



Regulatory Authority Annual Report

Market Operator Performance

Period: 1st October 2014 to 30th September 2015

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1 Introduction

SONI Ltd. and EirGrid plc, operating as the Single Electricity Market Operator (SEMO) are required under Condition 17 and 10 of their respective Market Operator Licences to provide an annual report to the Regulatory Authorities on Market Operator Performance.

The period covered by this annual report is for financial year 2015 (from 1st October 2014 through to 30th September 2015).

In line with all other reports from SEMO, Quarters will be defined according to the financial year as follows:

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

The four main categories of performance metric covered are:

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

An additional section, providing a review of key areas of the SEM, is also included.

2 Manage Change

2.1 IT Capital Expenditure

2.1.1 IT Capital Expenditure 2013-2016

The following table gives a brief update on the progress to date of the SEMO 2013-16 Revenue Control Capital projects.

Capital Expenditure (Capex) is required to enable SEMO to invest in new and improved systems in order to fulfil its operational and market management requirements. A total of nine capital business cases were submitted to the Regulatory Authorities as part of the 2013-16 price control submission. These business cases focused on IT infrastructure requirements, website services, telecommunications links, corporate system upgrades and security protection.

No	Capital Project	Project Description	Project Status
1	CMS Infrastructure	Three year Delivery timeline. Project will ensure the resilience of the CMS is maintained and the systems operate on fully supported platforms.	This piece of work will progress throughout 2013-2016. Server replacement program continues and aligns with end of life / warranty of CMS infrastructure estate – In Progress
2	Website Infrastructure & Services Upgrade	This project will replace obsolete hardware to cope with exceptional growth which is far beyond expectations when originally designed. In addition the existing website software will be updated as required.	Project will leverage virtualisation approach Phase 1: VMWare platform build – Complete Phase 2: Release incorporating Change Requests to provide additional functionality – Complete Phase 2 SEMO primary and DR websites to migrate to VMWare Q2 2015 – Complete
3	Sharepoint: Upgrade & Hardware Refresh	Sharepoint is a key operational support tool in operation since 2007. This project will replace obsolete hardware, upgrade sharepoint software to a supported version (V2013), migrate data to the new version and enhance data	Project will leverage Virtualisation approach. Phase 1: VMWare platform build - Complete . Phase 2: Sharepoint upgrade (V2007 to V2013) – Complete Phase 3: Custom logic conversion Q1 2015. – Complete Phase 4: Training and Go-Live scheduled for completion - Complete .

		storage capability	
4	Corporate Systems Refresh	Update and optimise data storage and routing capabilities including updating the corporate Storage Area Networks (SANs), replacing load balancers and replacing the backup system.	<p>Phase 1: External Corporate firewalls upgraded – Complete</p> <p>Phase 2: Upgrade of RightFax solution - Complete</p> <p>Phase 2: Internal Firewalls and Load Balancer upgrade scheduled for Q2 2015 - Complete</p> <p>Phase 3: Analysis of SAN and backup system– In Progress</p> <p>Phase 4: Corporate server replacement program continues and aligns with end of life / warranty of corporate server estate – In Progress. This aspect of the project will progress throughout 2013-2016.</p>
5	Telecommunications Links	Key infrastructure components providing fully redundant, consistently available high performance links between SEMO sites.	Complete.
6	Technical Upgrade of Microsoft Dynamics	Upgrading the MS Dynamics software which covers both Market and SEMO Corporate finance.	Project to refresh hardware will commence early 2016. Software will not be upgraded.
7	Security Intrusion (Protection of CMS)	Delivery of a Network Intrusion Detection System (NIDS).	<p>In 2013/14 SEMO commissioned an independent third-party (Deloitte) to assess the security aspects of the Central Market Systems by executing a Penetration Test on our main externally facing interfaces. This was targeted for completion prior to commencing any further activity in this area in order to have a complete assessment of what level of security intrusion systems / configuration may be required. Some recommendations were made as part of this security assessment which were addressed in the SEM R2.5.0 release by our vendors. This completed one aspect of the “Protection of CMS” project.</p> <p>The second part of the project involves commissioning a dedicated Intrusion Protection System (IPS) which is currently nearing completion. This type of system sits between the CMS and the internet and monitors, assesses and reports on potential threats in incoming traffic. The</p>

		hardware and software has been commissioned and the IPS system is now operating in “Learning Mode”. This will continue to be configured as potential threats materialise.
8	Virtualisation of Oracle & network devices	<p>This project will virtualise</p> <ul style="list-style-type: none"> • non-Production Oracle databases • Cisco network equipment in Belfast data centre <p>This Project will not now proceed.</p>
9	Upgrade of Supportworks Helpdesk	<p>This project will provide a lifecycle upgrade for the software used by the Market Helpdesk.</p> <p>This project will not now proceed.</p>

Table 2: Details of Capital Business Cases 2013-2016

2.1 System Releases

- Central Market Systems Releases (01-Oct-2014 – 30-Sep-2015)

The following table summarises the releases deployed to the CMS in the period 01-Oct-2014 to 30-Sep-2015:

CMS Release	Deployment Date	Release Type	No. of Change Requests	Interface Impact?
SEM R2.5.0	14-Nov-2014	Scheduled	8	Yes
SEM R2.6.0	13-May-2015	Scheduled	3	No

Table 3: Release Activity Oct 2014 – Sep 2015

- SEM Release 2.7.0 – Proposed Deployment: Deployed October 2nd 2015

The following table outlines the approved scope for the SEM R2.7.0 release to the CMS:

SEM R2.7.0 Approved Scope			
CR Ref.	Mod. Ref	Sub-System	Description
SEM_PC_CR349	N/A	MI	REMIT reporting
SEM_PC_CR338	N/A	MI	Make Whole Payments

Table 4: Approved Scope for SEM R2.7.0

- Scope approval was received from the Regulatory Authorities on May 8th, 2014.
- The scope was published to the industry on June 17th, 2014.
- Factory Acceptance Testing commenced on 21st July and ran through until 30th July.
- The software was delivered by our vendors on August 3rd 2015.
- System Integration Testing commenced on schedule on August 6th 2015 and was completed on September 25th 2015.
- Market Test ran from September 3rd 2015 to September 14th inclusive.
- The software was deployed successfully on Friday October 2nd

Release SEM R2.8.0 (Proposed Deployment: May2016)

The **release cut-off date** for the May 2016 release (SEM R2.8.0) is **Friday, November 6th, 2015**

As at the Cut-Off Date there were no:

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

As there were no functional changes proposed, a Change Control Forum (CCF) meeting will not be required. One Change Request to address an observation from the 2014 Market Audit will be proposed by Market Operations. A proposal for implementation will be issued to the Regulatory Authorities in the coming weeks. The scope will be published to the industry on receipt of Regulatory approval.

2.2 Modification Management

The tables that follow give an overview of the activity that has taken place between 1st Oct 2014 and 30th Sept 2015. Table 5 and Table 6 show the dates and number of Modifications Committee Meetings that took place over this period.

Meeting	Date	Location
57	2 nd October 2014	Belfast
58	4 th December 2014	Dublin
59	12 th February 2015	Belfast
60	24 th March 2015	Dublin
61	15 th April 2015	Dublin
62	16 th June 2015	Belfast
63	13 th August 2015	Dublin

Table 5: Modifications Committee Meetings

Modification Committee Meetings	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Total
Scheduled meetings	2	2	2	1	7
Other meetings	0	0	1	1	2
Working Groups	0	0	0	0	0

Table 6: Modification Committee Meetings & Working Groups

At the Modifications Committee Meetings, decisions are made with regard to progressing various Modification Proposals. Table 7 and Figure 1 give an outline of the amount of activity that has taken place in each quarter.

Modification Proposal Activity	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Total
Raised	1	2	5	0	8
Alternative Versions raised	0	0	1	2	3
Withdrawn	0	1	2	0	3
Deferred	3	6	5	1	15
Extension Granted	1	1	1	0	3
Recommended for Approval	1	2	3	2	8
Recommended for Rejection	0	1	0	0	1
Further Work Required	0	0	0	0	0
Approved	0	0	2	0	2
Rejected	0	0	0	0	0

Table 7: Modification Proposal Activity

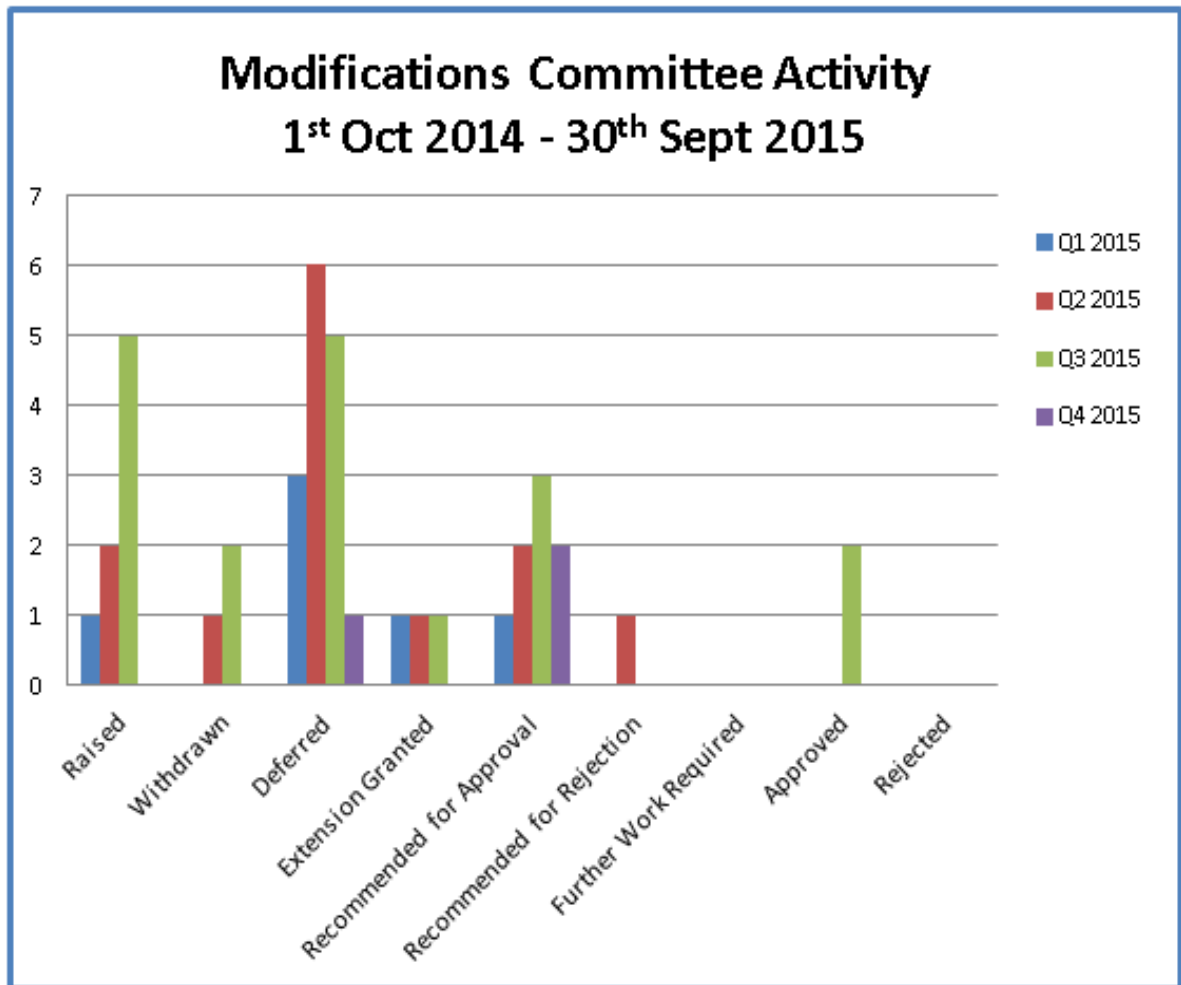


Figure 1 - Modifications Committee Activity

Finally, Table 8 and Figure 2 show the progress made on all the Modification Proposals submitted since the beginning of the SEM in November 2007 and their status at the end of each quarter.

Modification Proposal Status	End Q1 2015	End Q2 2015	End Q3 2015	End Q4 2015
Raised	341	344	349	349
Withdrawn	48	49	51	51
Deferred	9	5	4	2
Recommended for Rejection	0	3	3	3
Recommended for Approval	2	3	4	3
Approved	0	1	2	2
Implemented	269	270	272	275
Rejected	13	13	13	13

Table 8: Modification Proposal Status at end of each Quarter

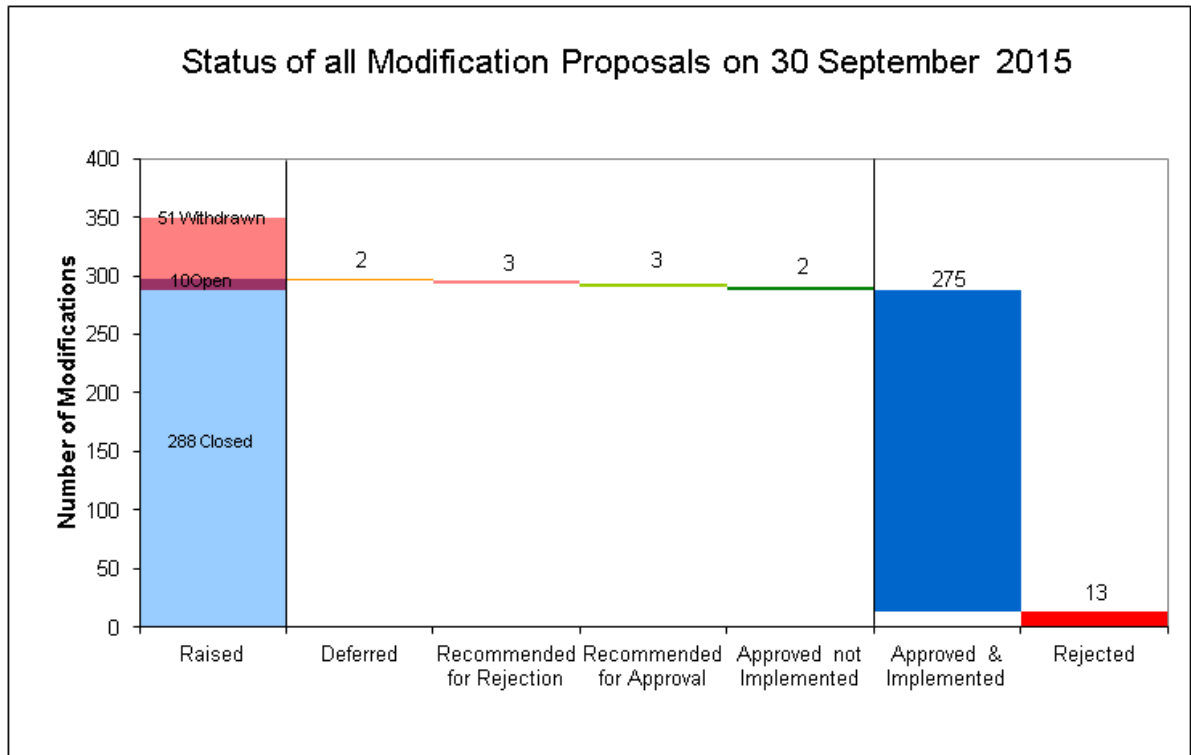


Figure 2 - Status of Modification Proposals from 1st November 2007 to 30th Sept 2015

2.2.1 Publication of the Trading & Settlement Code

Trading & Settlement Code and Agreed Procedures Version 16.0, were published on the SEMO website on 14th November 2014 in line with the CMS release. One effective Modification was included in the version.

Trading & Settlement Code and Agreed Procedures Version 17.0, were published on the SEMO website on 15th May 2015 in line with the CMS release. Two effective Modifications were included in the version.

2.2.2 2015 Modifications Committee Elections

Modifications Committee Annual Elections commenced in June with a call for nominations for four expiring positions on the Modifications Committee. Due to the minimum number of nominations received, and in accordance with AP12 Section 3.7 (6), the following nominees were automatically elected to the Modifications Committee.

Expired Member	New Member	Position
Mary Doorly	Mary Doorly (IWEA)	Generator
Kevin Hannafin	Kevin Hannafin (Energia)	Generator
Jill Murray	Julie-Anne Hannon (Bord Gais)	Supplier
William Steele	William Steele (Power NI)	Supplier
	Eamonn O'Donoghue ElectroRoute Energy Trading Ltd	Interconnector

Table 9 - Modifications Committee Elections

The election for Chair and Vice-Chair took place in September with Kevin Hannafin (Viridian) returned as Chair and Aine Dorran (ESBI) elected to the position of Vice-Chair.

2.3 Modifications Process Development

Modification Proposals were considered at bimonthly Modifications Committee Meetings alternating between Belfast and Dublin (see Table 5).

Full details of all modifications progressed during the year are available in the Modifications section of the SEMO website. Summaries of some of the more significant Modification Proposals progressed are presented below.

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 Final Recommendation Report was then sent to the RA’s for a final decision.

Make Whole Payments Proposals – Mod_09_14 – Mod_12_14

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 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’.

Following detailed discussions at Meeting 59 an Extraordinary Meeting was convened to review this modification and also Mod_12_14 with a view to bringing this to the conclusion of a vote. Mod_09_14 version 2 was revised by Electric Ireland who are now the proposers of this proposal. The committee approved this proposal unanimously, while Mod_10_14, Mod_11_14 and Mod_12_14 were rejected with a majority vote.

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’.

Modifications Recommended for Rejection

Make Whole Payments Proposals

Mod_10_14: Make Whole Payments for Interconnector Units

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

As discussed in previous paragraph, Mod_12_14 was recommended for Rejection at Extraordinary Meeting 60. Meeting 59 concluded with a vote to reject both Mod_10_14 and Mod_11_14 also Make Whole Payments proposals. A final decision letter was then received approving Mod_09_14.

Mod_02_13 Amendment to Special Units Pumped Storage definition to include Energy Storage

This proposal was put forward by the RA's however Activation Energy had raised the same proposal in 2009 as MOD_30_09 with a working Group held to discuss the issue where it was agreed that it was not a valid option. Proposer had requested to withdraw the proposal in accordance with Section 2.188A of the Code. DSU member proposed a different approach to registration in order to remove the obligation to check for Supplier Licence when registering a TSSU as a requirement for DSU registration.

A withdrawal notification advising Participants that the proposal has been withdrawn was published on 3rd March 2015.

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_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 15th June 2015.

Mod_02_13 Registration of Charges

Following an extensive modification proposal process involving external legal counsel, the committee were happy to vote at Meeting 63. The proposal was recommended for Approval by a majority vote. A final recommendation report has been sent to the Regulatory Authorities for a Final Decision.

Mod_06_15 REMIT Data Reporting by the Organised Market Place to ACER

Following an extended Committee Meeting focusing on the REMIT modification proposal the Committee were happy to vote. The proposal was recommended for approval by a unanimous vote. The final recommendation report was sent to the Regulatory Authorities who have since issued the final decision to approve the proposal. This proposal became effective as of 2nd October.

Mod_04_15: Modification to Relevant Meter Operator Role and Support Requirements for Meter Communication Channels

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 64 in October 2015.

3 Service Delivery

These metrics indicate how timely SEMO were in producing reports to Market Participants.

3.1 Core Market Operations Function Performance

SEMO is obligated on every day to close the market gate, issue ex-ante indicative schedules and run indicative and initial pricing runs. Every working day SEMO is obliged to issue initial and indicative settlement runs statements.

The following series of graphs shows the percentage of all reports issued in the last year by quarter that were on time, late by less than an hour or late by over an hour. In summary most reports were issued on time or within an hour of the required time. Where initial reports go out over an hour late (infrequent) these still are delivered on the day (less than 3 hours late). Some indicative settlement reports have not been published on the day scheduled. These were published late due to technical issues, operational errors or delay in information from the data providers. The full details of the reasons for the delays are provided in the Monthly Market Operator Reports.

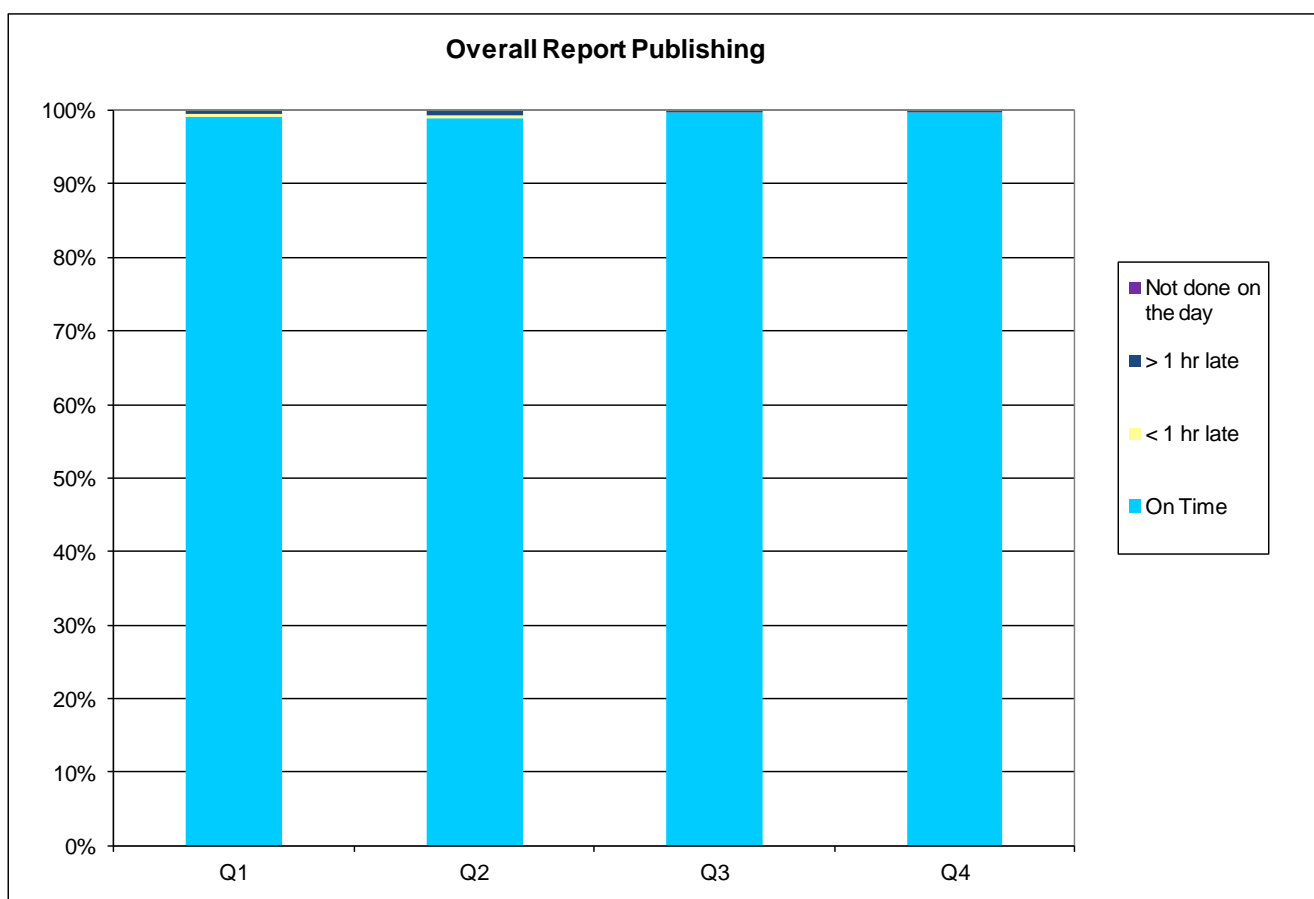


Figure 3 - Overall Daily report publication

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

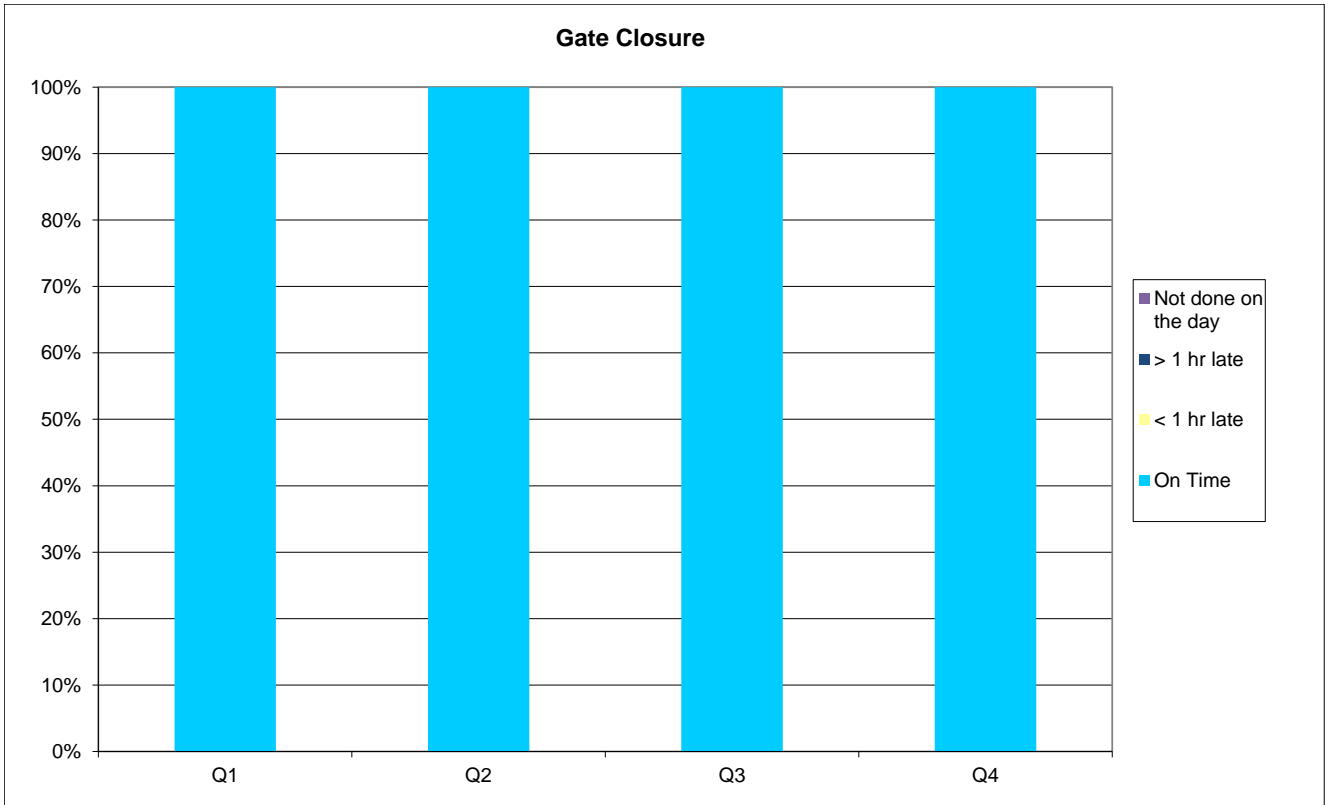


Figure 4 - Gate Closure performance

The initial Pricing and Settlement reports go out on a working day for the relevant calendar day. These reports are used in the final settlement of the market.

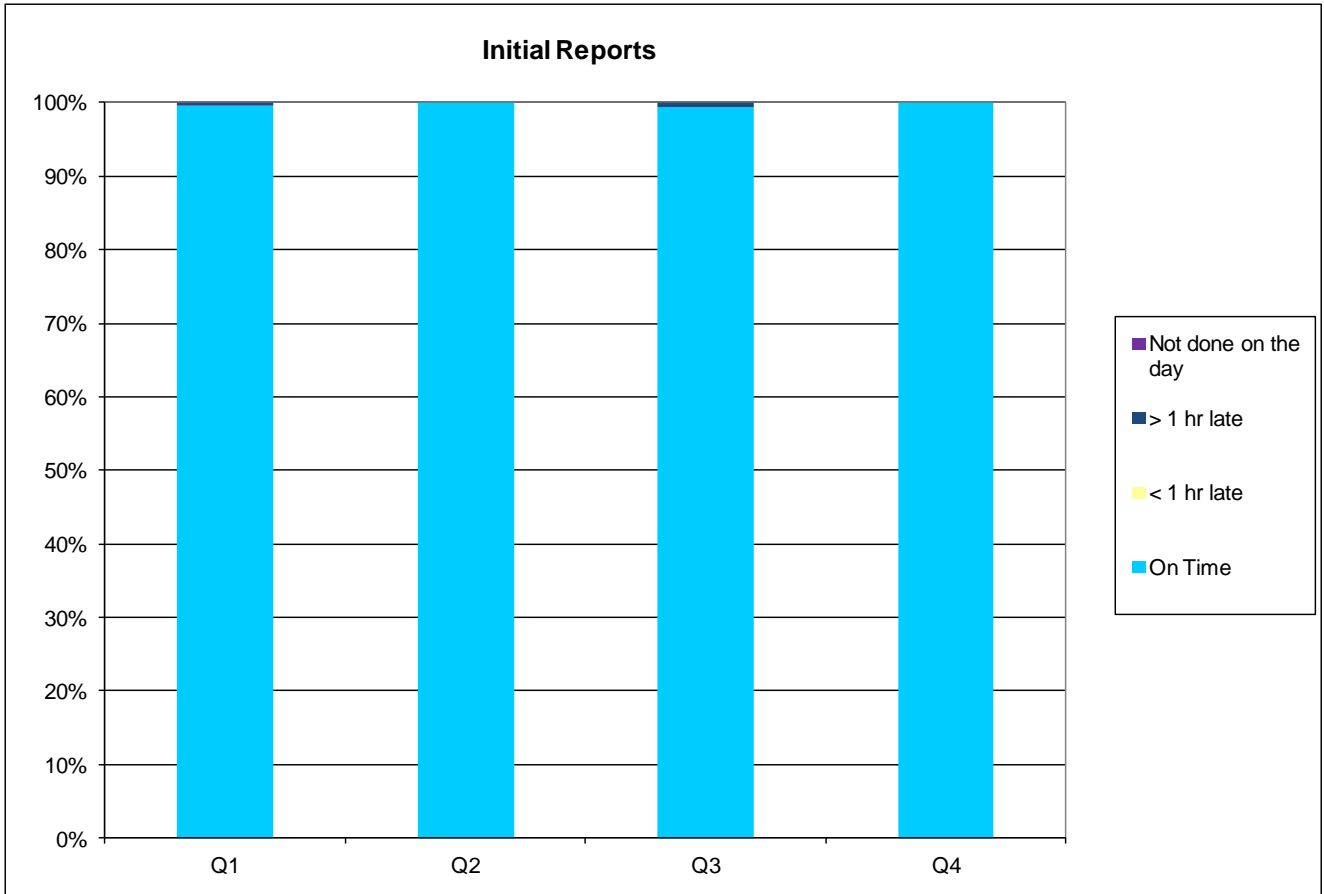


Figure 5 - Initial Report Performance

Delays in publishing the indicative reports were due to delays in receiving input files from data providers, system performance issues, or operational errors.

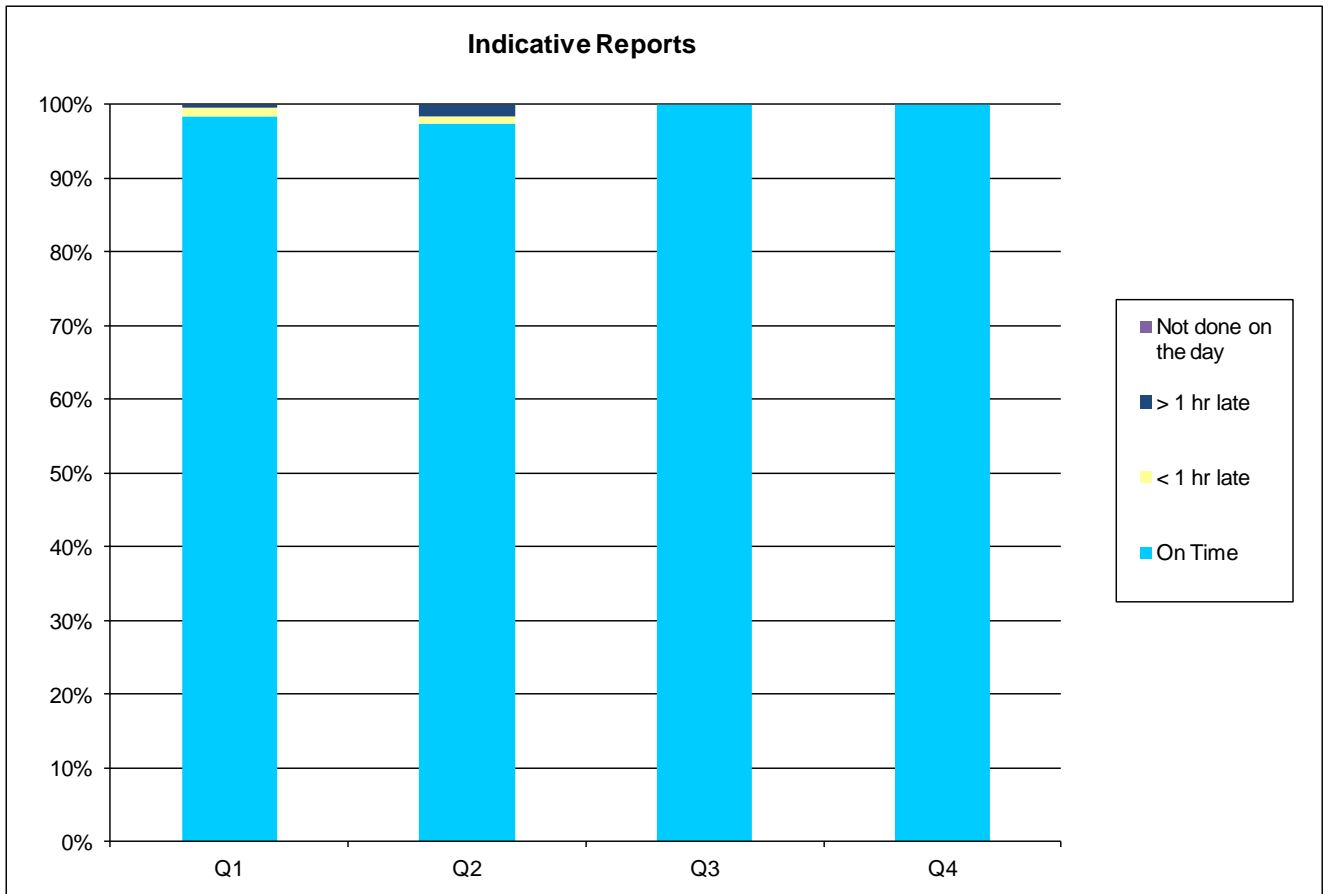


Figure 6 - Performance of Indicative Reports

3.1 Planned Re-Settlement M+4 & M+13

Resettlement occurred on time for the year as scheduled in the Settlement Calendar.

3.2 Ad-hoc Re-Pricing and Ad-hoc Resettlement Runs

20 Ad-hoc re-pricing runs were issued during Financial Year 2014 / 2015.

- There were two Data queries upheld resulting in re-prices for Trade date's 01/05/2015 & 11/05/2015
- There were two General Disputes which resulted in re-prices for 18 trade dates. More detailed narratives of each of these events can be found in the Quarterly reports.

Ad-hoc Resettlements was carried out for 99 events. These were the result of incorrect Meter Data submissions, incorrect Dispatch Instructions or Actual Availabilities being sent by the respective TSO, operational errors by SEMO, as well as system defects.

More detailed narratives of each of these events can be found in the Quarterly reports.

3.3 Administration of Credit Cover

The SEM has been collateralised according to the T&SC provisions for the whole period from 1st October 2014 to 30th September 2015. At times, the collateralisation may be slightly less than the calculated requirement due to the time allowed by the T&SC for Participants to comply with a Credit Cover Increase Notice (CCIN). There were 11 CCINs that were not fully honoured within the two days allowed as per T&SC. However these CCINs were resolved the same day after 5pm or by 5pm next day.

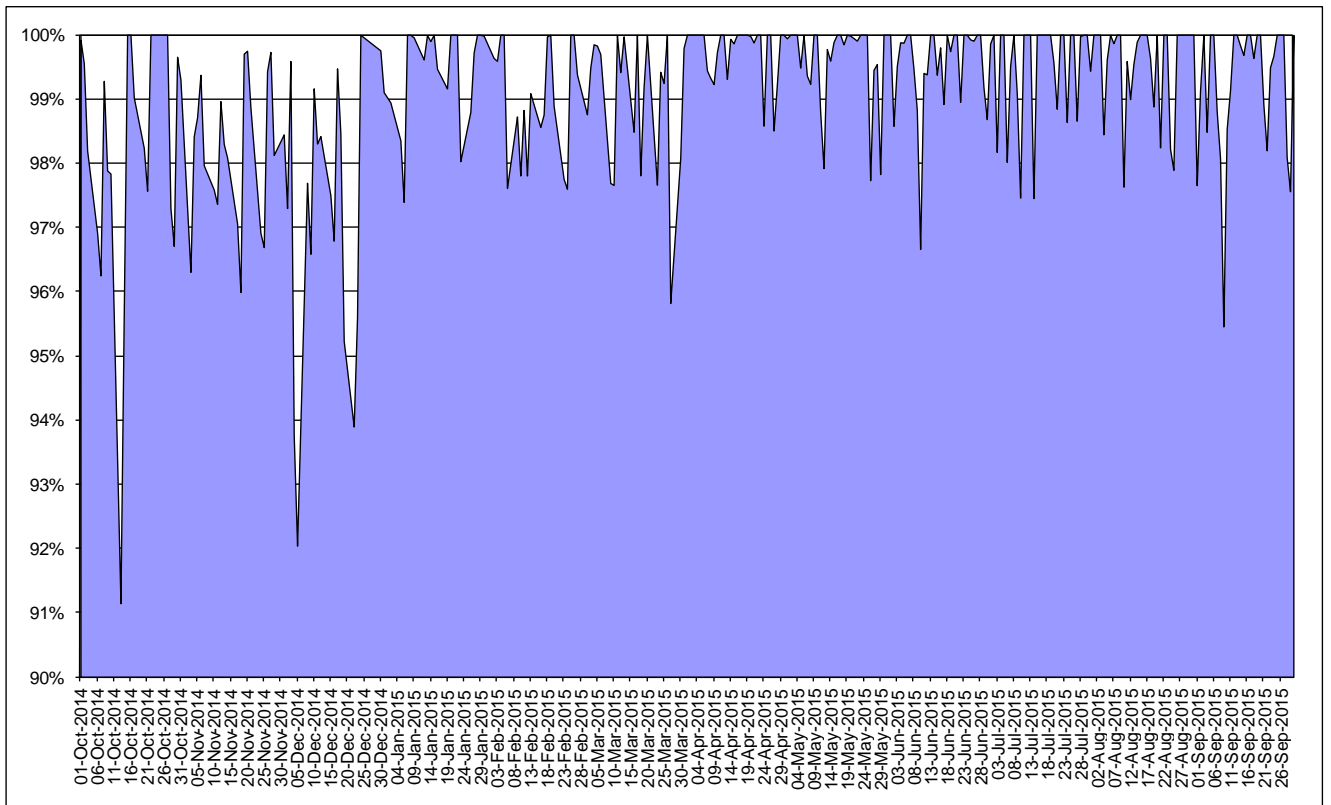


Figure 7 - Market Collateralisation

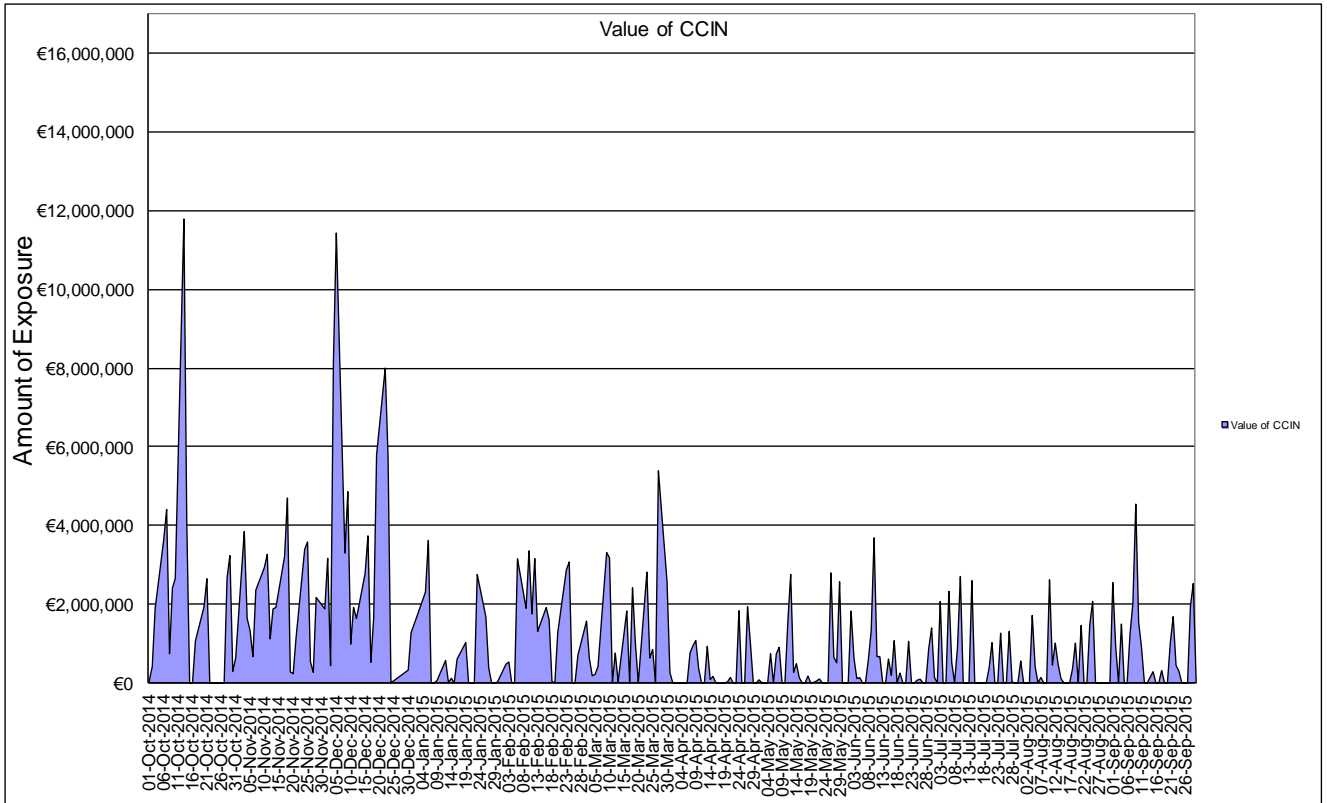


Figure 8 - Credit Cover Increase Notice Amounts per Day

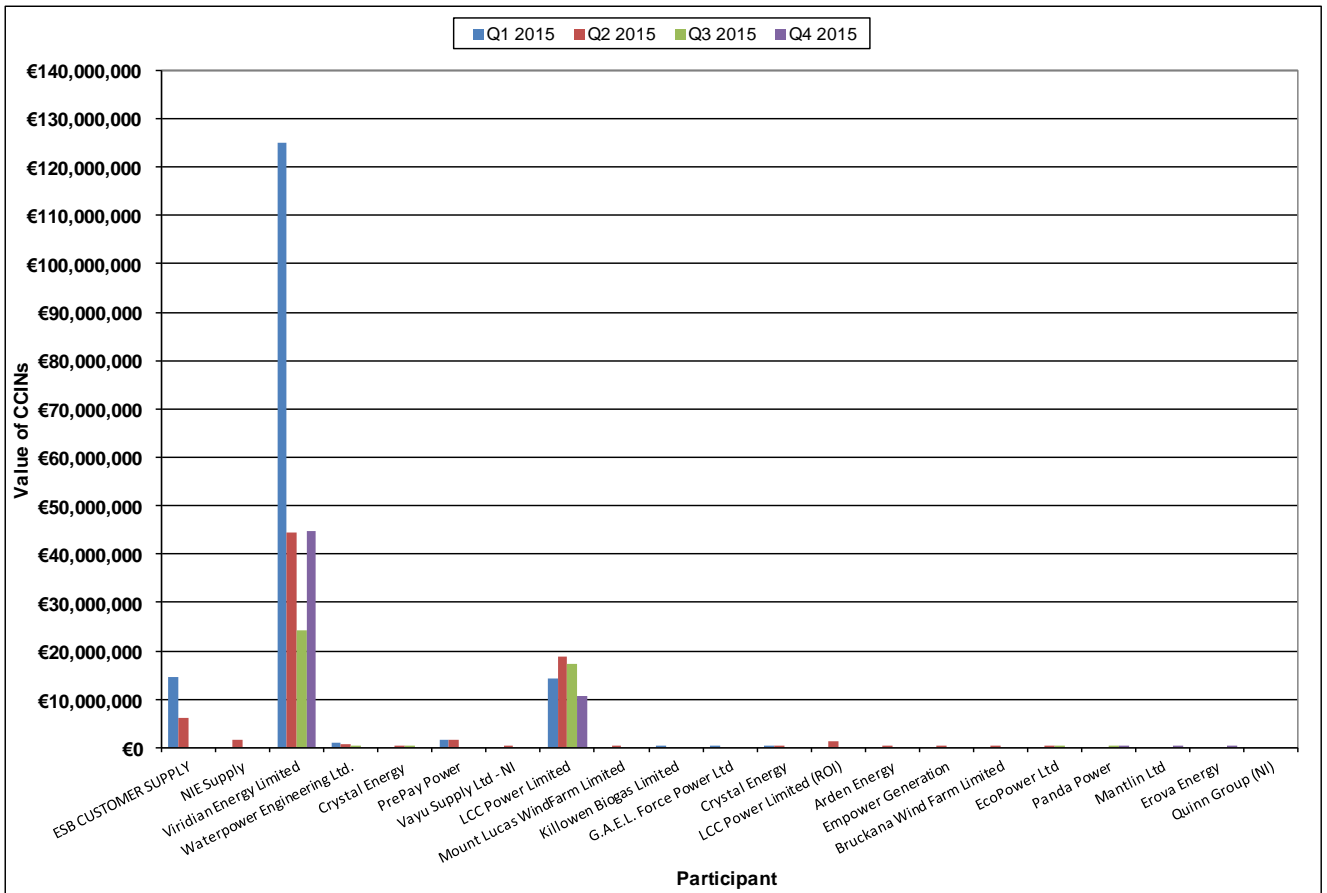


Figure 9 - Total Value of Credit Cover Increases by Participants

3.4 Breaches of the Trading and Settlement Code

SEMO is aware of 203 breaches of the T&SC in the period from 1st October 2014 to 30th September 2015. This is an increase from last year's annual figure of 154 breaches. A breach of the T&SC can range from minor issues like a late receipt of a data feed to major ones like payment defaults leading to suspension from the Market. The breaches in financial year 2014/2015 were at the lesser end of non compliance with no significant breach identified in the period.

In total, SEMO were responsible for 44 of the total breaches. This is a slight increase compared to last year's figure of 42 SEMO breaches. There were also 131 identified breaches by participants.

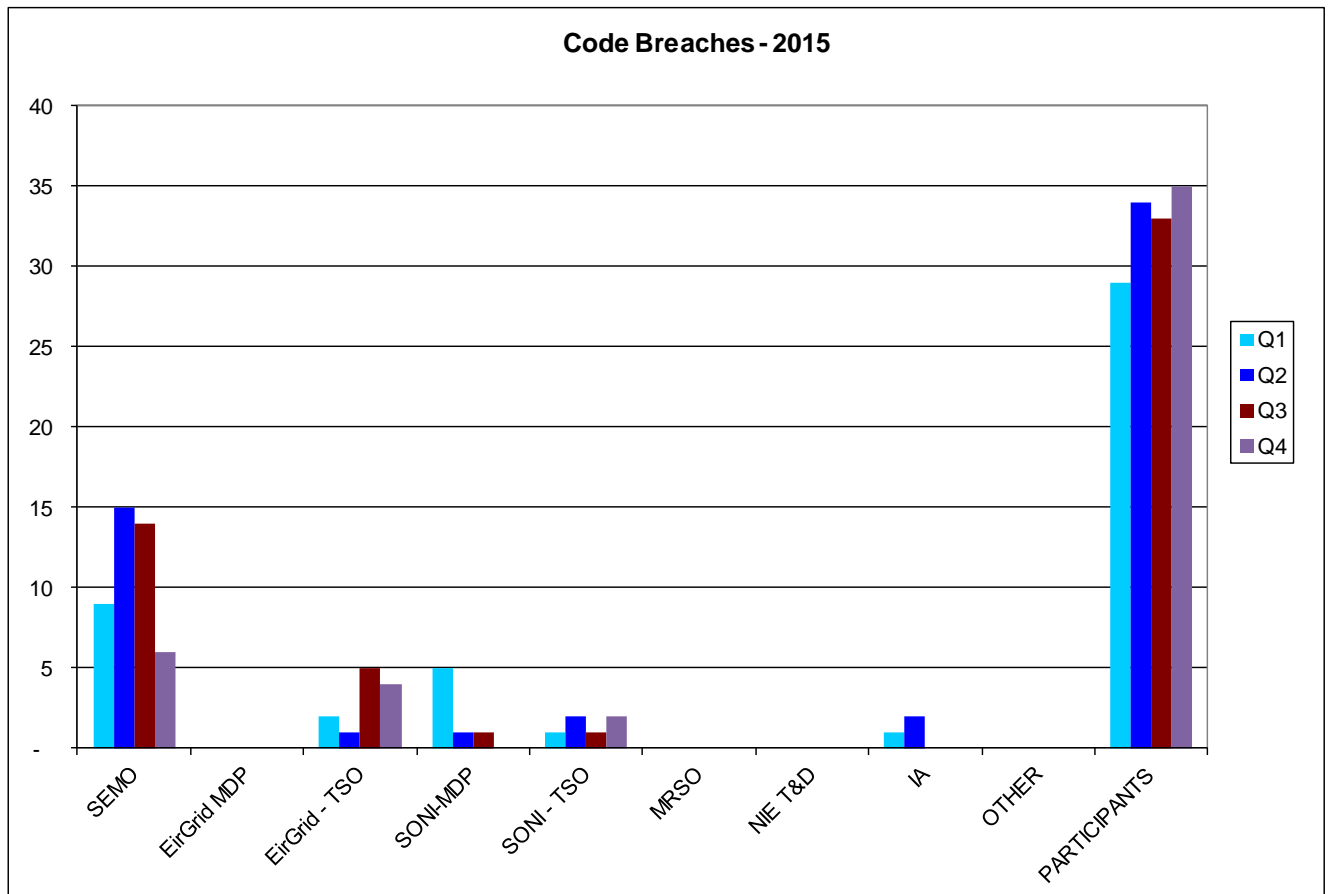


Figure 10- Number of Trading and Settlement Code Breaches

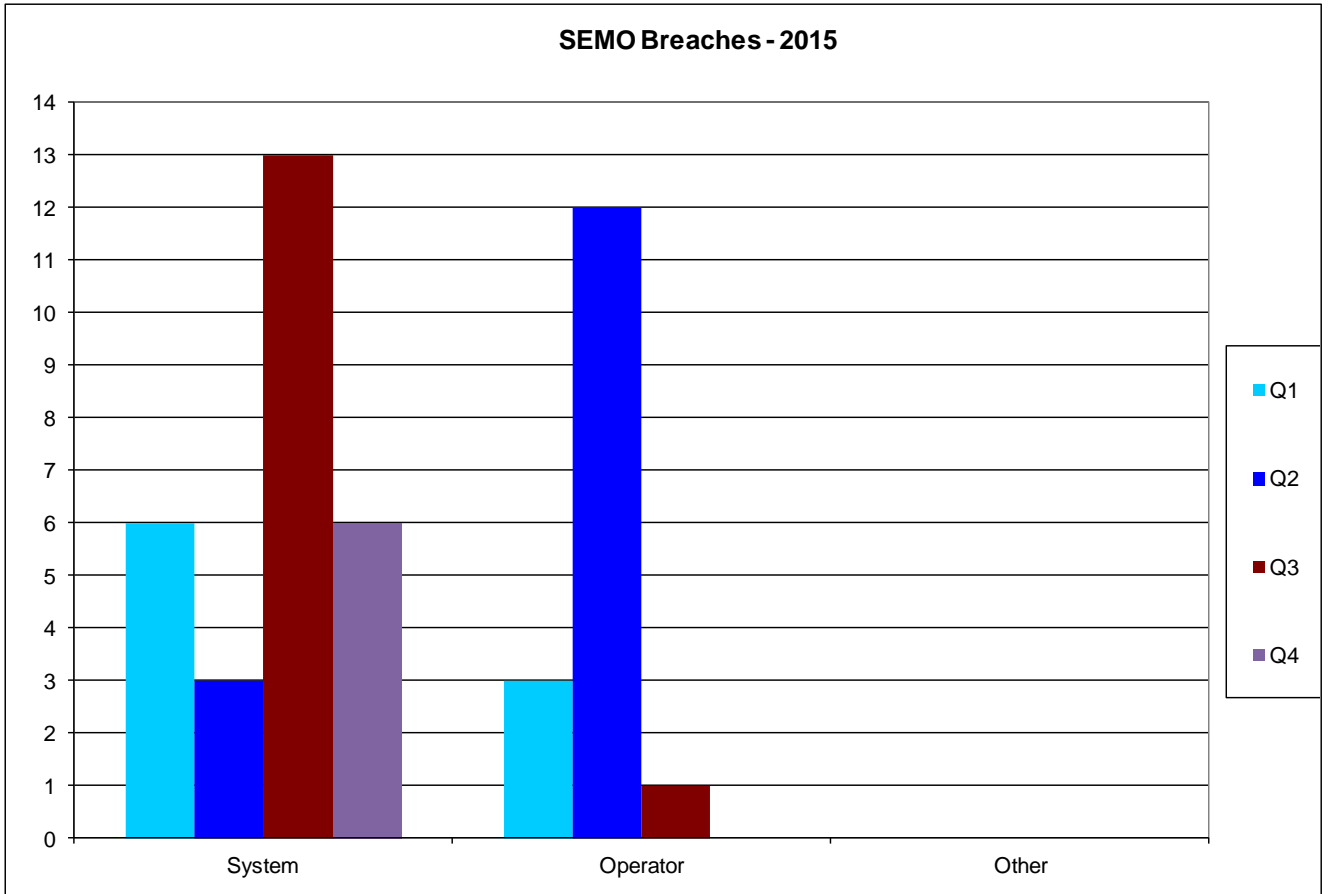


Figure 11 - Source of SEMO Trading and Settlement Code Breaches

4 Manage Stakeholders

4.1 Structured Approach to Regulatory interface

SEMO and the Regulatory Authorities have developed a good working relationship around a number of formal interactions. The highlights of 2014-2015 are summarised below:

- REMIT implementation under strict timelines in accordance with ACER provisions;
- Market Operator Performance – Monthly, Quarterly and Annual reporting on SEMO operations and financials were issued throughout the year.
- Yearly parameters: MSP Software and Credit Cover parameters issued according T&SC requirements;
- Other reporting obligations – MSDP7, End of Year and KPI were also provided;
- Continuing collaboration for the delivery of the I-SEM design.

5 Provide Information

The Trading and Settlement Code (T&SC) obligates SEMO to answer formal data and settlement queries within a given timeframes. In financial year 2014/2015, SEMO has received 103 Formal Queries; all were answered within the timelines prescribed under the T&SC. SEMO has requested additional time on two Settlement Queries, as allowed for under the T&SC.

General queries have no prescribed timelines for response however SEMO aims to answer these within 15 working days.

5.1 Customer Queries in a timely Manner

5.1.1 Query and Dispute Management:

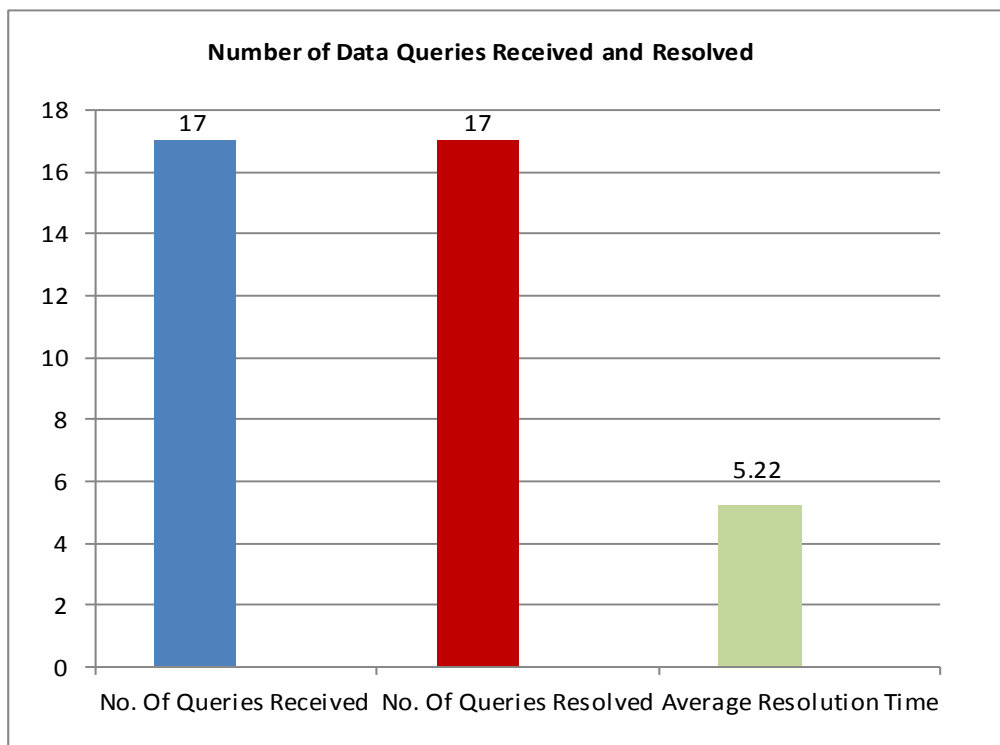


Figure 12 - Number of Data Queries submitted and Resolved up to 30th September 2015

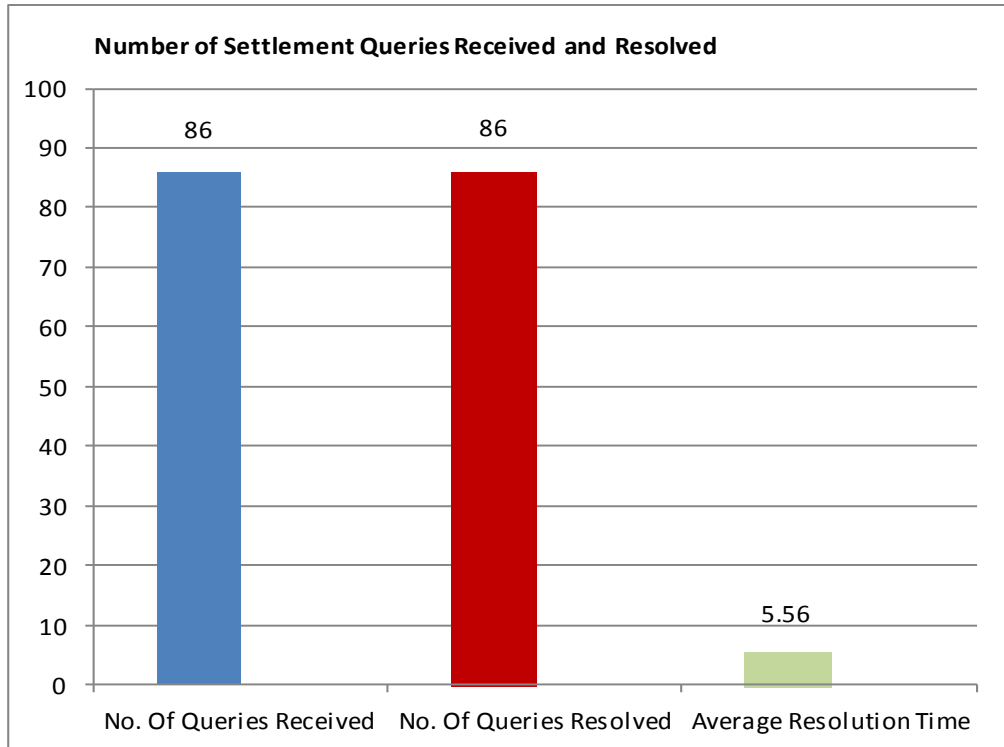


Figure 13 - Number of Settlement Queries submitted and Resolved up to 30th September 2015

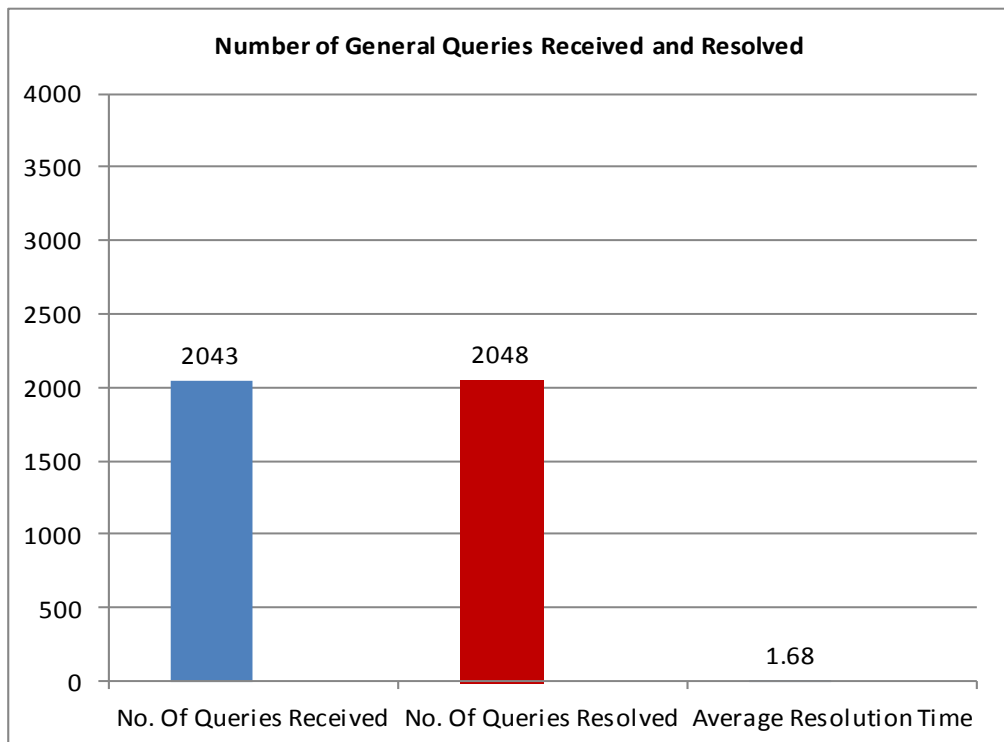


Figure 14 - Number of General Queries Submitted and Resolved up to 30th September 2014

The general query volumes have decreased from 2156 submitted in the previous financial year, to 2043 submitted from October 2013 to September 2014 (difference of 113).

A decrease of 113 can be attributed to:

- Updates to the Frequently Asked Questions on the SEMO website

- SEMO are proactively engaging with Participants through a number of forums to help reduce the number of general queries submitted
- A maturing market with less change implemented in the last financial year

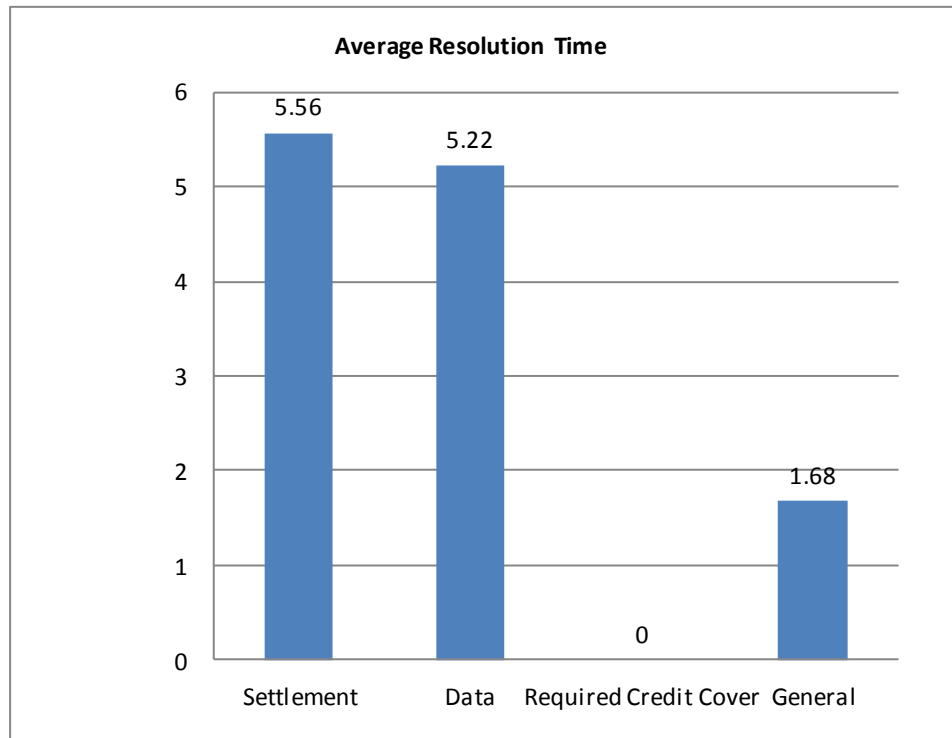


Figure 15- Average Working Days to Answer Queries up to 30th September 2015

Further commentary on the Formal Queries is provided in section [6.1](#).

SEMO received 3 Formal Disputes between 1/10/14 and 30/09/15, all of which were resolved as of 9th of September 2015.

5.2 Facilitate and Educate participants to accede to the Code

Since 01st October 2014, the following participants have registered in the market.

<i>Party ID</i>	<i>Party Name / Participant Name</i>	<i>Jurisdiction</i>	<i>Effective Date</i>
PY_000133	Arden Energy Limited	ROI	17/10/2014
PY_000134	Open Electric	NI	03/12/2014
PY_000136	Gaelectric Energy Marketing and Supply Ltd.	ROI	05/02/2015
PY_000141	Axpo Trading AG	Non - EU	15/06/2015
PY_000139	KiWi Power Ireland	ROI	18/06/2015
PY_000138	Project Plug Limited 'TA' ClickEnergy	NI	30/06/2015
PY_000143	Lightsource SPV 10 Limited	EU	06/07/2015
PY_000144	Gaelectric Green Energy Limited	NI	06/07/2015
PY_000145	Shell Energy Europe Limited	EU	16/07/2015
PY_000142	DWL Energy Supply Limited	ROI	29/07/2015
PY_000146	Captured Carbon Limited	ROI	30/07/2015

Table 10 - Party Registrations

Since 1st October 2014, additional generation or supply units have been added to the following participants.

<i>Party</i>	<i>Unit ID</i>	<i>Jurisdiction</i>	<i>Unit Name</i>	<i>Effective Date</i>
PY_000042_Viridian Energy Supply Ltd	GU_501280	NI	Dunbeg Wind Farm	02/10/2014
PY_000042_Viridian Energy Supply Ltd	GU_501290	NI	Thornog Wind Farm Limited	02/10/2014
PY_000042_Viridian Energy Supply Ltd	GU_511280	NI	Dunbeg Wind Farm Netting Generator Unit	02/10/2014
PY_000042_Viridian Energy Supply Ltd	GU_511290	NI	Thornog Wind Farm Limited Netting Generator Unit	02/10/2014
PY_000122_Dalkia Alternative Energy Limited	DSU_401490	ROI	DAE Virtual Power Plant	14/10/2014
PY_000122_Dalkia Alternative Energy Limited	GU_411490	ROI	DAE Virtual Power Plant	14/10/2014
PY_000122_Dalkia Alternative Energy Limited	SU_400166	ROI	DAE	14/10/2014
PY_000120_Mount Lucas Supply Company Limited	GU_401690	ROI	Mount Lucas Wind Farm Limited	25/11/2014
PY_000118_Bruckana Supply Company Limited	GU_401700	ROI	Bruckana Wind Farm Limited	25/11/2014
PY_000120_Mount Lucas Supply Company Limited	GU_411690	ROI	Mount Lucas Wind Farm Limited Netting Generator Unit	25/11/2014
PY_000118_Bruckana Supply Company Limited	GU_411700	ROI	Bruckana Wind Farm Limited Netting	25/11/2014

			Generator Unit	
PY_000068_BRI Green Energy Limited	GU_401710	ROI	Ballymartin Wind Farm Phase 1	09/12/2014
PY_000068_BRI Green Energy Limited	GU_401720	ROI	Booltiagh Windfarm	09/12/2014
PY_000068_BRI Green Energy Limited	GU_401730	ROI	Booltiagh 2 Wind Farm	09/12/2014
PY_000068_BRI Green Energy Limited	GU_401740	ROI	Garracummer Wind Farm Ltd	09/12/2014
PY_000068_BRI Green Energy Limited	GU_401750	ROI	Lisheen Wind Farm 2 Ltd	09/12/2014
PY_000068_BRI Green Energy Limited	GU_401760	ROI	Ballymartin Wind Farm Phase 2	09/12/2014
PY_000068_BRI Green Energy Limited	GU_411710	ROI	Ballymartin Wind Farm Phase 1 Netting Generator Unit	09/12/2014
PY_000068_BRI Green Energy Limited	GU_411720	ROI	Booltiagh Windfarm Netting Generator Unit	09/12/2014
PY_000068_BRI Green Energy Limited	GU_411730	ROI	Booltiagh 2 Wind Farm Netting Generator Unit	09/12/2014
PY_000068_BRI Green Energy Limited	GU_411740	ROI	Garracummer Wind Farm Ltd Netting Generator Unit	09/12/2014
PY_000068_BRI Green Energy Limited	GU_411750	ROI	Lisheen Wind Farm 2 Ltd Netting Generator Unit	09/12/2014
PY_000042_Viridian Energy Supply Ltd	GU_501300	NI	Molly Mountain Wind Farm	08/01/2015
PY_000042_Viridian Energy Supply Ltd	GU_511300	NI	Molly Mountain Wind Farm Netting Generator Unit	08/01/2015
PY_000068_BRI Green Energy Limited	GU_401770	ROI	Knockacummer Wind Farm	13/01/2015
PY_000068_BRI Green Energy Limited	GU_401780	ROI	Kill Hill Wind Farm Limited	13/01/2015
PY_000068_BRI Green Energy Limited	GU_411770	ROI	Knockacummer Wind Farm Netting Generator Unit	13/01/2015
PY_000068_BRI Green Energy Limited	GU_411780	ROI	Kill Hill Wind Farm Limited Netting Generator Unit	13/01/2015
PY_000099_Lissan Coal Company Limited	SU_400173	ROI	LCC Power ROI	13/01/2015
PY_000133_Arden Energy Limited	SU_400181	ROI	Arden Energy	20/01/2015
PY_000113_Energy Trading Ireland Ltd	DSU_40139 0	ROI	Energy Trading Ireland DSU	27/01/2015
PY_000043_Viridian	DSU_40159	ROI	Viridian Energy Limited	27/01/2015

Energy Limited	0		DSU	
PY_000113_Energy Trading Ireland Ltd	GU_411390	ROI	Energy Trading Ireland Netting Generator Unit	27/01/2015
PY_000043_Viridian Energy Limited	GU_411590	ROI	VEL DSU Netting Generator Unit	27/01/2015
PY_000113_Energy Trading Ireland Ltd	SU_400160	ROI	Energy Trading Ireland TSSU	27/01/2015
PY_000043_Viridian Energy Limited	SU_400174	ROI	Viridian Energy Limited TSSU	27/01/2015
PY_000054_Vayu Limited	PT_400141_I_RIEWIC	ROI	Vayu Limited	10/02/2015
PY_000068_BRI Green Energy Limited	SU_400182	ROI	BRI Green Energy Limited	10/03/2015
PY_000035_NIE Supply	PT_400121_I_RIEWIC	ROI	Power NI - EWIC	24/03/2015
PY_000043_Viridian Energy Limited	GU_401790	ROI	Ballybane Wind Farm Phase 2	31/03/2015
PY_000027_Bord Gais Eireann	GU_401810	ROI	Barnafaddock Windfarm	31/03/2015
PY_000043_Viridian Energy Limited	GU_411790	ROI	Ballybane Wind Farm Phase 2 Netting Generator Unit	31/03/2015
PY_000027_Bord Gais Eireann	GU_411810	ROI	Barnafaddock Windfarm Netting Generator Unit	31/03/2015
PY_000136_Gaelectric Energy Marketing and Supply Ltd.	GU_401830	ROI	Cloghboola Wind Farm	14/04/2015
PY_000136_Gaelectric Energy Marketing and Supply Ltd.	GU_411830	ROI	Cloghboola Wind Farm Netting Generator Unit	14/04/2015
PY_000032_Hibernian Wind Power Ltd	GU_401680	ROI	Woodhouse Wind Farm	28/04/2015
PY_000027_Bord Gais Eireann	GU_401820	ROI	Acres Windfarm	28/04/2015
PY_000032_Hibernian Wind Power Ltd	GU_411680	ROI	Woodhouse Wind Farm Netting Generator Unit	28/04/2015
PY_000027_Bord Gais Eireann	GU_411820	ROI	Acres Windfarm Netting Generator Unit	28/04/2015
PY_000116_Panda Power Limited	SU_400185	ROI	Panda Power Supplier Unit	28/04/2015
PY_000071_SSE Generation Ireland Limited	GU_400754	ROI	Great Island 2 Generator Unit	05/05/2015
PY_000071_SSE Generation Ireland Limited	GU_400760	ROI	Great Island 1 Generator Unit	05/05/2015
PY_000071_SSE Generation Ireland	GU_400761	ROI	Great Island 3 Generator Unit	05/05/2015

Limited				
PY_000021_Airtricity Ltd	PT_400163_ I_RIEWIC	ROI	Erova Energy Limited	23/06/2015
PY_000021_Airtricity Ltd	PT_500083_ I_NIMOYLE	NI	Erova Energy Limited	23/06/2015
PY_000128_Powerhouse Generation Limited	DSU_40166 0	ROI	Powerhouse Generation Ireland	30/06/2015
PY_000128_Powerhouse Generation Limited	GU_411660	ROI	Powerhouse Generation Ireland Netting Generator Unit	30/06/2015
PY_000128_Powerhouse Generation Limited	SU_400179	ROI	Powerhouse Generation Ireland	30/06/2015
PY_000035_NIE Supply	GU_501350	NI	Lisahally Power Station	23/07/2015
PY_000035_NIE Supply	GU_511350	NI	Lisahally Power Station Netting Generator Unit	23/07/2015
PY_000146_Captured Carbon Limited	PT_400168_ I_RIEWIC	ROI	Captured Carbon Limited EWIC	11/08/2015
PY_000030_ESB	GU_400310	ROI	North Wall Generator Unit	18/08/2015
PY_000128_Powerhouse Generation Limited	DSU_50133 0	NI	Powerhouse Generation Limited	10/09/2015
PY_000128_Powerhouse Generation Limited	GU_511330	NI	Powerhouse Generation Limited	10/09/2015
PY_000141_Axpo Trading AG	PT_500085_ I_NIMOYLE	NI	Axpo Trading AG	10/09/2015
PY_000128_Powerhouse Generation Limited	SU_500080	NI	Powerhouse Generation Limited	10/09/2015
PY_000145_Shell Energy Europe Limited	PT_400167_ I_RIEWIC	ROI	Shell Energy Europe Ltd	22/09/2015
PY_000145_Shell Energy Europe Limited	PT_500087_ I_NIMOYLE	NI	Shell Energy Europe Limited	22/09/2015

Table 11 - Unit Registrations

Since 1st October 2014, the following participants have de-registered or had a unit change its status.

Party ID	Party Name / Participant Name	Type of Registration	Jurisdiction	Generation or Supply	Effective Date
PY_000030	PT_400030 ESB PGen	De-Registration	ROI	Generation	18/08/2015
PY_000071	PT_400064_ SSE Generation Ireland Limited	De-Registration	ROI	Generation	05/05/2015

Party ID	Party Name / Participant Name	Type of Registration	Jurisdiction	Generation or Supply	Effective Date
PY_000071	PT_400064_ SSE Generation Ireland Limited	De- Registration	ROI	Generation	05/05/2015
PY_000071	PT_400064_ SSE Generation Ireland Limited	De- Registration	ROI	Generation	05/05/2015
PY_000042	PT_500032 Viridian Energy Supply Ltd	Unit Type Change – APTG-VPTG	NI	Generation	12/02/2015
PY_000120	PT_400148_ Mount Lucas Wind Farm Limited	Unit Type Change – APTG-VPTG	ROI	Generation	17/02/2015
PY_000118	PT_400150_ Bruckana Wind Farm Limited	Unit Type Change – APTG-VPTG	ROI	Generation	10/03/2015
PY_000043	PT_400050_ Viridian Energy Limited	Unit Type Change – APTG-VPTG	ROI	Generation	14/03/2015
PY_000042	PT_500032_ Viridian Energy Supply Ltd	Unit Type Change – APTG-VPTG	NI	Generation	26/03/2015
PY_000068	PT_400151_ BRI Green Energy Limited	Unit Type Change – APTG-VPTG	ROI	Generation	28/04/2015
PY_000043	PT_400050_ Viridian Energy Limited	Unit Type Change – APTG-VPTG	ROI	Generation	21/07/2015

Table 12 - Deregistration or Changes of Status

5.3 Facilitate Interaction with Customers

5.3.1 Stakeholder Events

SEMO is proactive in interaction with its stakeholders. In the past 12 months SEMO have organised/facilitated in:

- 5 Market Operator User Groups Conference Calls (MOUGs Conference Calls)
- Facilitated *Participant Readiness calls* for new Market Participants
- SEM registration have hosted 6 individually tailored new participant training sessions
- Bilateral meetings/training sessions with Participants and stakeholders on specific topics including Cenergise and Vattenfall
- Organised and facilitated a series of conference calls and workshops as part of the SEM R2.7.0 Release Testing

6 SEM Review

6.1 Formal Queries

Since Market go live in Nov 2007, SEM has observed a continuing reduction in the volume of queries submitted by Participants until financial year 2010/2011. At that point, the number of Formal Queries started to increase again and until reverting to 2010 level in the current year, as per Figure 16 below.

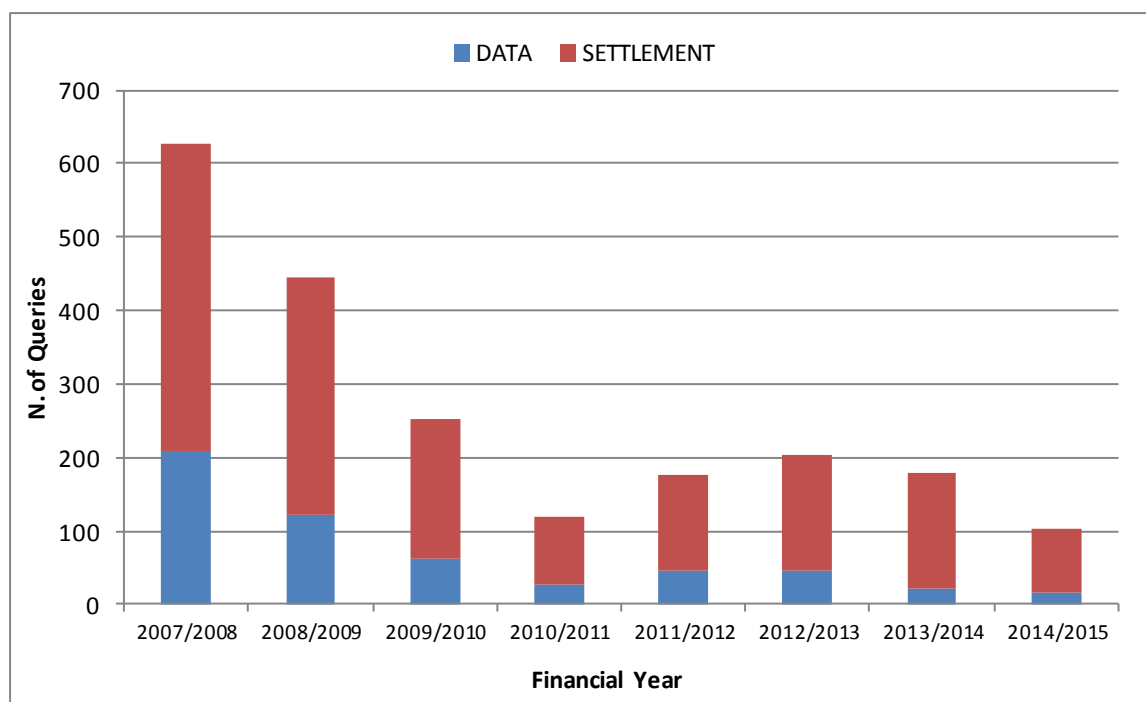


Figure 16 – Number of Formal Data and Settlement Queries Received per Year

A decrease of issues relating to the major releases introducing significant additional functionalities from 2012 (Intra-Day Trading, Global Aggregation, MIUN calculator etc), has been observed. Additional functionalities (and associated issues resulting from these changes) have contributed to the increase of formal queries received until Financial Year 2014/2015 where there has been a reduction of 42% compared to the previous year. The stabilization of issues and no major deployment resulting in further defects have contributed to the decrease. Details are included in Table 13 below.

YEAR	DATA	SETTLEMENT	TOTAL	% CHANGE
2007/2008	209	418	627	-
2008/2009	122	322	444	-29%
2009/2010	62	190	252	-43%
2010/2011	25	95	120	-52%
2011/2012	47	130	177	48%
2012/2013	47	155	202	14%
2013/2014	22	157	179	-12%
2014/2015	15	89	104	-42%

Table 13 - Formal Data and Settlement Queries Received

The breakdown of the reasons behind Data Queries received is shown in Figure 17 below.

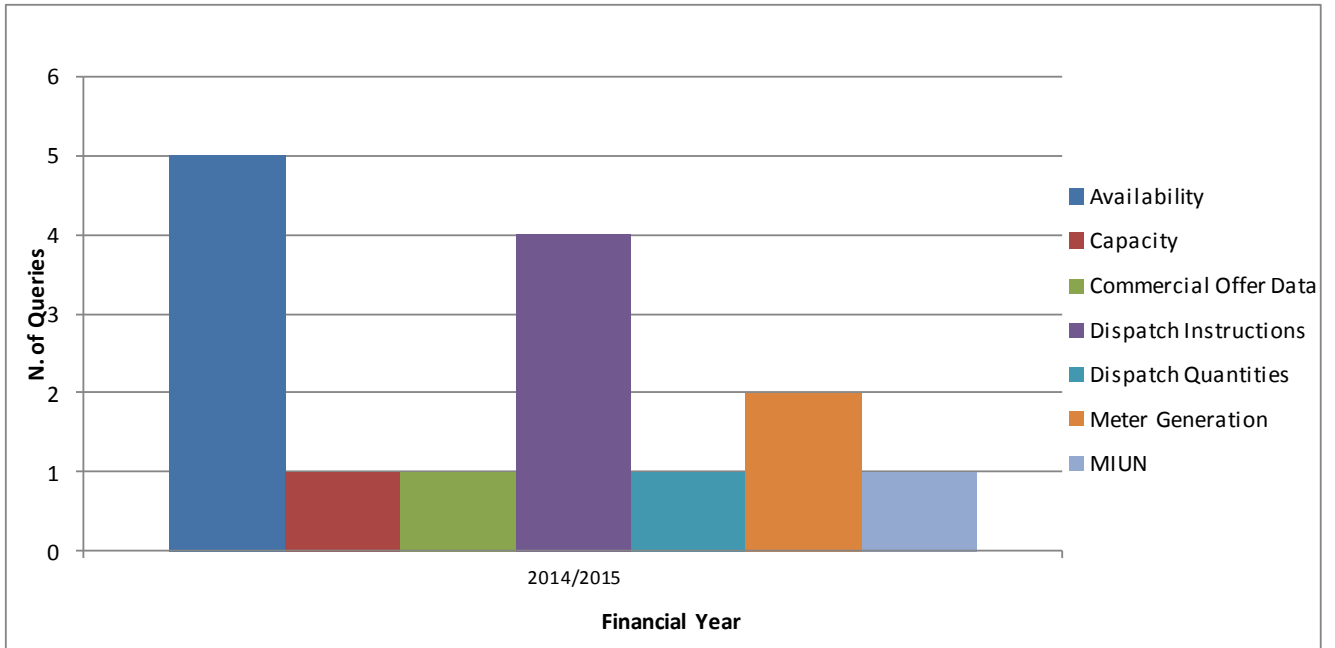


Figure 17 - Data Queries by subject matter

The most common resolution for Data Queries, shown in Figure 18, were confirmations of errors in input data, however only two of these resulted in a Re-Price.

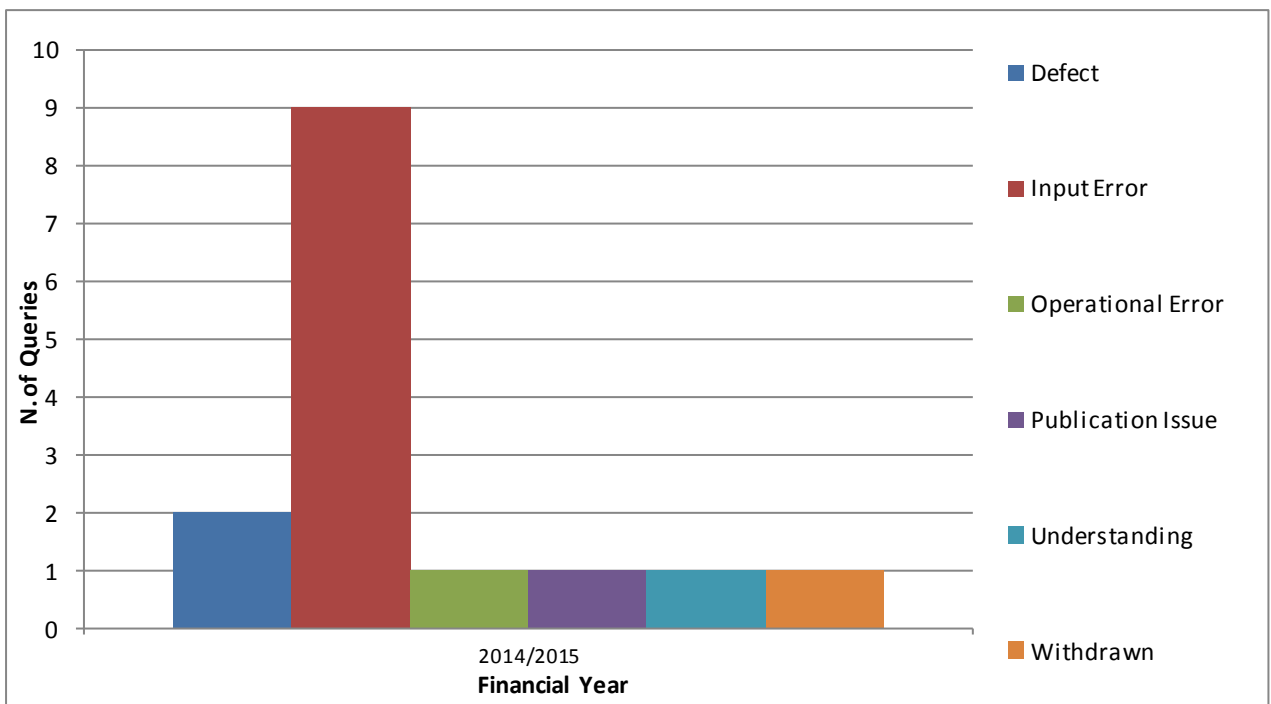


Figure 18 - Responses to Data Queries

With regards to Settlement queries, Figure 19 below shows the breakdown of queried items for financial year 2014/2015:

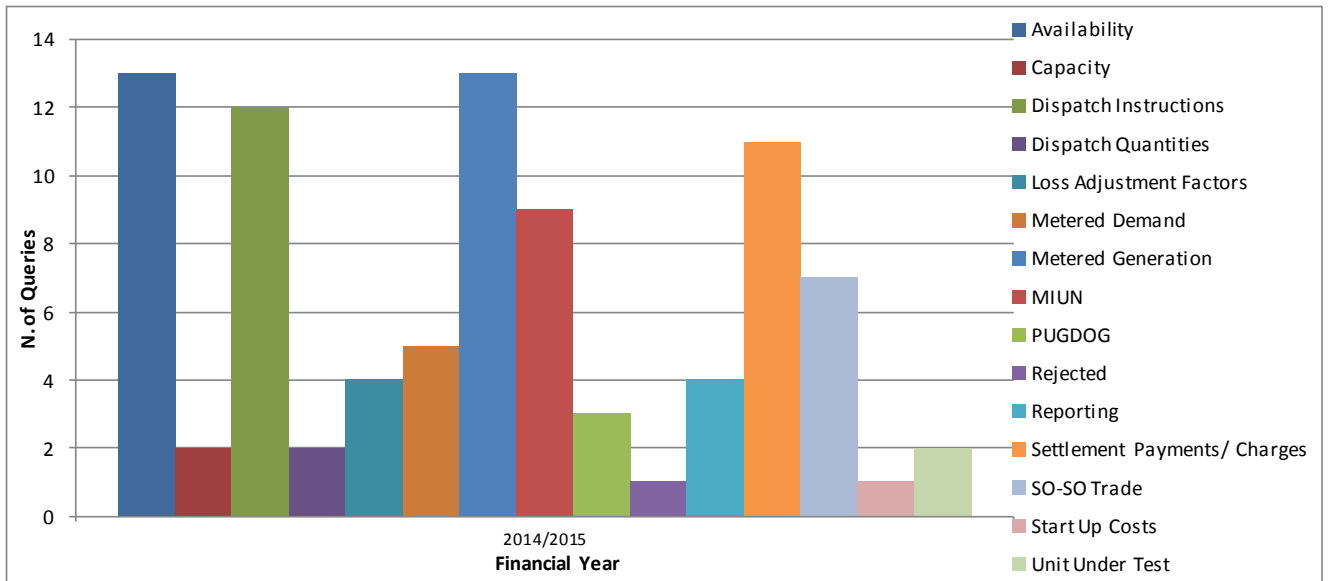


Figure 19 - Settlement Queries by subject matter

The most common Settlement Queries received were on Availability, Dispatch Instructions and Metered Generation, although the numbers were about halved when compared with previous year. Figure 20 shows that the vast majority of all Settlement Queries were due to incorrect input data sent to the SEM. SEMO recognises that improvements have been made to processes from data providers to try and reduce these errors and will continue to actively liaise with the relevant parties to highlight and resolve issues in a timely manner.

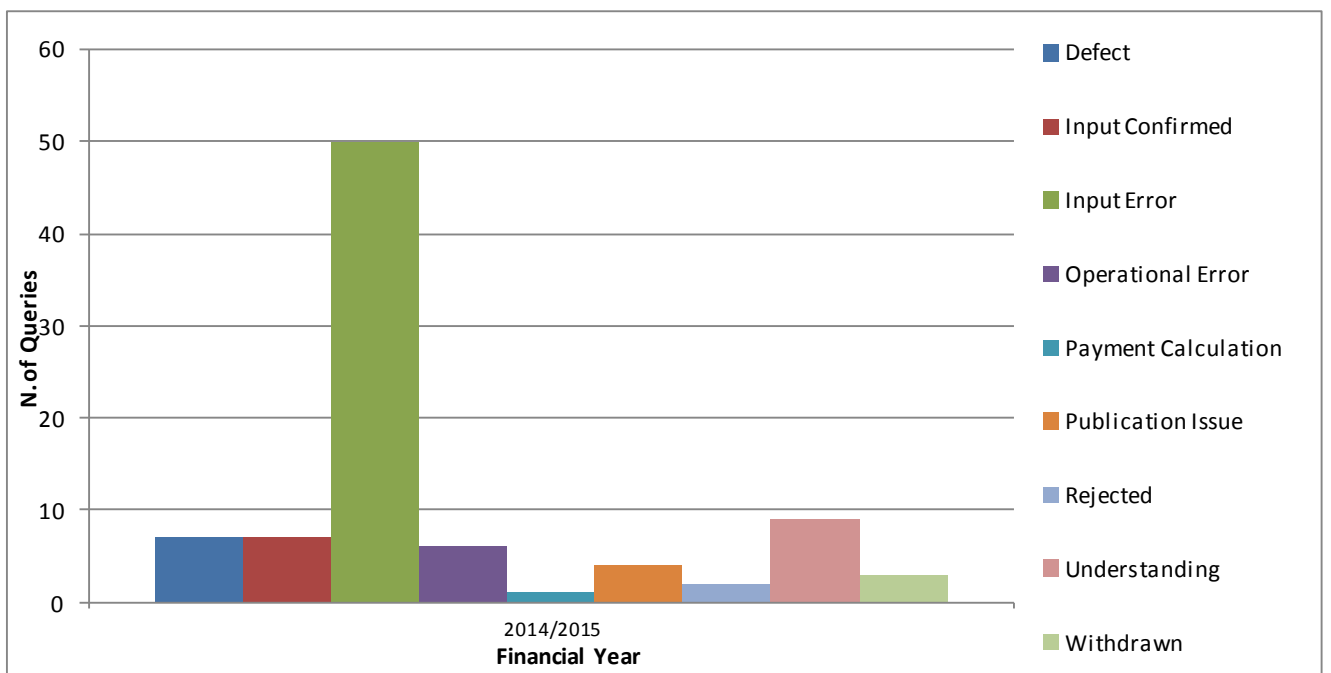


Figure 20 - Responses to Settlement Queries

The overall trend for all Formal queries since Market go live, confirms that the number of spurious queries has diminished and that queries not upheld now represent a minority of all queries received.

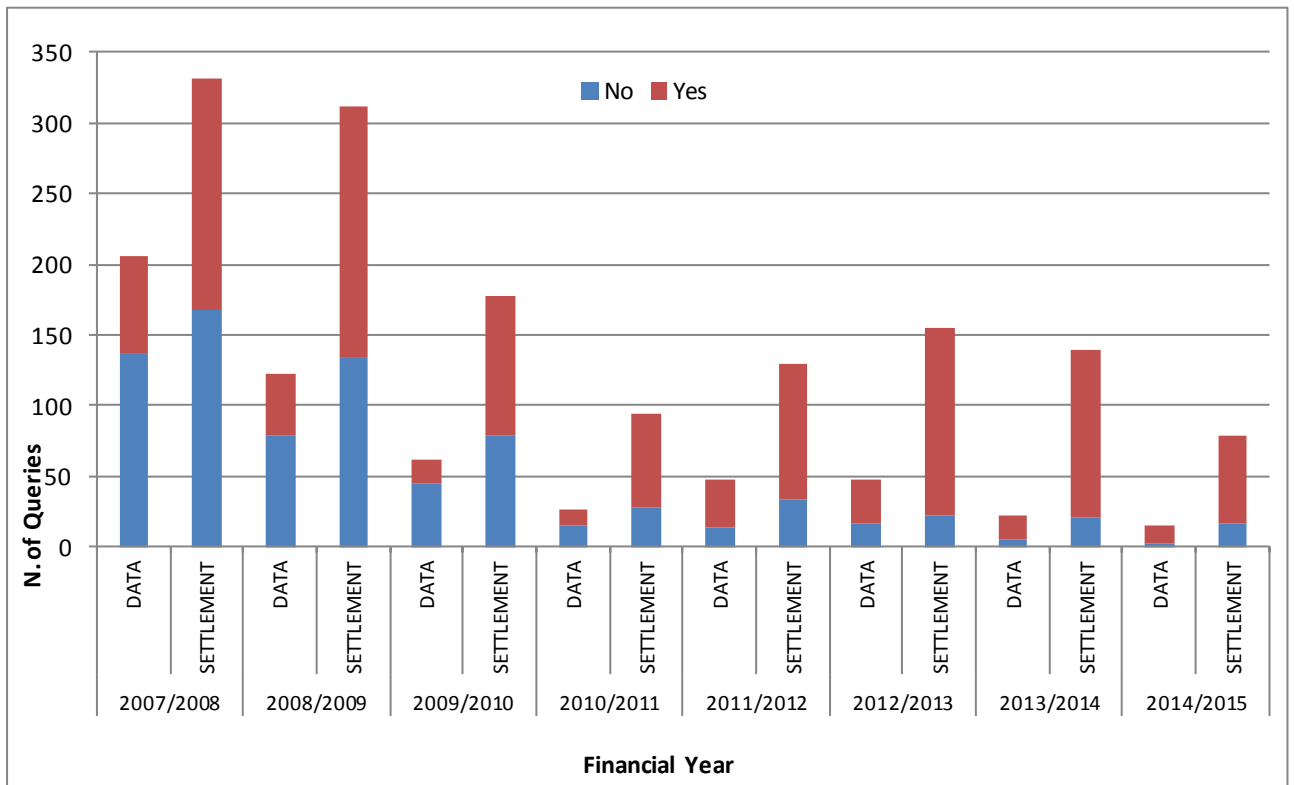


Figure 21 – Upheld ('Yes')/Not Upheld ('No') Formal Queries

Figure 22 below shows that out of all queries not upheld the majority of them were due to incorrect understanding or to confirmation that the data queried was, in fact, correct.

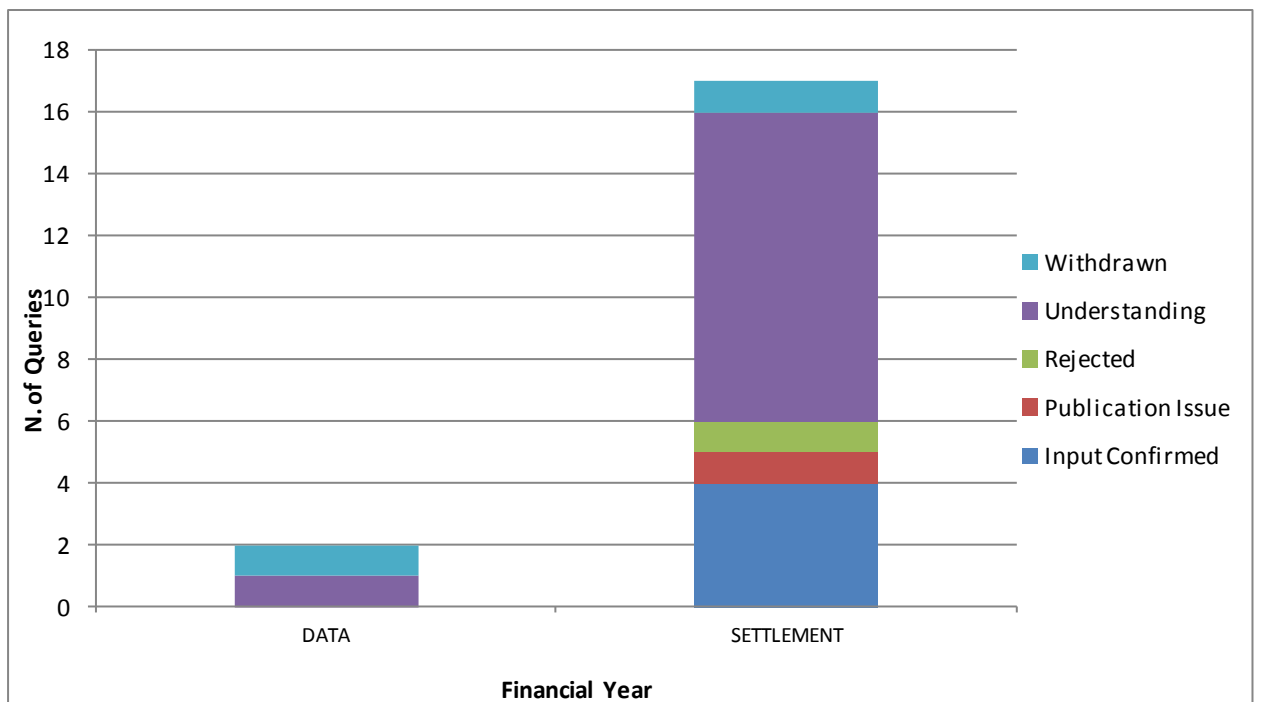


Figure 22 – Formal Queries Not Upheld by response type – Financial year 2014/2015

The following two graphs in Figure 23 and Figure 24 show the response times for Data and Settlement Queries compared with the previous year. Queries continue to be responded to within the required timelines set out in the Trading & Settlement Code¹. In Figure 23 it can be observed that only one extension has been required for data query this year. Requests for 10 Day extensions to the timeline were heavily used in the first years of market operations. Response time continue to be below the T&SC maximum allowed, however at times SEMO has delayed closing off some queries to allow efficient scheduling of runs in Market Operations.

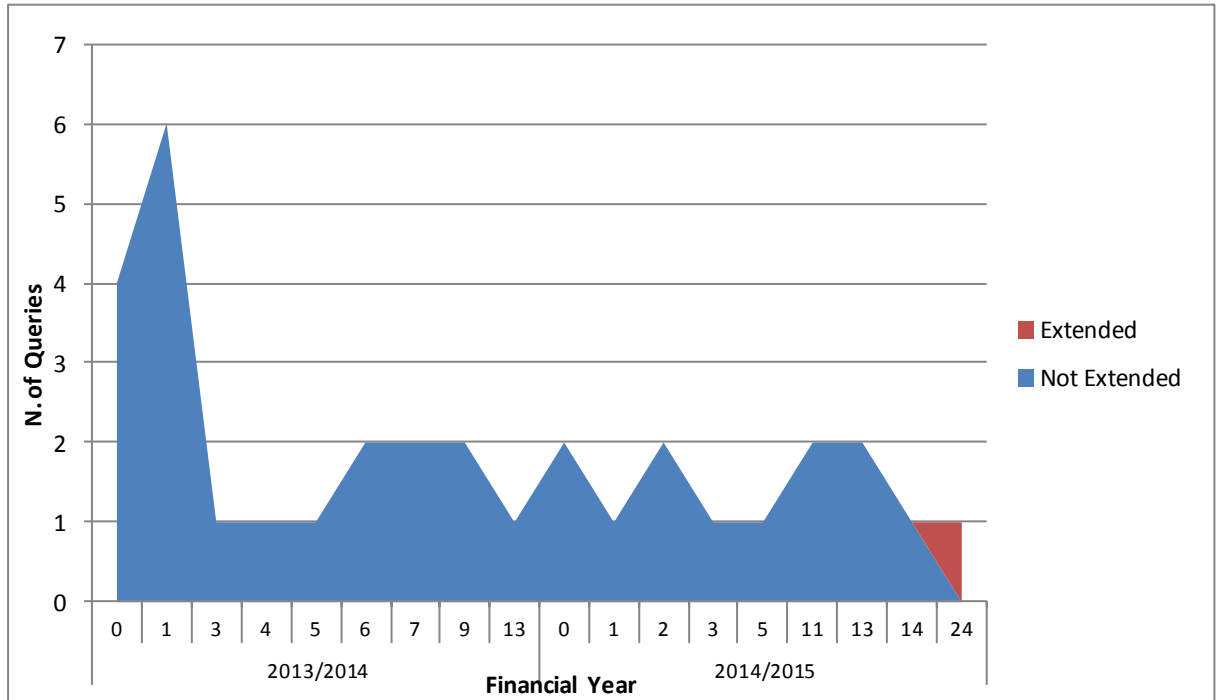


Figure 23 – Response Times for Data Queries

The same is shown in Figure 24 below for Settlement Queries. There was only one query extended in the observed period and queries have been responded to, in the majority of cases, within the first four working days of being received.

¹ Please note that graph shows number of actual days instead of working days; this explains how some queries seems to exceed the T&SC timelines. This is particularly evident in the Data Query graph as a number of queries were responded after the Christmas break.

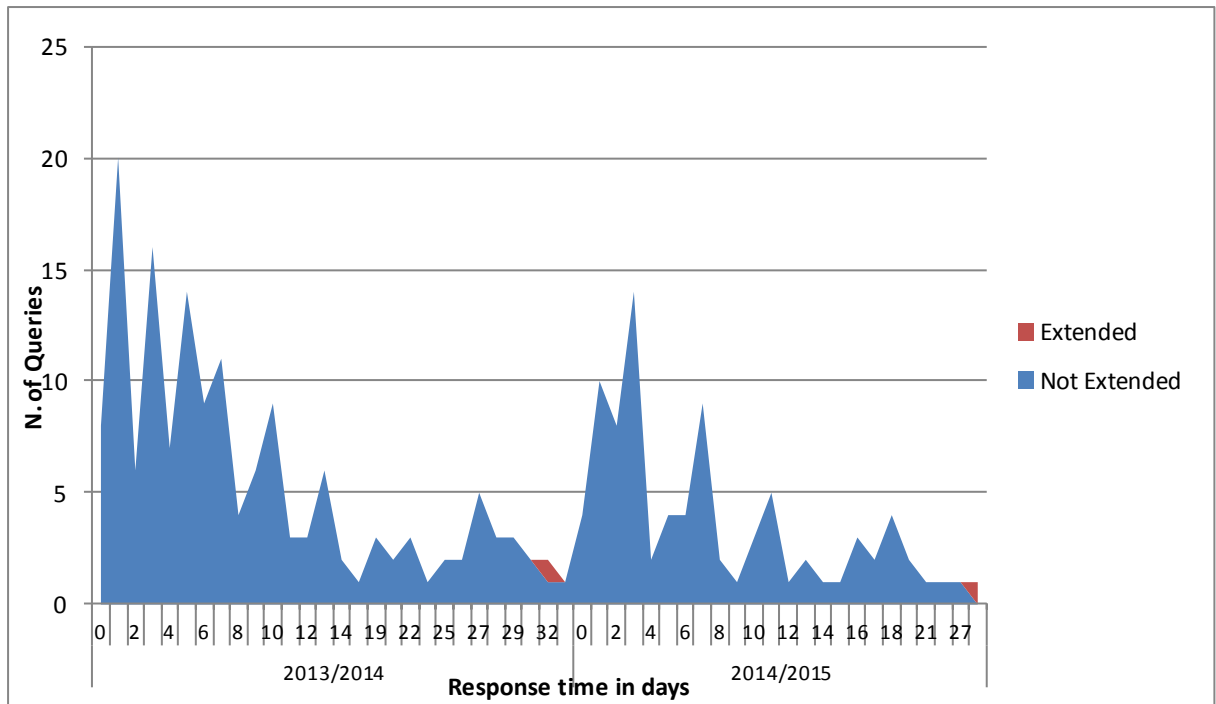


Figure 24 - Response Times for Settlement Queries

6.2 Market Review

Figure 25 below shows the summed Daily Generator Availability and the Load Weighted Average System Marginal Price across the financial year being reported.

The Availability over the current financial year was greater than previous year and also more stable, reflected in a less volatile SMP with fewer spikes than previous years.

Volume weighted average SMP was also lower than the previous year. In financial year 2014 this was €61.97 compared to €56.10 in current financial year 2015.

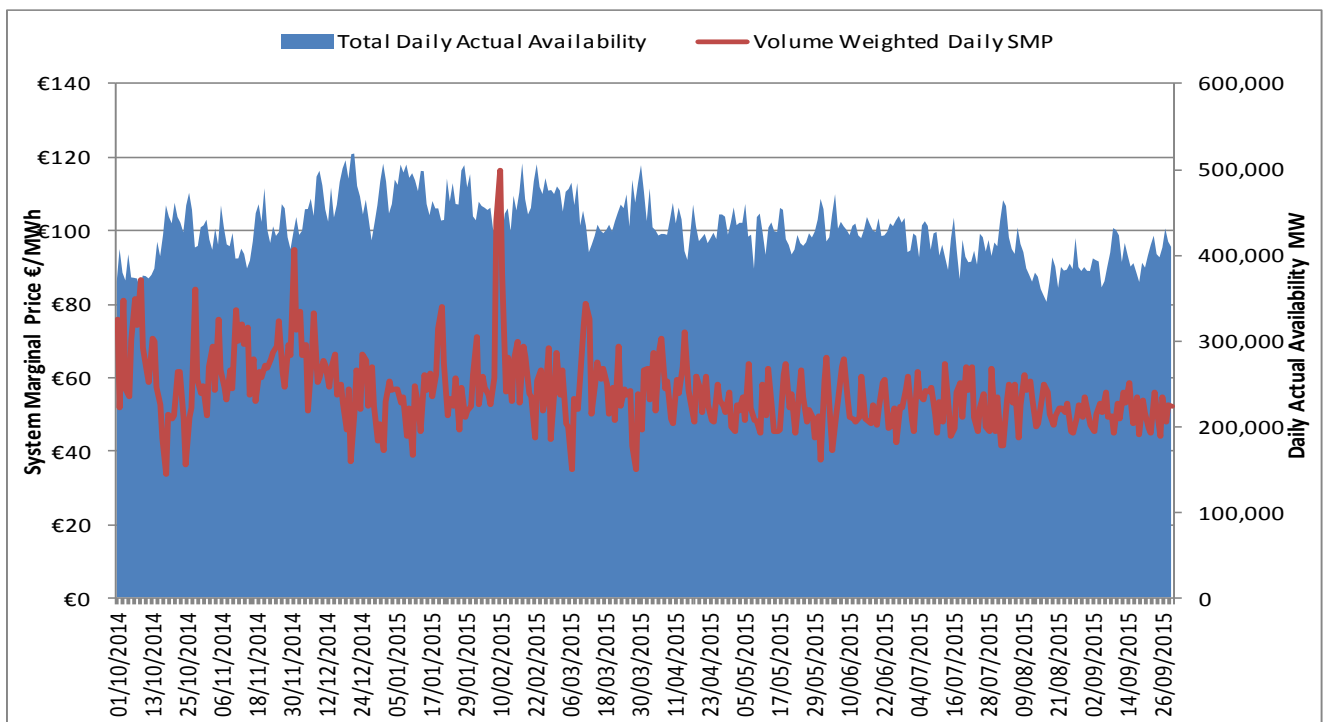


Figure 25 – Daily Total Availability and Volume Weighted Average SMP

In Figure 26 below, it is shown how the SMP highest spike occurred at the highest Demand point which happened at the same time of an Availability dip.

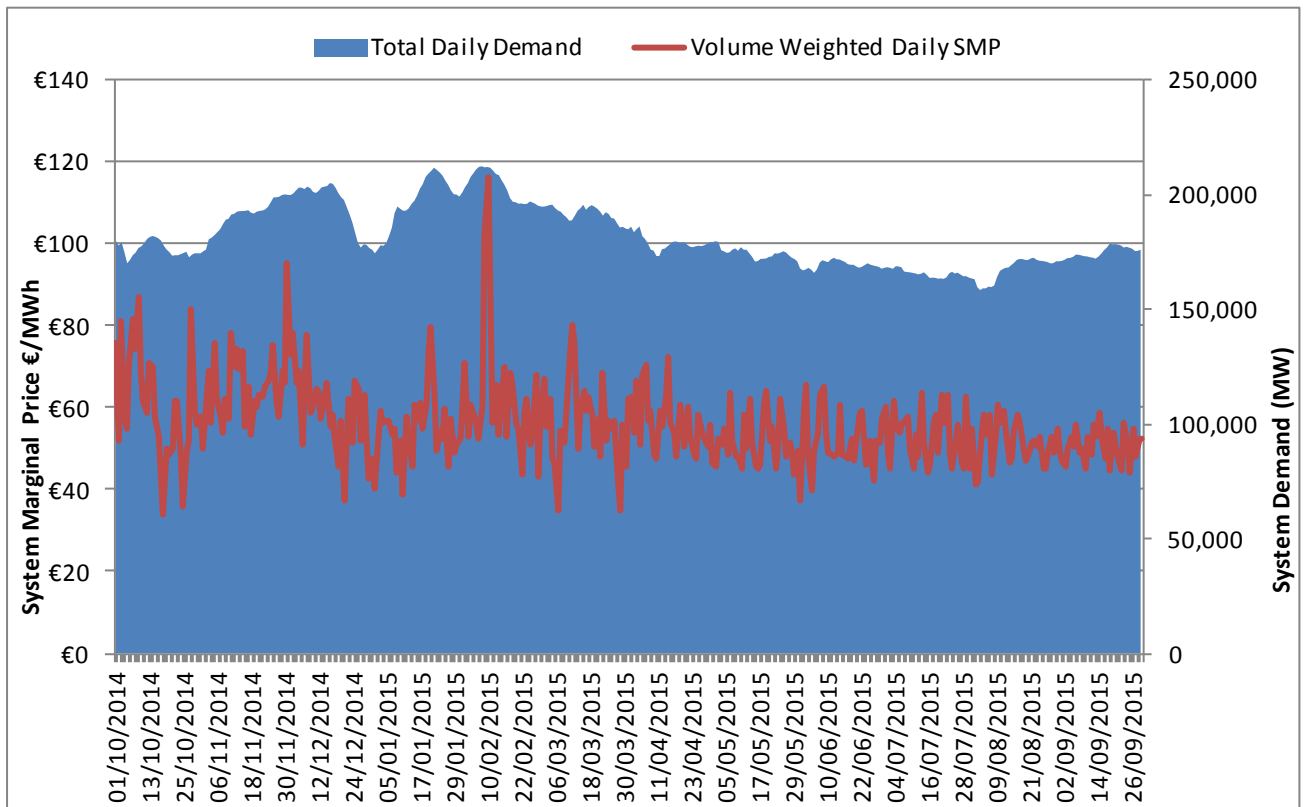


Figure 26 – Total Daily Metered Demand and Volume Weighted Daily SMP

Figure 27 compares the total monthly metered Demand values for each year since 2008. Demand level for calendar year 2014 and 2015 were on a par with the previous year just marginally higher but still well short of the level observed between 2008 and 2010.

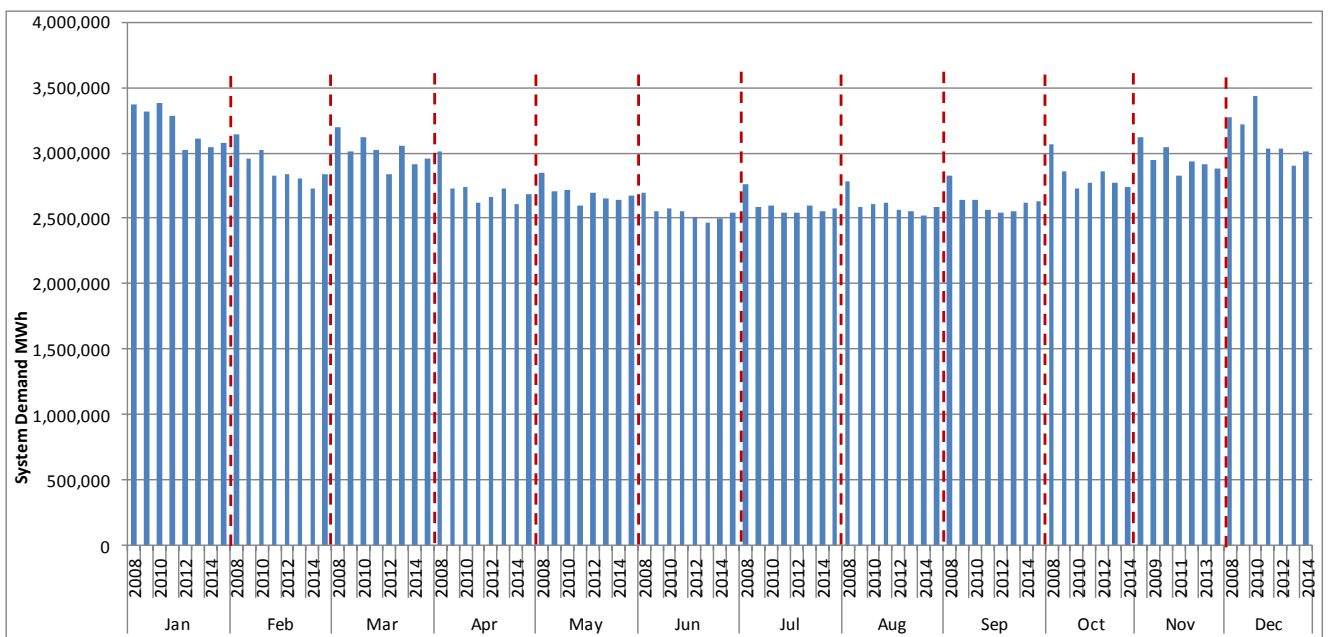


Figure 27 – Total Monthly Metered Demand, Jan 2008 to Sept 2015 Comparison

Throughout the year, variations in Demand and Availability of plants lead to significant changes in Margin. When Margin is compared to Load Weighted Average SMP, it is clearly visible how the SMP is inversely affected by the Margin. Similarly to previous years, a pattern is discernible in Figure 28 with the highest price spikes over the periods of lowest margins.

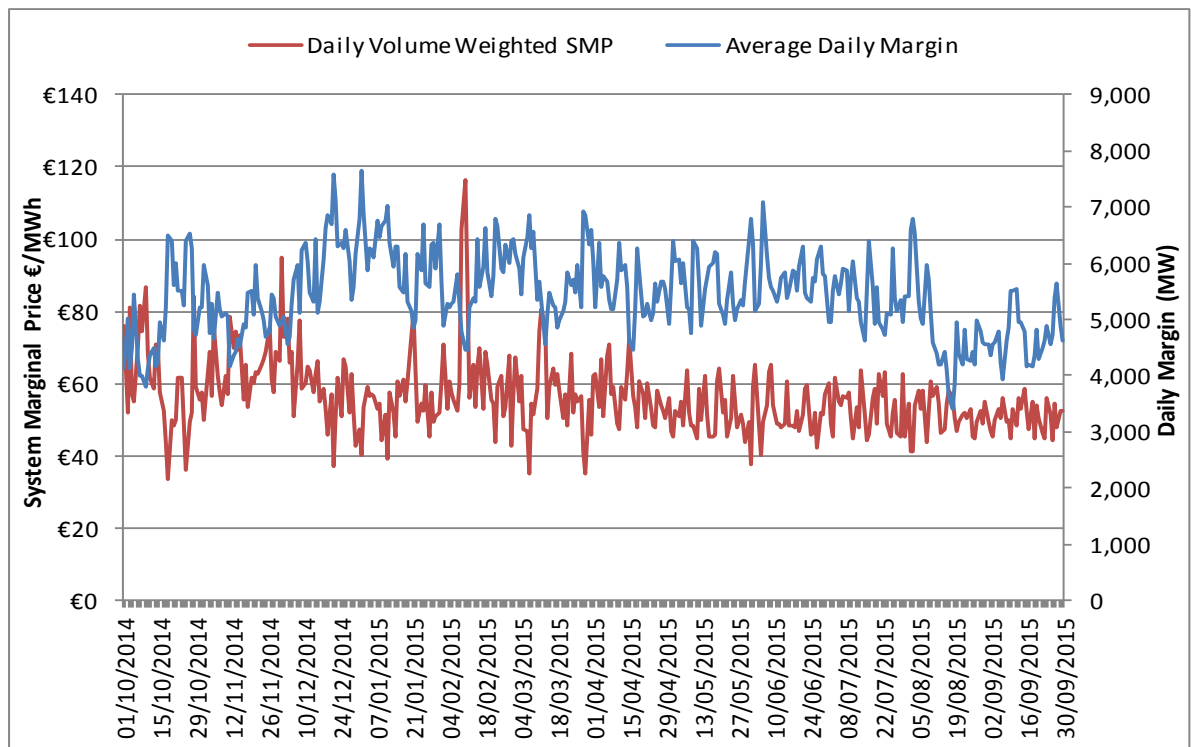


Figure 28 - Average Margin and Volume Weighted SMP

Figure 29 below shows the average daily SMP values by Trading Periods for the whole financial year from October 1st, 2014 to September 30th, 2015 for the three main run types. Similar to previous years the runs on average converge closely for most of the day with small variances concentrated over the morning and the evening peaks.

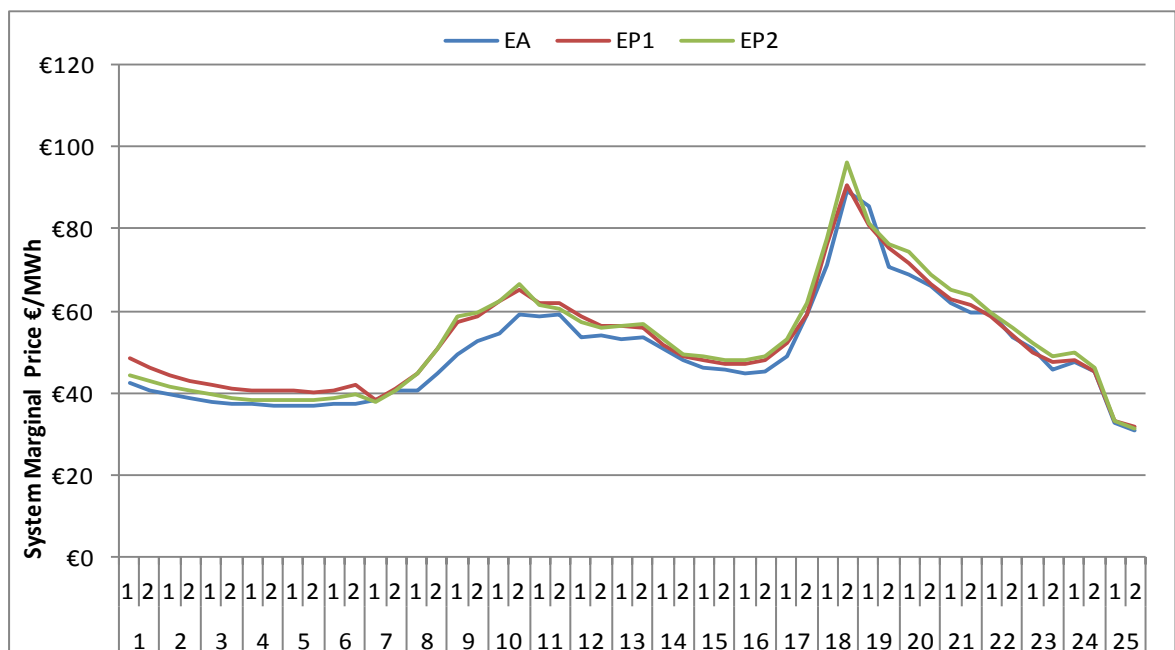


Figure 29 - Average Daily SMP by Trading Period from 1st Oct 2013 to 30th Sep 2014

Figure 30 below illustrates how the EA2 and WD1 compare with the EA, and again only very small variations, on average, are observed over the morning and evening peak

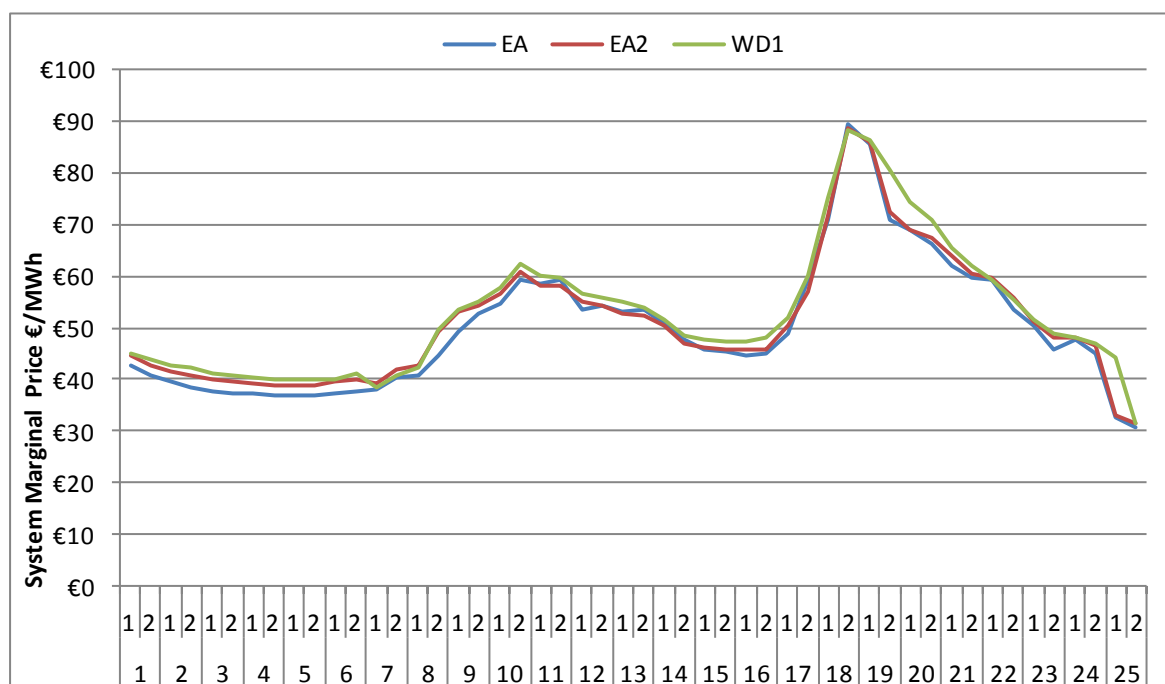


Figure 30 - Average SMP by TP from 1st Oct 2014 to 30th Sep 2015

6.3 Other Studies and Work

6.3.1 Guarantees of Origin and Fuel Mix Disclosure

SEMO is the issuing body of Guarantees of Origin (GO) in Ireland. SEMO began registering interested parties for the scheme in December 2011 and registration has been open to eligible Production Devices since. To be eligible for GOs a Production Device must generate electricity from a renewable source and must not be in receipt of support from a support scheme. There are 111 Production Devices currently registered in the Online Registry.

When the scheme began, SEMO developed a manual registry based on Microsoft Access databases. This was utilised until December 2014.

In April 2015, SEMO implemented [CMO.Grexel](#) as the Online Registry for GOs. CMO.grexel is compliant with the [EECS](#) (European Energy Certificate System), a standardization system for European Guarantees of Origin (GOs). The introduction of the Online Registry enables SEMO to issue GOs on a monthly basis and saves time and resources for Participants by reducing manual processing.

In May 2015, SEMO was granted membership of the [Association of Issuing Bodies](#) (AIB).

Countries that are members of the AIB, and adhere to the EECS system, can connect to the AIB trading hub and easily trade GOs to and from other AIB member countries.

1,174,183 IE-GOs² were issued from January to June 2015 and 396,650 EECS-GOs³ were issued from July to September 2015. Trading of GOs via the AIB hub has only just commenced, with 212,000 imported to date this year. This will increase before the Fuel Mix Disclosure deadline for production

² GOs issued via CMO.grexel prior to AIB membership

³ GOs issues via CMO.grexel post AIB membership

year 2015; 31st of March 2016. For example, 4,957,392 GOs were imported for production year 2014 and 4,702,096 GOs were imported for production year 2013.

The Fuel Mix Disclosure Enduring Solution is a separate annual project linked to Guarantees of Origin. SEMO is the calculating body for the Fuel Mix Disclosure of both Ireland and Northern Ireland. The disclosure calculation for 2011 was the first year that the enduring solution was in place; this meant that Suppliers could declare GOs in their Fuel Mix submissions. This method is being used going forward. Suppliers have received their fuel mix breakdowns and a final publication of the data by the Regulatory Authorities has been completed for the 2014 calculation.

6.3.2 REMIT

On the 28th of December 2011, Regulation (EU) No 1227/2011 on wholesale energy market integrity and transparency (REMIT) came into force across Europe. Subsequent to this the European Commission issued a draft Implementing Regulation. The draft Implementing Regulation (EU) No 1348/2014 was adopted by the European Commission on the 17th December 2014, published in the Official Journal of the European Union on the 18th December 2014 and entered into force on the 7th January 2015. Once this occurred, a nine month timeline was triggered after which transaction reporting to the Agency for the Cooperation of Energy Regulators (ACER) was due to commence.

This legislation introduced a legal obligation on all Market Participants to “report records of transactions in wholesale energy products executed at organised market places including matched and unmatched orders to the Agency through the organised market place concerned, or through third parties.”

The Implementing Regulation states that “the organised market place where the wholesale energy product was executed or the order was placed shall at the request of the market participant offer a data reporting agreement.” SEMO is categorised as an organised market place and as such required to facilitate a reporting mechanism on behalf of Market Participants. This service entails the transfer of large quantities of transaction data to the ACER. Provision of this service required changes to both the Market Systems and the Trading and Settlement Code.

SEMO began reporting REMIT Data to ACER on the 7th October 2015 (Go-Live).