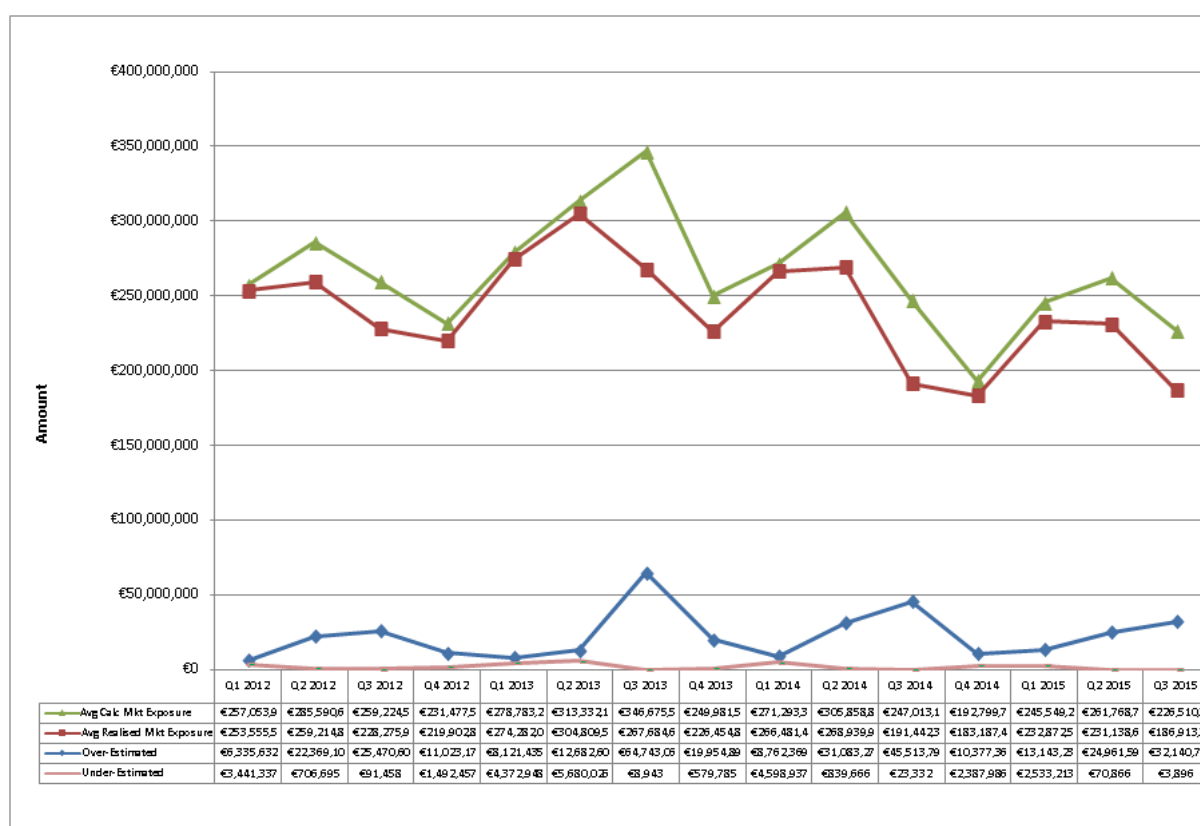


Figure 20 – Monetary Exposure due to Accuracy of Credit Cover Calculations

### 6.6 All Quarters Summary

For the SEM as a whole, from market start to the end of June 2015, 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 €4million out of a total average realised market exposure of € 260 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 9.67%, or €32million out of a total average realised market exposure of €260million.

## 7 Appendix A: Required Credit Cover Coverage

### a) *Required Credit Cover Coverage Modeling 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 ease of comparison. The exchange rate used was for trade date 6th June 2015. The value was 0.7102 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 June 2015
- 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 June 2015).
  - 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 80% of total market exposure, while Capacity is 20% of total market exposure. This is based on the figures for the period Oct 2013 to Sep 2014, of operation of the market, in which the Energy market was approximately €2.2 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 1<sup>st</sup> 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).