

# Regulatory Authority Quarterly Report Market Operator Performance Criteria July 2014

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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:

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

# 2 Manage Change

# 2.1 Software Deployments

# 2.1.1 Release SEM R2.4.0 (Deployed: May 16<sup>th</sup>, 2014)

The SEM R2.4.0 release to the Central Market Systems was successfully deployed on May 16<sup>th</sup>, 2014.

The following table outlines the approved scope for this release:

CR Ref. System		Description			
SEM_PC_CR271	MI	Automated FX download to the Central Market Systems			
SEM_PC_CR320	MI	Dispatch Instruction Validation Change			
SEM_PC_CR324	MI	Event Warning for DAM event			
SEM_PC_CR292	MI	MDP dropdown in the MPI			
SEM_PC_CR226	MI	Pop-up reminder for digital certificate renewal			
SEM_PC_CR323	STL	Bad Debt Smearing Calculation			
SEM_PC_CR309	STL	Tax File Import			
SEM_PC_CR325	STL	Automated Data Imports			
SEM_PC_CR326	STL	Historical Process Warnings			

## 2.2 Future Scheduled Deployments

# 2.2.1 Release SEM R2.5.0 (Proposed Deployment: November 2014)

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

CR Ref.	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, TTariff on a Trading
		Day basis
SEM_PC_CR332	STL	Issue Zero Invoices
SEM_PC_CR330	MI	Changes to IART Report

The approved scope for this release is as follows:

The design phase for this release was complete in June. The software is scheduled for delivery at the end of July after which System Integration Testing will commence.

During June we were advised that HMRC are introducing new rules with respect to the application of VAT to supplies of wholesale electricity in the domestic UK market. This will require a change to the Central Market Systems and this is currently being assessed by our vendors with a view to including this in scope for the November release, subject to approval

and vendor capacity. Information in relation to this was published to the industry on June 25th. Further updates will be issued as they become available.

To support this release, SEMO intends to put in place the necessary communication framework to give maximum visibility and optimum engagement with our key stakeholders. This framework will include:

- Interface documentation set as applicable (e.g. MPI User Guide, MPUD etc);
- Updates on release progress at each Market Operator Conference Call (MOCC) and Modifications Committee meeting; and
- A dedicated phase of Market Testing to support the release.

# 2.2.2 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 published on May 14th. This date has been set to:

# Friday, September 5<sup>th</sup>, 2014

# 2.3 Modification Management

SEMO Modifications Committee Report Period: 01 April 2014 to 30 June 2014		
Modification Committee Summary	Total	
Number of Meetings held	2	
Modifications Committee Meeting 54 (3 April)	1	
Modifications Committee Meeting 55 (19 June)	1	
Modification Proposal Activity in this period		
Standard Modification Proposals raised	2	
Alternative Versions of Proposals raised	1	
Urgent Modification Proposals raised	0	
Modification Proposals 'Withdrawn'	1	
New Modification Proposals 'Deferred' as of end of this period	1	
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'		
RA Determinations in this period		
RA Decision Papers 'Extension Granted'	0	
RA Decision Papers 'Further Work Required'	0	
RA Decision Papers 'Approved'	4	
RA Decision Papers 'Rejected'		
Summary of All Modifications to Date (30 June 2014)		
Total raised to date	336	
Total 'Withdrawn' to date	48	
Currently 'New or Deferred' in process (includes anything deemed "further work required")	5	
Currently 'Recommended for Rejection'	0	
Currently 'Recommended for Approval'	1	
Currently 'Approved' (awaiting Implementation)	0	
Total 'Implemented' to date	269	
Total 'Rejected' to date	13	

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

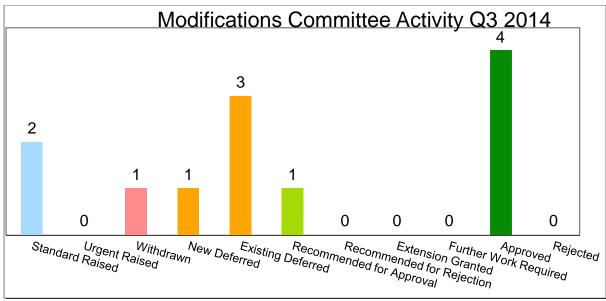


Figure 1: Modifications Summary Quarter 3 2014

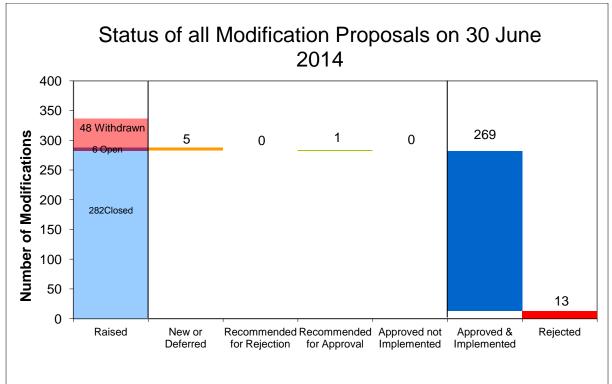


Figure 2: Modifications Status to Date on 30 June 2014

# **2.4 Modifications Process Development**

# Modifications in Quarter 3 2014

Two Modifications Committee Meetings convened in Q3 of 2014. Modifications Committee Meeting 54 took place on 3<sup>rd</sup> April in Dublin and Meeting 55 took place on 19<sup>th</sup> June in Belfast. Modifications Committee Meeting 56 is due to take place in Dublin on Thursday 14th August.

# **Modifications Recommended for Approval**

#### Mod\_01\_14 Removal of obligation to publish Ex-Ante Margin

The modification proposed to remove the requirement to publish an ex-ante value for Margin in advance of a given month. The proposal was discussed at Meeting 53 where it was recommended for Approval. The FRR was circulated for RA final decision on 10th March and became effective on 3rd April. The proposal was implemented on the 16th May 2014 into V15.0 of the T&SC.

#### Mod\_02\_14 Housekeeping 7

The proposal sought to rectify incorrect paragraph references currently existing in Section 4 of the T&SC. The proposal was discussed at Meeting 53 where it was recommended for Approval. The FRR was circulated for RA final decision on 10th March and became effective on 3rd April. The proposal was implemented on the 16th May 2014 into V15.0 of the T&SC.

# Mod\_03\_14 Change in Timeline for Submission of MO Report on Annual Capacity Exchange Rate

The modification proposed to amend the Code to reflect the current practice for the publication of the Annual Capacity Exchange Rate (ACER), which has been in operation (but not in line with the Code) for several years. This Modification Proposal also ensures that SEMO and the Regulatory Authorities act in conformity with the Code in the practice of publishing the Annual Capacity Exchange Rate in December. The proposal was discussed at Meeting 53 where it was recommended for Approval. The FRR was circulated for RA final decision on 10th March and became effective on 3rd April. The proposal was implemented on the 16th May 2014 into V15.0 of the T&SC.

#### Mod\_05\_14 Update of AGU and DSU registration provision

The purpose of the proposal was to update the TSC provisions relating to the registration of Aggregated Generator Units (AGU) and Demand Side Units (DSU) to clarify the requirements for Parties seeking to register such Units and to enable the two Regulatory Authorities to impose obligations on such Parties through mechanisms which are consistent with the differences in their statutory positions. The proposal was discussed at Meeting 53 where it was recommended for Approval. The FRR was circulated for Committee review on 26th February. The FRR was circulated for RA final decision on 10th March and became effective on 3rd April. The proposal was implemented on the 16th May 2014 into V15.0 of the T&SC.

## Mod\_06\_14 Unit Under Test Cancellation

The purpose of the modification was to allow cancellation of a Unit Under Test for the EA1 run in D-1. The Conventional Generator Commissioning and Testing Workshop took place

on 8th October 2012 and one of its objectives was to agree recommendations for process improvements. System Operator agreed to review the timeframe for cancellation of a Unit under Test (UUT). The current timeframe is D-2 and the feedback received was that this is too long, therefore the System Operators are proposing to reduce this timeframe. The proposal was discussed at Meeting 54 where it was recommended for Approval. It was implemented on the 16th May 2014 into V15.0 of the T&SC.

# **Deferred Modifications**

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

This modification remains deferred pending the result of a TSO RCUC Impact Assessment. An extension was granted by the RAs until 31st October 2014. An update to the Modifications Committee was previously provided advising that the SO may investigate internalising the work by conducting the modelling and relevant analysis on the existing Plexos and RCUC systems. At Meeting 55 the SO Member advised that a scope is still being developed internally to examine the effect of the storage on various aspects of the system.

## Mod\_21\_12 (RA Decision): Amendment to Available Transfer Capacity (ATC) definition

The TSO previously provided an updated Final Recommendation Report (FRR) addressing the issues set out by the RAs in their decision that the below topics be addressed in an updated FRR:

- The underlying rationale for the proposal
- The risks of not implementing the proposal and the alternatives that were considered
- The commercial effects of any curtailment of IC flows
- Discrimination introduced in the proposal against IC Users and IC Owners

The TSO is currently addressing comments submitted by Participants pertaining to the FRR. The FRR will be re-issued to the RAs for final decision when the outstanding comments have been addressed by the TSO. TSO Member provided an update at Meeting 54 advising that internal discussions are ongoing in relation to the issue of compensation for Participants and that no further update could be provided on the issue. At Meeting 55, SO Member advised that it is likely that the new market design will provide financial firmness for Participants. SO Member further advised that the options are to address the outstanding issues in the FRR or to withdraw the proposal.

## Mod\_02\_13: Registration of Charges

An update was provided to the Committee advising that Pinsent Masons (PM) are currently drafting the updated deed of charge and that it will be circulated for a three week review period with the aim of holding a conference call to discuss it prior to Meeting 56 on 14th August. Generator Alternate made reference to a query that had been raised with SEMO in relation to the requirement to register a charge when the CRA is for a very small amount and is being utilised as a convenient way to pay small invoices, rather than to provide credit cover. Discussion ensued around the preference to include a lower cash collateral limit below which it would not be necessary to sign a deed of charge in the deed of charge currently being drafted. The below actions in relation to the proposal are currently in progress:

- Proposer to draft updated Deed of Charge reflective of the trust arrangements, to be circulated to the Committee & WG Members as soon as possible (for a review period of 3 weeks)
- Secretariat to organise conference call to discuss Deed of Charge (for no sooner than 3 weeks from date of circulation of updated draft)
- Participants to ensure adequate legal representation from their respective companies, is present for the call
- Participants to advise Secretariat of how many company accounts (if any) are utilising CRAs for small invoices (rather than to provide credit cover) no later than COB 3rd July

The proposal will be again discussed at Meeting 56 where it is hoped a vote on the proposal will be procured.

## 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. SEMO IT allocated resources to test the additional pumped storage unit in May once the CMS release was deployed. No problems were encountered during the initial phase of testing within the market systems. However the SO encountered problems with RCUC.

The below actions in relation to the proposal and are in progress:

- SEMO IT to propose testing scenarios for further testing within the market systems
- Participants to submit scenarios for testing by SEMO IT, where applicable
- Secretariat to organise conference call for Committee sign-off on proposed testing scenarios
- SOs to discuss outcomes of testing with ABB
- RAs to discuss internally whether a MWh De-Minimus level should be put in place for energy storage

# *Mod\_04\_14\_v2* Change to Uplift Parameters Determination Timeline

The proposal was withdrawn at Meeting 55. A withdrawal notification was published on the SEMO website subsequent to the meeting.

# Mod 07 14 v2 Change to Final Registration Meeting Requirements to allow for email

The proposal was discussed at Meeting 55. The proposal seeks to allow SEMO to hold a final Registration meeting via email, rather than via conference call or in person, when appropriate, for the agreement of a market Effective Date for new market registrations. MDP Member advised of internal company concern in relation to the addition of an email option for the agreement of a market Effective Date.

The below actions were recorded at the Meeting:

- NIE to clarify issues with the addition of email option internally
- Secretariat to set up meeting with NIE and proposer to further discuss, once clarification has been received from NIE

# **3** Service Delivery

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

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

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).

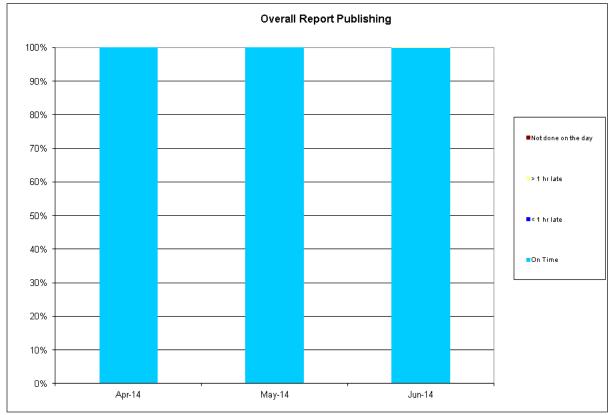
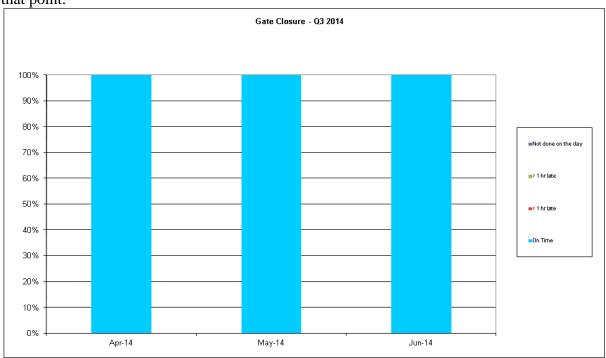
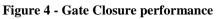


Figure 3 - Overall Daily Report Publication



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



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.

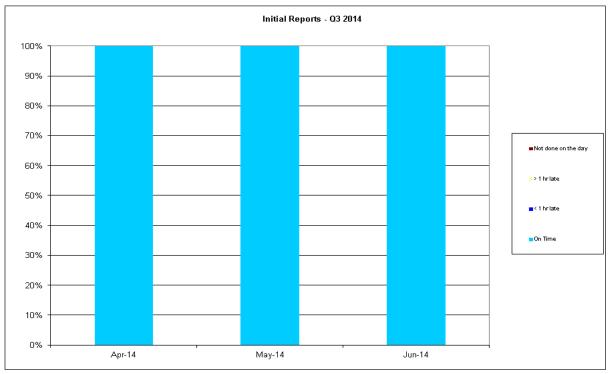


Figure 5 - Initial report performance

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

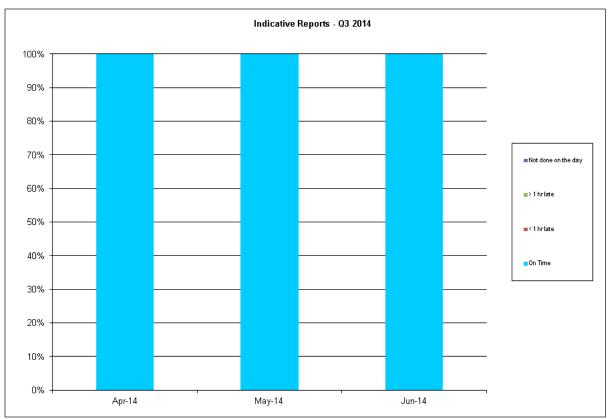


Figure 6 - Indicative report performance

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

# **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 Resettlement has continued to run on time and on schedule.

## 3.3 Ad-Hoc Pricing and Ad-hoc Resettlement Runs

Three Re-pricing runs were issued during this Quarter and five upheld Settlement Queries that required an Ad-Hoc Resettlement. Details of these are provided below:

Ad-Hoc Pricing

- 16/04/2014: Re-pricing was required due to a known System defect regarding Pump Storage pond target level.
- 02/05/2014: Re-pricing was required due to a known System defect regarding Pump Storage pond target level.
- 09/05/2014: Re-pricing was required due to a known System defect regarding Pump Storage pond target level.

## <u>Ad-Hoc Settlement Runs</u>

- <u>Week 8, 2014</u>: Ad-Hoc Energy Resettlement was required for 23<sup>rd</sup> February 1<sup>st</sup> March 2014. This was due to incorrect Dispatch Instructions for one unit submitted by TSO EIRGRID
- <u>Week 9, 2014</u>: Ad-Hoc Energy Resettlement was required for 2<sup>nd</sup> 8<sup>th</sup> March 2014. This was due to incorrect Dispatch Instructions for one unit submitted by TSO EIRGRID
- <u>Week 13, 2013</u>: Post M+13 Ad-Hoc Energy Resettlement was required for 4<sup>th</sup> April 2013. This was due to incorrect Meter Demand submitted for one Supplier Unit by MDP MRSO.
- <u>Week 12, 2013</u>: Post M+13 Ad-Hoc Energy Resettlement was required for 28<sup>th</sup> March 2013. This was due to an operational error.

## 3.4 Administration of Credit Cover

The SEM has been fully collateralised according to the Trading and Settlement Code provisions during Q3 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). All CCIN's were closed within the two days allowed in the code. For more information on Credit Cover in the SEM, please refer to <u>section 6</u>.

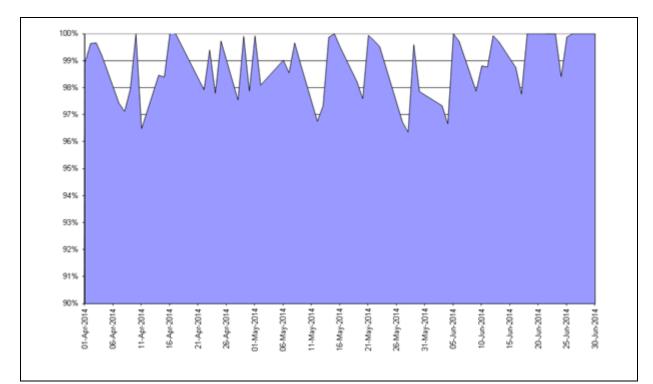


Figure 7 Market Collateralisation in Accordance with Trading and Settlement Code Requirements

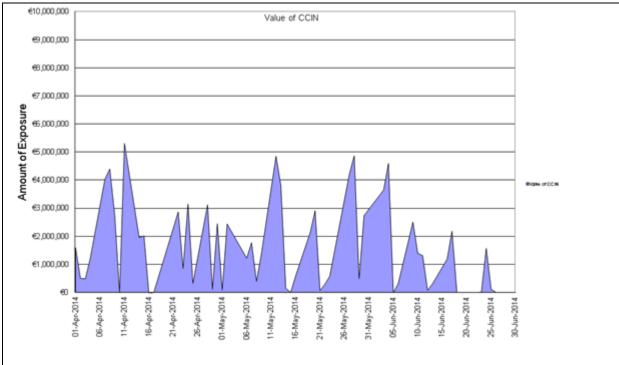
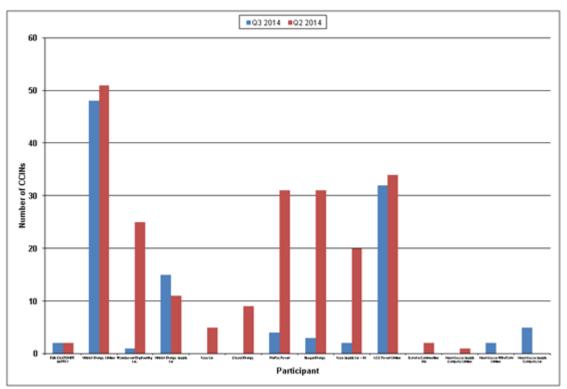


Figure 8 Credit Cover Increase Notice Total Amounts per Day





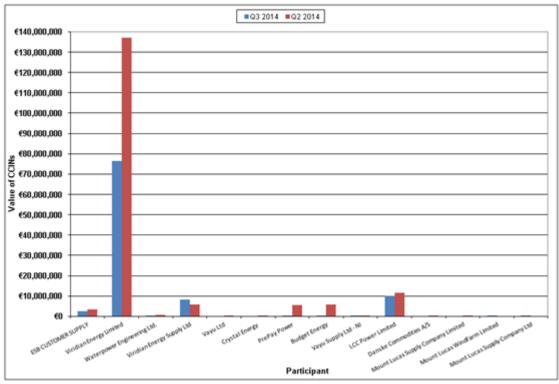


Figure 10 -Value of Credit Cover Increase Notices

The frequency of CCINs decreased in Q3 2014 compared to Q2 2014 (114 compared to 222 last quarter) with the greatest number of CCINs issued in April 2014 (48).

These CCINs were distributed across 10 Participants this quarter. The total value of the CCINs issued was just over  $\notin$ 98 million compared to  $\notin$ 170 million in the previous quarter.

# 3.5 Breaches of the Trading and Settlement Code

There were 39 breaches of the Trading & Settlement Code in Q3 2014 that SEMO is aware of. This is down from 46 in Q2 2014.

SEMO was responsible for a total of 15 breaches in the last quarter, down from 17 in Q2 2014.

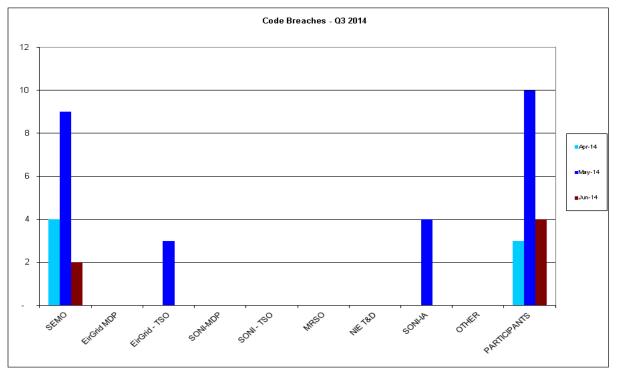


Figure 11 - Number of Trading and Settlement Code Breaches

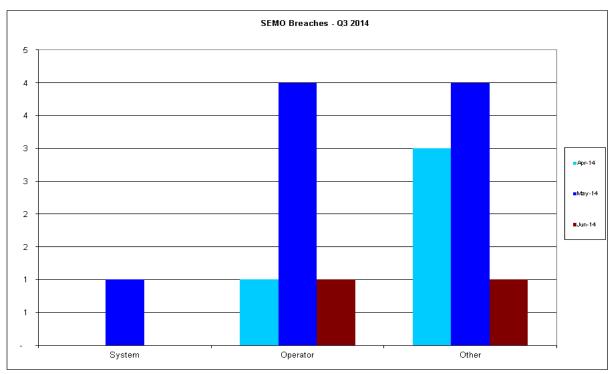


Figure 12 - Source of SEMO Trading and Settlement Code Breaches

# 4 Regulatory Affairs

There are no updates for this quarter.

# 5 Provide Information

The Trading and Settlement Code obligates SEMO to answer Data Queries and Settlement Queries within a given time line. Since 1<sup>st</sup> 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 has improved greatly in the last quarter and continues to be a focus for SEMO.

There was 1 new Dispute raised in this quarter with 18 resolved.

# 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  $30^{th}$  of June 2014.

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	507	479	28	511	2.62	443
Important	11	10	1	10	1.42	7
Urgent	8	4	4	4	2.29	2
Settlement	39	31	8	34	8.61	32
Credit	0	0	0	0	0.00	0
Dispute	1	1	0	2	12.12	1
Data	1	1	0	1	8.85	1
Total/Average	567	526	41	562	7.18	486

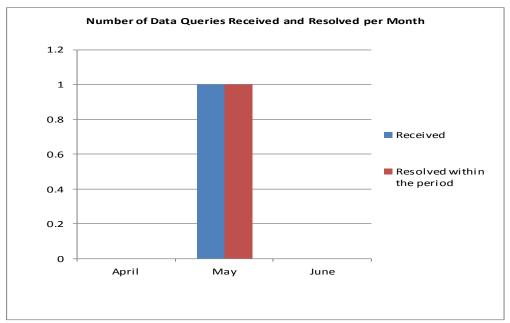


Figure 13 - Number of Data Queries submitted and Resolved per month

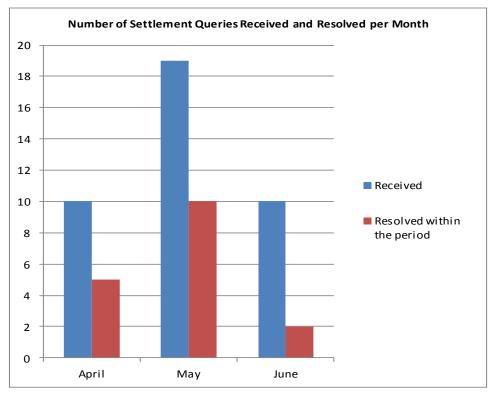
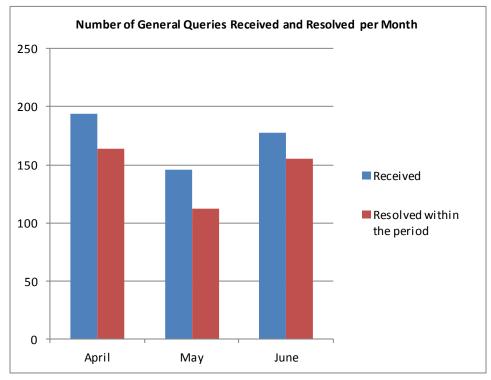
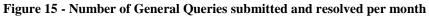


Figure 14 - Number of Settlement Queries submitted and resolved per month





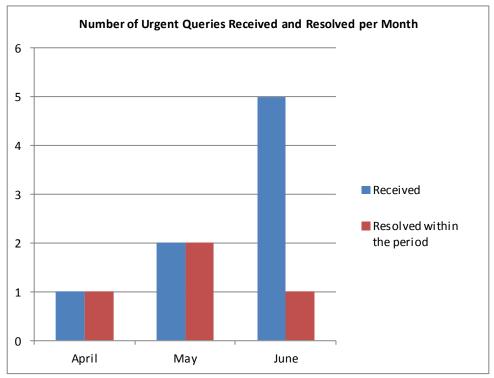


Figure 16 - Number of Urgent Queries submitted and resolved per month

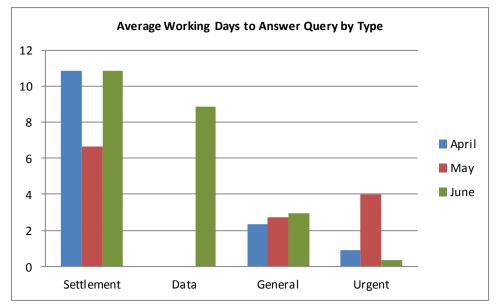


Figure 17 - Average Working Days to answer query type per month

# 5.2 Facilitate and Educate Participants to accede to the Code

In this period the following companies acceded to and became parties to the Trading & Settlement Code and registered in the Single Electricity Market:

• PY\_000131 Genpower (NI)

# 5.3 Facilitate Interaction with Customers

# 5.3.1 Stakeholder Events

A summary of the main stakeholder interactions is provided below. This is in addition to the interactions that occur through the market helpdesk and query process.

- Market Operator Conference Call (15<sup>th</sup> of April 2014 and 17<sup>th</sup> of June 2014)
- Meetings/Training sessions with Participants on specific topics (5<sup>th</sup> of June 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, that it should have been. The reverse is true for 'over-estimation' where the calculated RCC was more that 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 5% of the time in Q3 2014. This showed a decrease of 4% when compared against Q2 2014. This figure is lower than the long term average of 18% under-estimation since market start. It is also lower than the values seen in the same quarter last year (9%).
- The value of each occurrence of under-estimation has decreased from the previous quarter of 0.31% to 0.02%, lower than the long term average of 0.86%.
- In Q3 2014, where the RCC Coverage is not sufficient, the market is under-estimated by an average of approximately €24,000 on a total market exposure of just over €78 million. The long term average equates to an under-estimation of €2 million on a total average market exposure of €255 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 overestimated. For the SEM as a whole, the Q3 2014 period has seen the RCC under-estimated on 5% of credit cover calculations. This is a decrease of 5% from the same period last year and a decrease of 4% from the previous quarter reported. The average SMP price and the demand both decreased only slightly compared to the previous quarter.

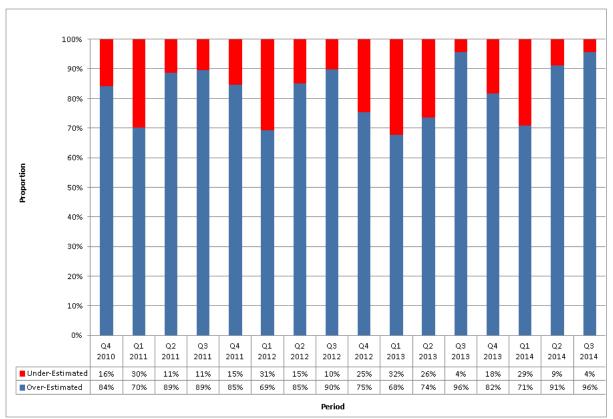


Figure 17- Occurrences of Under or Over Estimation

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 2014, the daily time weighted average was  $\notin$ 53, which is higher than in Q2 2014 ( $\notin$ 52). 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 in a few times in Q3 2014.

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 10% from previous quarter.

These small variations have limited the amount of under estimation in the current quarter, particularly as demand shows a slightly increasing trend across the Q3 2014.

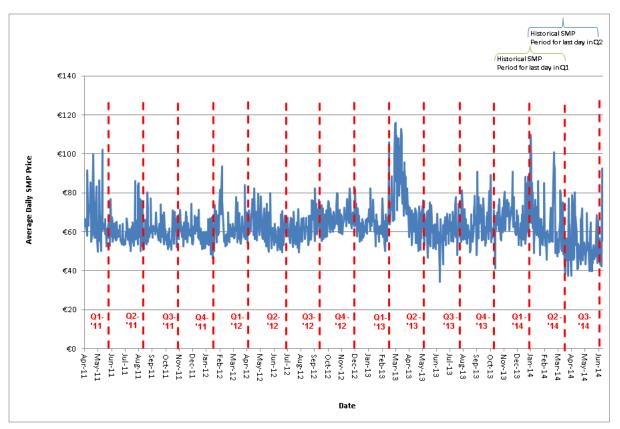


Figure 18- Trend in Average Daily SMP

# 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.

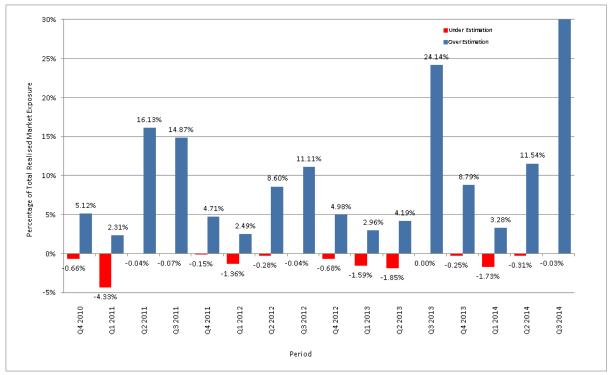


Figure 19 – Extent of Under or Over Estimation when Under or Over Estimation Occurs

The majority of under-estimation, since the start of the market, is below 1%. Q3 2014 is lower with a figure of 0.02%.

Where over-estimation occurs, this has been on average between approximately 1.5% and 43% since the start of the market. In the quarter under analysis, the extent of over-estimation increased to 43% compared to 11.54% in the previous quarter. This is higher than the long term average of 9.90%.

# 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 2014, from an average exposure of the market of just over  $\notin$ 78 million, the market has had an average RCC under-estimation of just over  $\notin$ 24,000 and an average RCC over-estimation of  $\notin$  48 million on any given day.

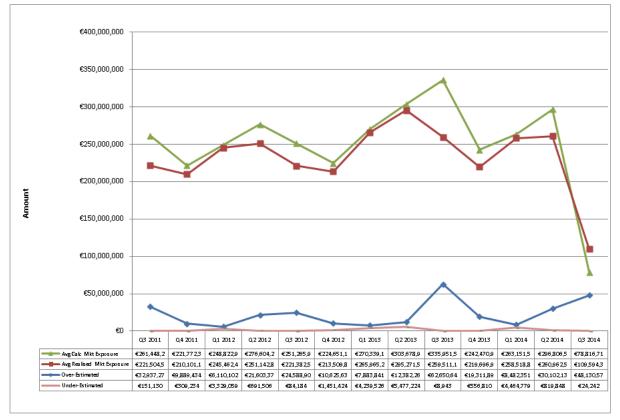


Figure 20 – Monetary Exposure due to Accuracy of Credit Cover Calculations

## 6.6 All Quarters Summary

For the SEM as a whole, from market start to the end of June 2014, RCC has been underestimated 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  $\notin 2.1$  million out of a total average realised market exposure of  $\notin 255$  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 9.94%, or  $\notin$  22 out of a total average realised market exposure of  $\notin$  234 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 10<sup>th</sup> July 2014. The value was 0.7939 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 vs. calculated UDE for the whole period up to the end of June 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 September2013).
  - 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 2013 financial year, is typically 82% of total market exposure, while Capacity is 18% of total market exposure. This is based on the figures for the period Oct 2012 to Sep 2013, of operation of the market, in which the Energy market was approximately €2.4 billion and a Capacity market of approximately €537 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).