



# **Market Operator Monthly Report**

## **December 2014**

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### **1 Executive Summary**

This Single Electricity Market Operator's (SEMO) report covers the month of operation of December 2014 and is published in accordance with the Single Electricity Market (SEM) Committee decision and Clause 2.144 of the Trading and Settlement Code. Trading and Settlement Code.

During the month of December 2014, Settlements had one late publication as per the Trading and Settlement code for Indicative Settlement.

143 general queries were received in December 2014. During the same period 145 general queries were resolved.

There were twelve defaults by Participants during December 2014. The largest of these was a Capacity Initial invoice €30,029.80 which was remedied on the same day.

Formal queries continue to be answered well within the timelines stipulated in the Trading and Settlement (Code).

## 2 Monthly Statistics

### *Code Breaches*

Breaches of the Trading & Settlement Code were noted in the following areas.

Code Breaches			
Area		Major	Minor
Data Providers		-	1
Market Participants	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	12	-
	Credit Risk Management	-	-
SEMO	Pricing & Scheduling	-	3
	Settlement	-	1
	Funds Transfer	-	-
	Credit Risk Management	-	-
	Other	-	-
<b>Total</b>		<b>12</b>	<b>5</b>

**Table 1 - Code Breaches**

Further details of each of the code breaches noted above are set out in [Appendix A](#)

Key:

- Major Breach - late publishing of invoices, default notices issued for non-payment or similar.
- Minor Breach - deadlines not met, but any financial implication to Participants. This includes late posting of pricing and settlement runs.

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### ***Joining and Terminating Parties and Units***

One Party joined the Market in December 2014.

- Open Electric - PY\_000134

There were no terminating parties in December 2014.

Six new units became effective in the Market in December 2014

- Ballymartin Wind Farm Phase 1 – VPTG – (PT\_400152 / GU\_401710 )
- Ballymartin Wind Farm Phase 2 – VPTG – (PT\_400152 / GU\_401760 )
- Booltiagh Wind Farm 1 - VPTG – (PT\_400152 / GU\_401720)
- Booltiagh Wind Farm 1 - VPTG – (PT\_400152 / GU\_401730)
- Garracummer Wind Farm - APTG – (PT\_400152 / GU\_401740)
- Lisheen 2 Wind Farm Limited - VPTG – (PT\_400152 / GU\_401750)

Six units de-registered from the Market in December 2014

- Ballymartin Wind Farm Phase 1 – VPTG – (PT\_400062/ GU\_401550 )
- Ballymartin Wind Farm Phase 2 – VPTG – (PT\_400062/ GU\_401551)
- Booltiagh Wind Farm 1 - VPTG – (PT\_400062/ GU\_401560 )
- Booltiagh Wind Farm 1 - VPTG – (PT\_400062/ GU\_401570 )
- Garracummer Wind Farm - APTG – (PT\_400062/ GU\_401310 )
- Lisheen 2 Wind Farm Limited - VPTG – (PT\_400062/ GU\_401580 )

### ***Suspension of Participants***

There have been no Suspension Orders issued by the Market Operator at this time.

### 3 Financial Statistics

#### Total Charges for Each Currency

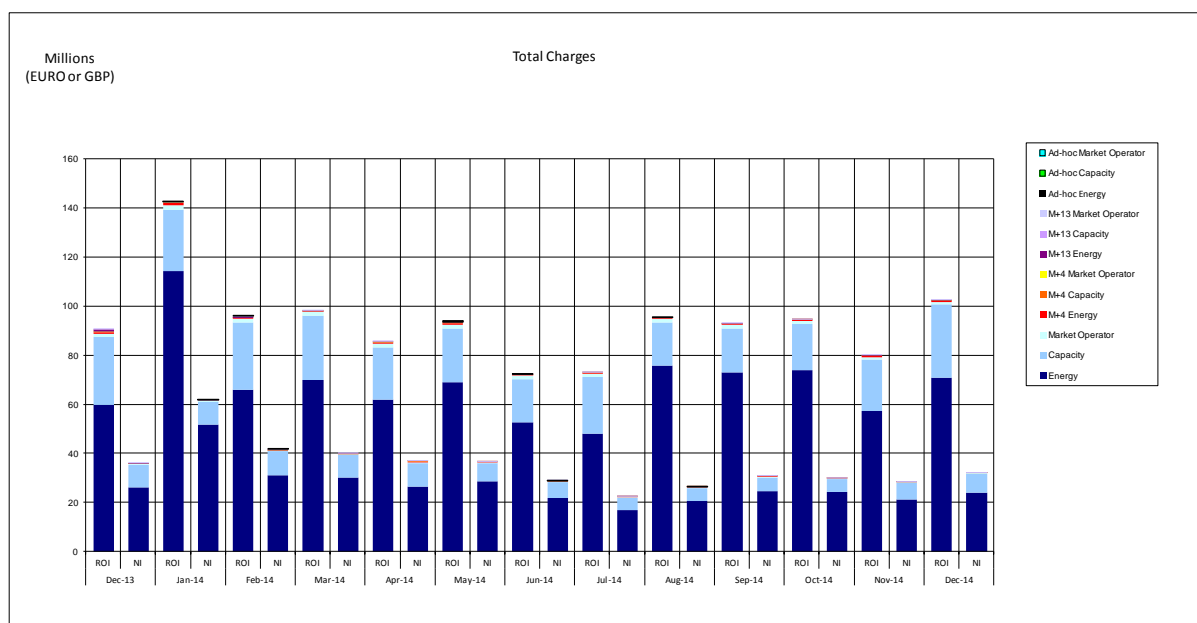


Figure 1 - Total Charges for Each Currency

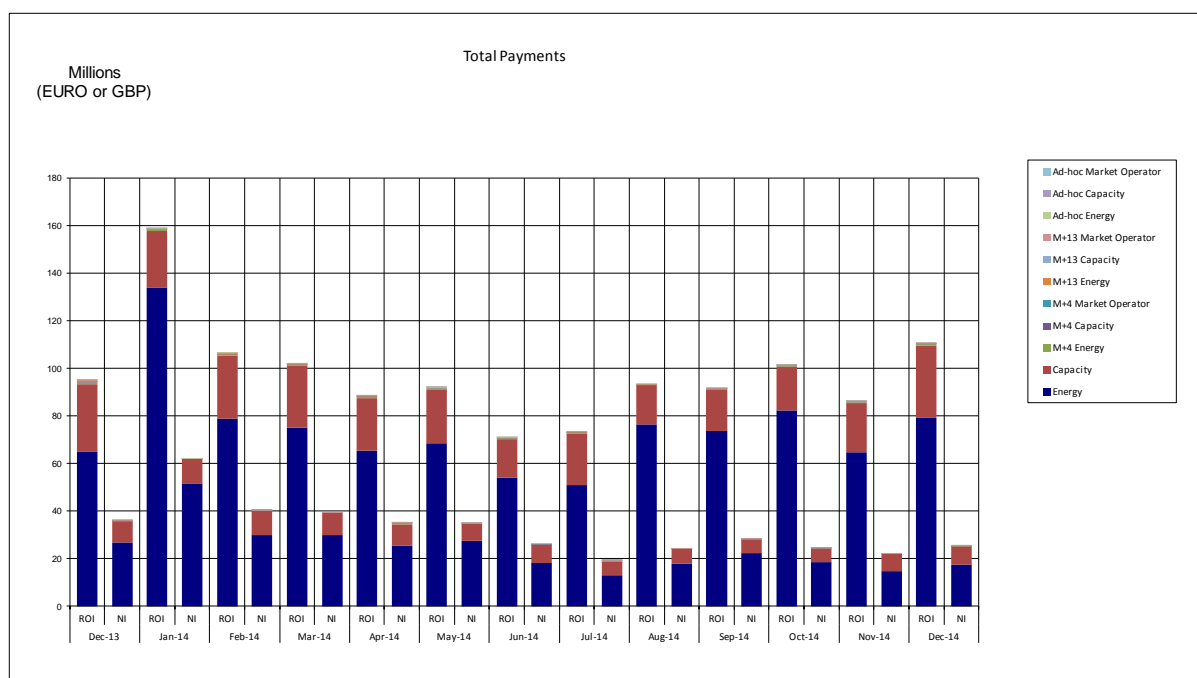
Market	December 2014	
	ROI	NI
Energy	€70,930,089	£24,123,259
Capacity	€29,867,272	£7,725,422
Market Operator	€888,221	£238,370
M+4 Energy	€635,976	£58,795
M+4 Capacity	€143,089	£14,544
M+4 Market Operator	€7,087	£696
M+13 Energy	€116,364	£34,691
M+13 Capacity	€26,280	£7,234
M+13 Market Operator	€996	£296
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
<b>Total</b>	<b>€102,615,374</b>	<b>£32,203,308</b>

Table 2 - Total Charges for Each Currency

Notes relating to Table 2 and 3:

- Month of inclusion based on Invoice Date.
- Amounts are after application of Settlement Reallocations.
- Previous month's data is available in [Appendix G](#).

**Total Payments for Each Currency**



**Figure 2 - Total Payments for Each Currency**

Market	December 2014	
	ROI	NI
Energy	€79,262,341	£17,625,339
Capacity	€30,252,803	£7,511,303
M+4 Energy	€636,211	£58,744
M+4 Capacity	€143,171	£14,476
M+4 Market Operator	€7,087	£679
M+13 Energy	€116,496	£34,724
M+13 Capacity	€25,330	£7,982
M+13 Market Operator	€996	£297
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
<b>Total</b>	<b>€110,444,435</b>	<b>£25,253,545</b>

**Table 3 - Total Payments for Each Currency**

**Total Balancing Costs**

Balancing Costs arise in the Energy and Capacity markets when the summed payments to the SEM from Participants in respect of their Supplier Units do not meet the summed payments to Participants from the SEM in respect of their Generator Units.

Although, it is intended the Energy Payments and Energy Charges should be balanced through the mechanism of the Error Supplier Unit in each jurisdiction, because Energy



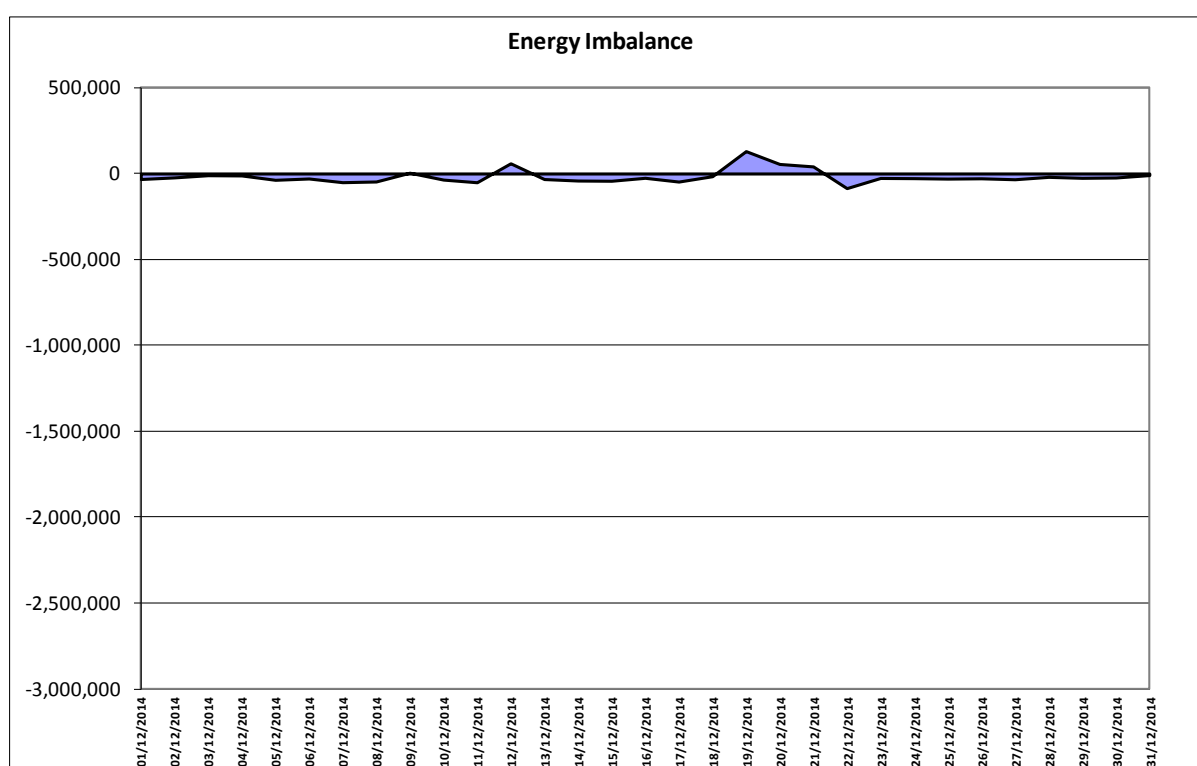
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Payments are made against Market Schedule Quantities while the Error Supplier Unit volumes are calculated against Metered Generation, the different application of Loss Factors means that there is frequently an imbalance between the Energy Payments and Energy Charges.

With regard to the Energy Settlement, the Balancing Costs have been calculated as follows for the entire month:

December 2014	
Imbalance (Energy Only)	-€553,820.83

**Table 4 - Balancing Costs for Energy Settlement**



**Figure 3 – Energy Imbalances**

The full Balancing Cost of the SEM is determined by the summation of the daily payment amounts for Energy Imbalance, Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges combined with the weekly Make Whole Payments and Testing Charges.

Historical values for testing charges have been provided in [Appendix E](#).

The figures for the full Balancing Cost of the SEM since the last Market Operator report are shown below, as well as the VAT Balancing Costs.

In tables 5 and 6 below:

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- Positive values indicate Payments were greater than Charges.
- Negative values indicate Charges were greater than Payments.

Date Of Invoice	Week No	SEM Balancing Costs	VAT Balancing Costs
05/12/2014	47	-€783,945.26	-€105,665.85
12/12/2014	48	-€481,481.35	-€72,270.22
19/12/2014	49	€485,102.80	€53,433.64
31/12/2014	50	€980,523.50	€148,117.94

**Table 5 - Balancing Costs for Trading Payments and Charges**

SEM Balancing Costs are provided based on daily exchange rates, VAT Balancing Costs are based on the Invoicing day exchange rate. VAT Balancing costs exclude Currency Cost related VAT.

It is intended that the algorithms set out in the Trading and Settlement Code will lead to a balanced Capacity Market. However, rounding precisions within the systems may result in an imbalance being introduced into the equations. This imbalance may lead to funding requirements to ensure that all payments out are made as per the terms of the Code.

With regard to the Capacity Settlement, the Balancing Costs have been as follows:

December 2014	
Capacity Charges	-€60,066,140.62
Capacity Payments	€60,065,747.5
Balancing Costs	-€393.11
VAT	€0

**Table 6 - Balancing Costs for Capacity Settlement**

## Market Operator Monthly Report

Historical figures, the current financial year full Balancing Costs for both Trading and Capacity are provided in [Appendix H](#). VAT Balancing costs exclude Currency Cost related VAT.

### **Total Currency Costs**

Currency Costs in the SEM are calculated with respect to the difference in Exchange Rates due to two components:

- 1) Invoice Currency Costs: - in respect of the difference between the Trading Day Exchange Rate (and Annual Capacity Exchange Rate in respect of Capacity Settlement) and the Exchange Rate on the Date of Invoice (being the date of issue of the Invoice) for Trading Payments and Charges.
- 2) Payment Period Currency Costs: - in respect of the difference between the Exchange Rates between the Date of Invoice and the Date of Payment.

Although the Code uses the term Currency Cost, the currency differences may end up as a benefit or a cost to the Participant depending on how the Exchange Rate fluctuates between the Billing Period, Invoice Date and Payment Date. In the table below, where this value is positive this means there was an overall benefit to Participants, negative values mean there was an overall cost to Participants resulting from trading in two currencies. Figures are shown in Sterling (£).

Last Date Of Billing Period	Date Of Invoice	Week No	Currency Costs For Energy Settlement (Invoice and Payment)	Currency Cost Adjustment for Inter-jurisdictional SRAs	Total Currency Cost
01/11/2014	05/12/2014	47	-£1,225.35	£10,800.40	£9,575.06
08/11/2014	12/12/2014	48	£17,215.38	£10,719.23	£27,934.60
15/11/2104	19/12/2014	49	£7,539.09	-£8,089.07	-£549.99
22/11/2014	31/12/2014	50	-£107.14	£8,902.21	£8,795.07

**Table 7 - Total Currency Costs for Trading Payments and Charges**

The Total Currency Cost figures detailed above show the Currency Cost for each Billing Period including Invoice Currency Costs, Payment Period Currency Costs, and Inter-jurisdictional SRA Currency Costs.

Over the period of this report Currency Costs for each week represented a benefit to Participants of up to £27,934.60 and a cost of -£549.99. Whether Currency Costs are a cost or benefit to Participants is directly related to whether the currency is rising or falling between the billing period, invoice date and payment dates.

Settlement Reallocation Agreements between the two currency zones continue to present volatility in the Currency Costs that appear in the Energy market each week. The value of these adjustments is detailed separately above in each Billing Period.

The Currency Costs, for the current financial year, with respect to Initial Capacity Settlement are set out below. Figures are shown in Sterling (£).

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Date Of Invoice	Capacity Month	Currency Costs For Capacity Settlement
12/01/2015	December 2014	£97,994.77

**Table 8 - Total Currency Costs for Capacity Payments and Charges**

### ***Cumulative Imperfections Costs Vs Budget***

The value of Cumulative Imperfections Costs Vs Budget is calculated as the sum of Total Constraint Payments, Total Uninstructed Imbalance Payments, Total Testing Charges and Total Make Whole Payments, as compared against the Total Imperfections Charges, being the weekly budget for these Imperfections Costs.

These values have been collected across the months since the start of the new financial year, 1st October 2014. The values expressed in Euros are as follows.

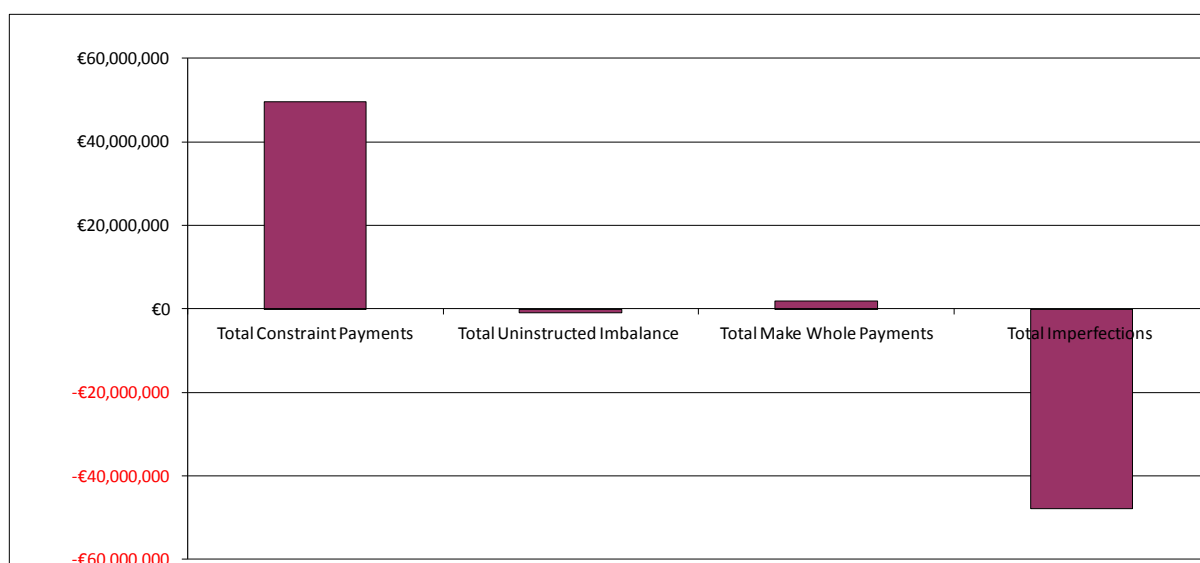
This table makes use of the values taken from the Initial Settlement Run of Trading payments and charges.

Total Constraint Payments	Total Uninstructed Imbalance	Total Make Whole Payments	Total Imperfections
€49,638,915.90	-€900,733.78	€1,813,591.02	-€47,731,689.48

**Table 9 – Cumulative Imperfections Costs Vs Budget**

Note: The Total Constraint Payment figure above has been updated to contain Interconnector Unit Gate variables.

This is demonstrated in the figure below.



**Figure 4 - Cumulative Imperfections Costs Vs Budget**

The daily and weekly data that comprised these values is shown in [Appendix E](#).

**Financial Changes between Initial Settlement and Subsequent Reruns**

The following graphs provide a breakdown of resettlement amounts for the M+4 resettlement period of August 2014 and M+13 resettlement period of November 2013 for Energy and Capacity.

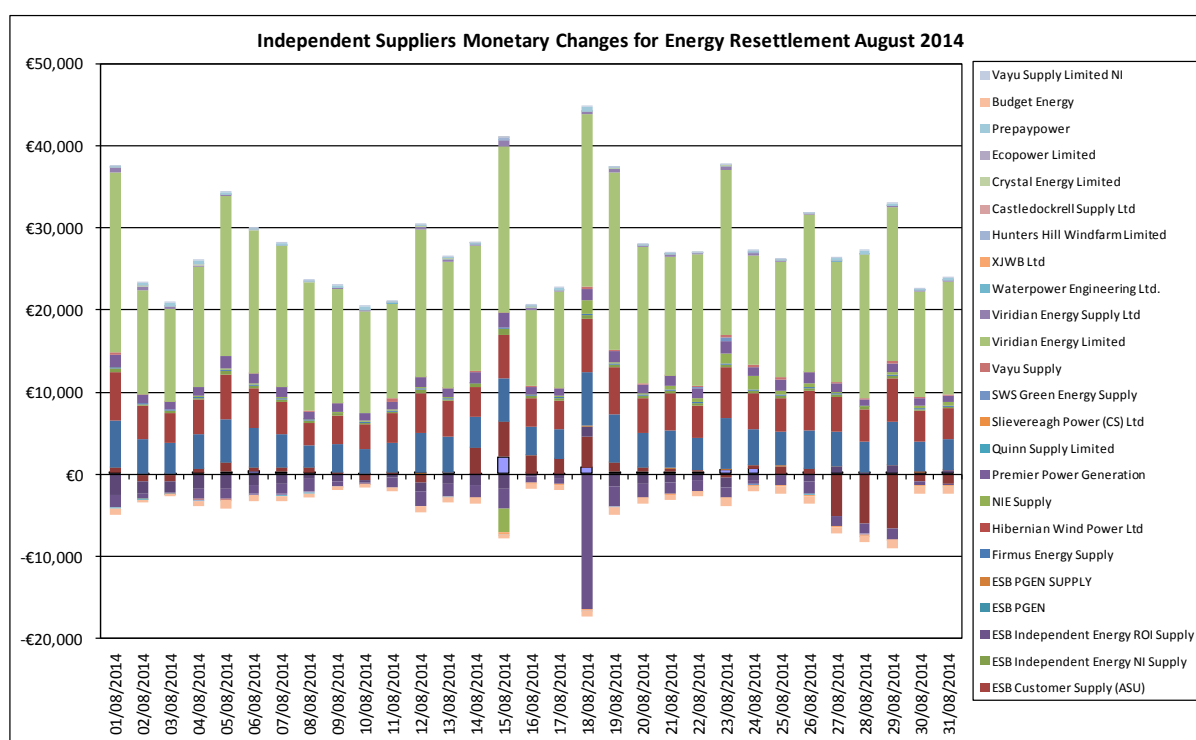
**3.1.1 Energy Market**

Note: - For Figure 6, 8, 9, net values are shown.

- Positive amounts indicate net additional payments by Participants (Charges).
- Negative amounts indicate net additional payment to be made to Participants (Payments).

The reverse is true for Figure 7 & 10

**M+4 Resettlement**



**Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement – August 2014**

The above variances relates purely to rounding for Participants between Initial and M+4 Resettlement.

There were no Generation Monetary Changes for Energy Resettlement between Initial and M+4 Resettlement for August 2014.

**Figure 6 – Generation Monetary Changes for Energy Resettlement – August 2014**

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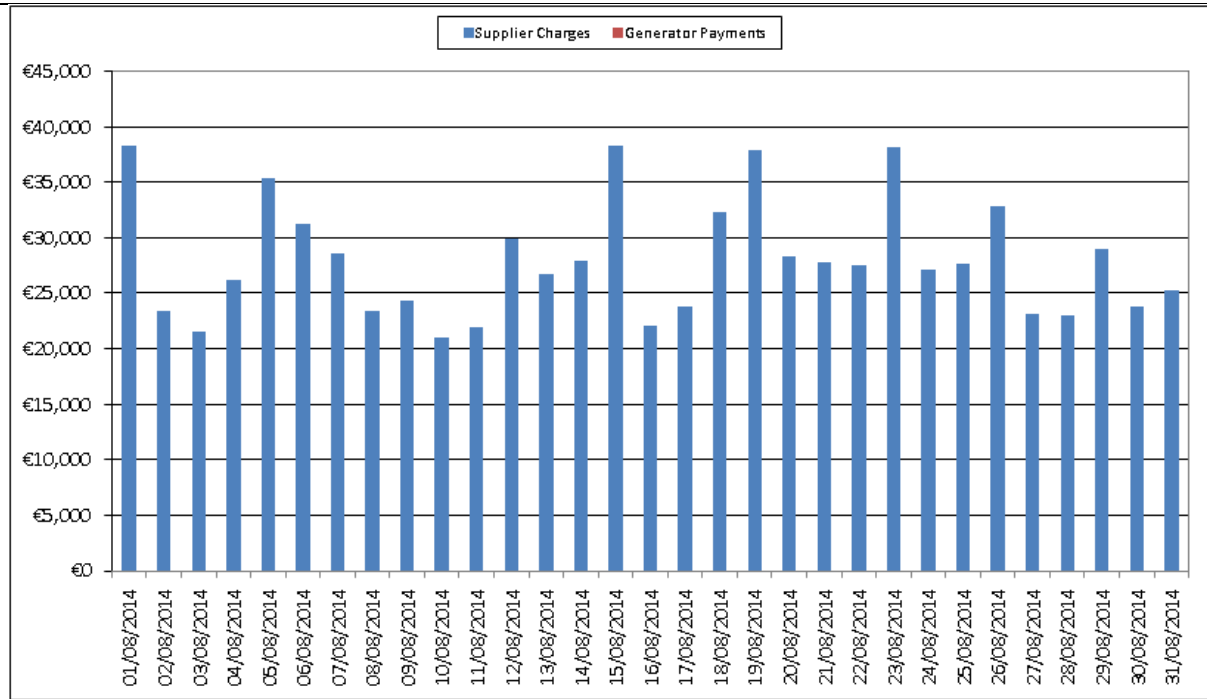


Figure 7 – Total Monetary Changes for Energy Resettlement – August 2014

## M+13 Resettlement

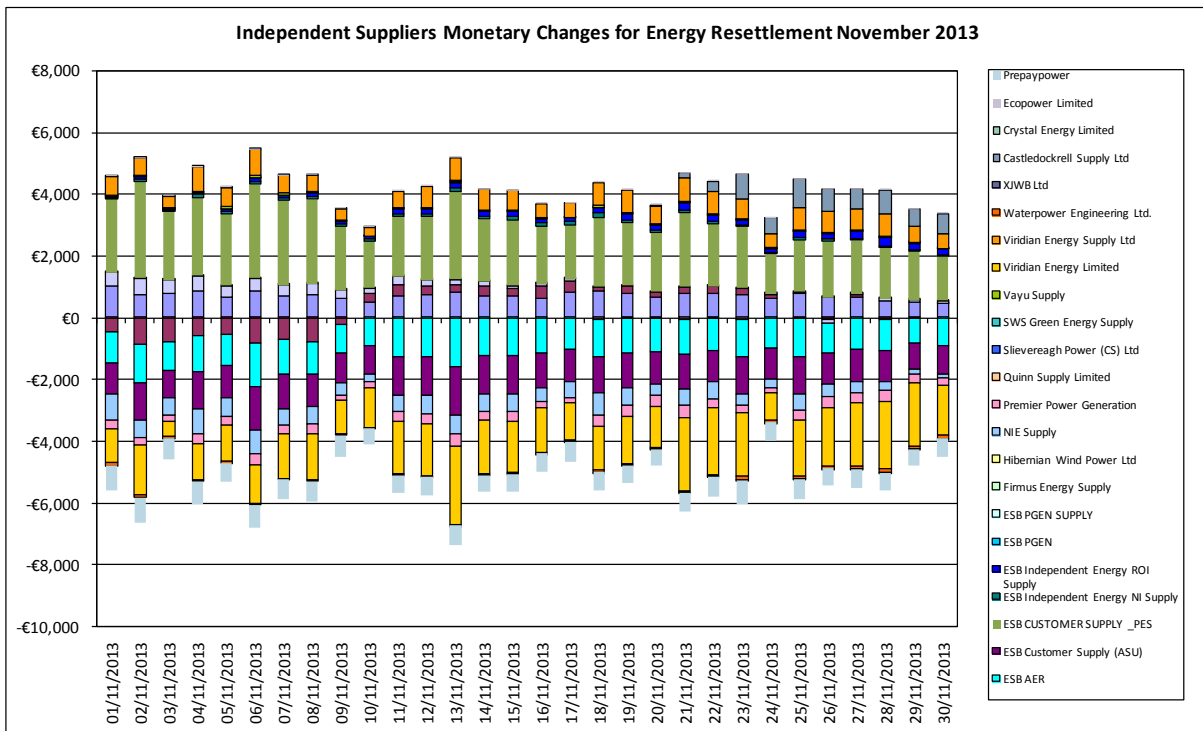


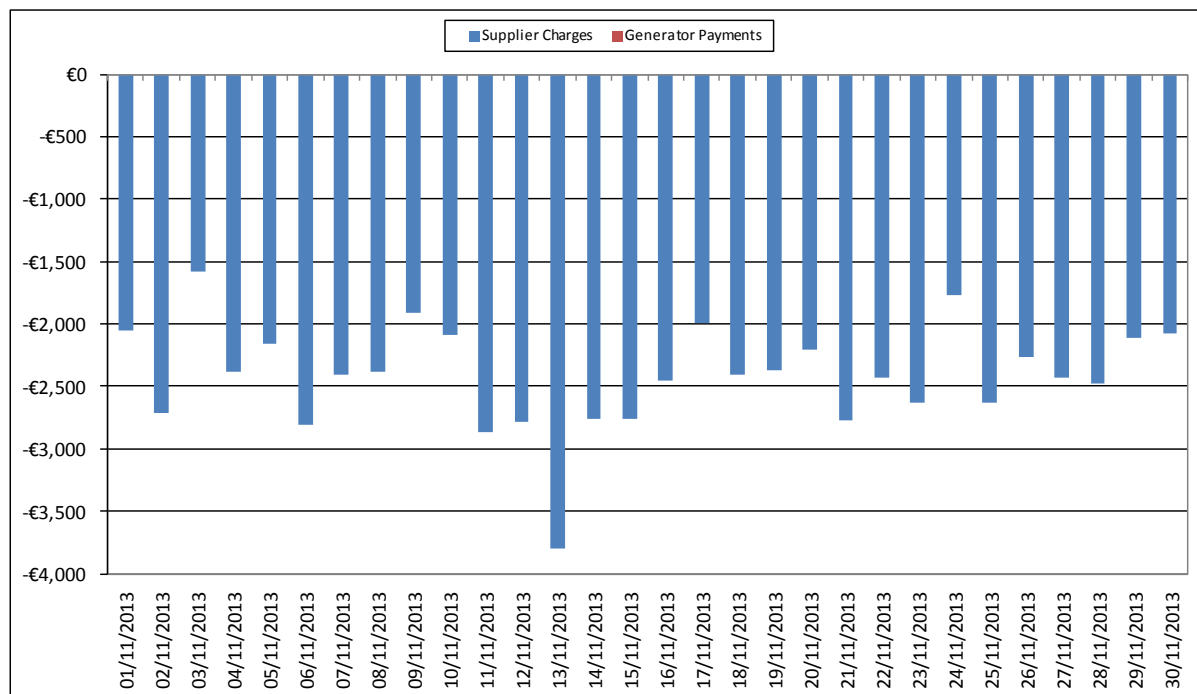
Figure 8 - Independent Suppliers Monetary Changes for Energy Resettlement - November 2013

The above variances relates purely to rounding for Participants between M+4 and M+13 Resettlement.

## Market Operator Monthly Report

There were no Generation Monetary Changes for Energy Resettlement between M+4 and M+13 Resettlement for November 2013.

**Figure 9 - Generation Monetary Changes for Energy Resettlement –November 2013**



**Figure 10 - Total Monetary Changes for Energy Resettlement – November 2013**

### 3.1.2 Capacity Market

Note: - For Figure 12, 13 & 16 net values are shown.

- Positive amounts indicate net additional payments by Participants (Charges).
- Negative amounts indicate net additional payment to be made to Participants (Payments)

The reverse is true for Figure 14 & 22.

The changes in Capacity are graphed below showing the variance in monetary terms as opposed to percentage terms. As the Jurisdictional Error Supply Units can be significantly affected by resettlement, this is more reflective of the monetary redistribution in M+4 and M+13. Please also note that as of June 2011 the Jurisdictional Error Supply Unit (ROI) is now a Retail Supply unit. The Jurisdictional Error Supply Unit (NI) is unchanged.

### M+4 Resettlement

Under resettlement, charges originally attributed to the Jurisdictional Error Supplier Units, have now been redistributed among Market Participants.

## Market Operator Monthly Report

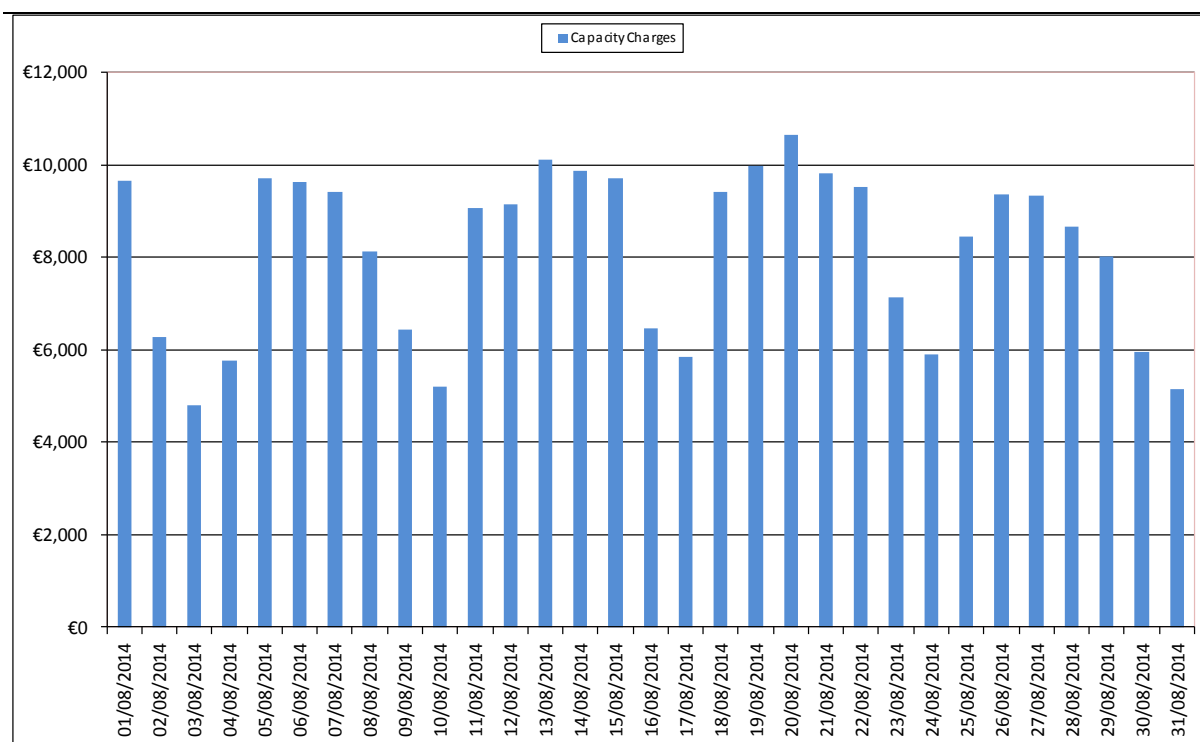


Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement – August 2014

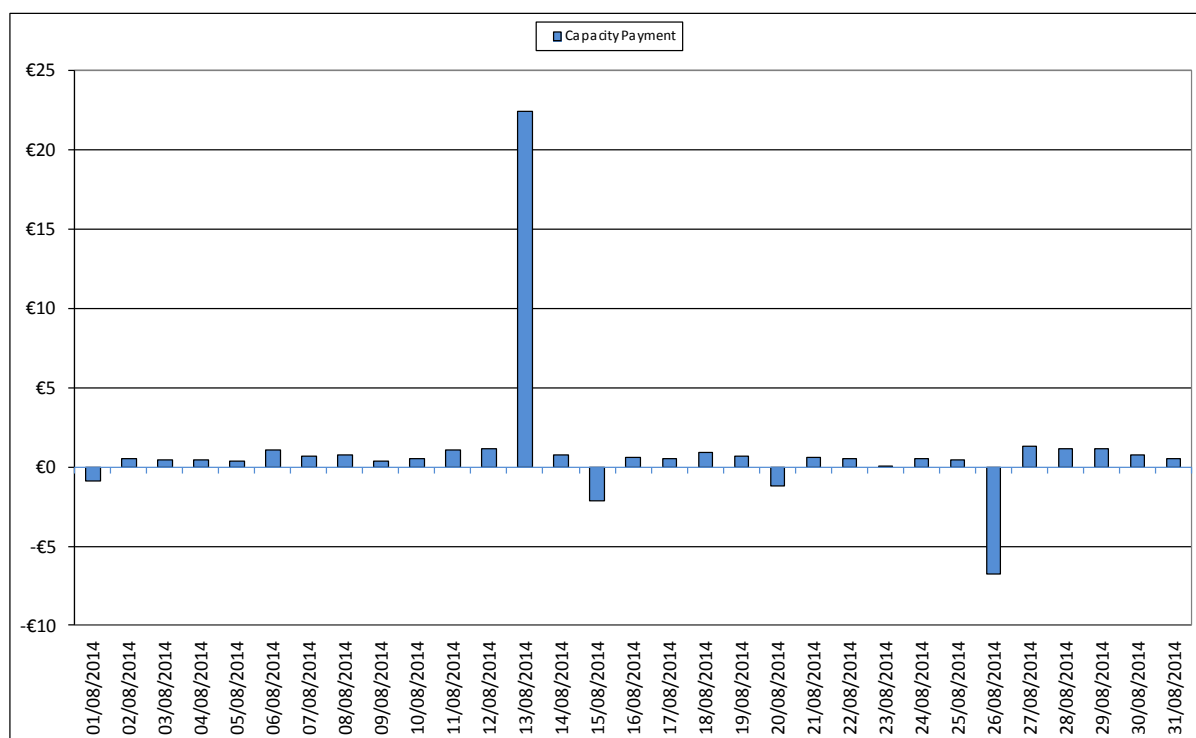
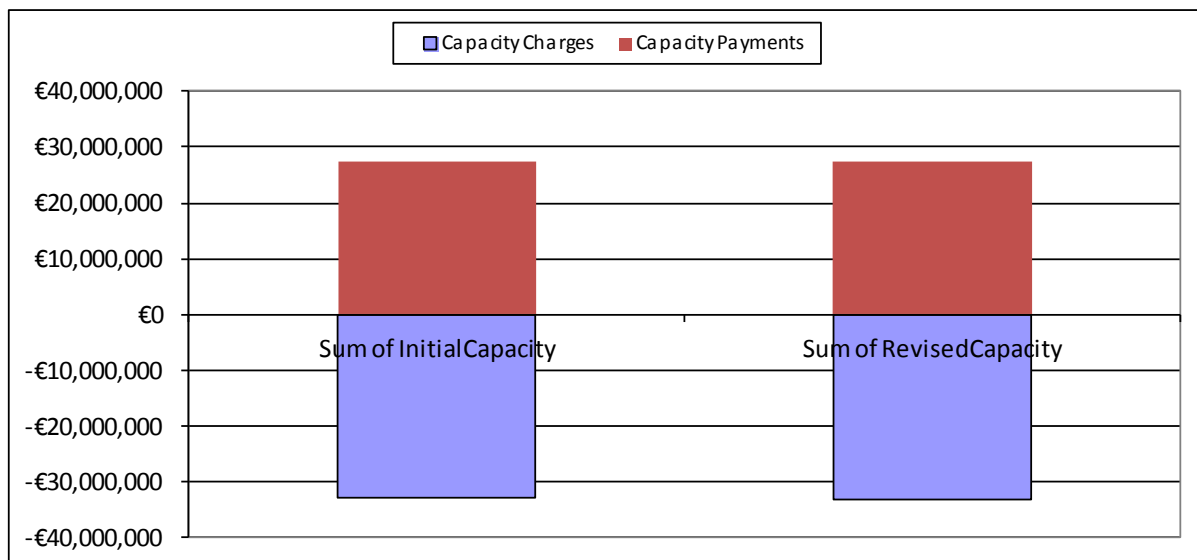


Figure 12 - All Generation Monetary Change for Capacity Resettlement – August 2014

The changes above are driven by updated meter data for Autonomous Price Taker Generators.





**Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement August 2014**

The above graph demonstrates that due to all the individual changes to payment and charge amounts on a Supplier or Generator Unit basis, the overall Capacity Market resettlement Charge and Payment amounts have not changed due to resettlement.

M+13 Resettlement

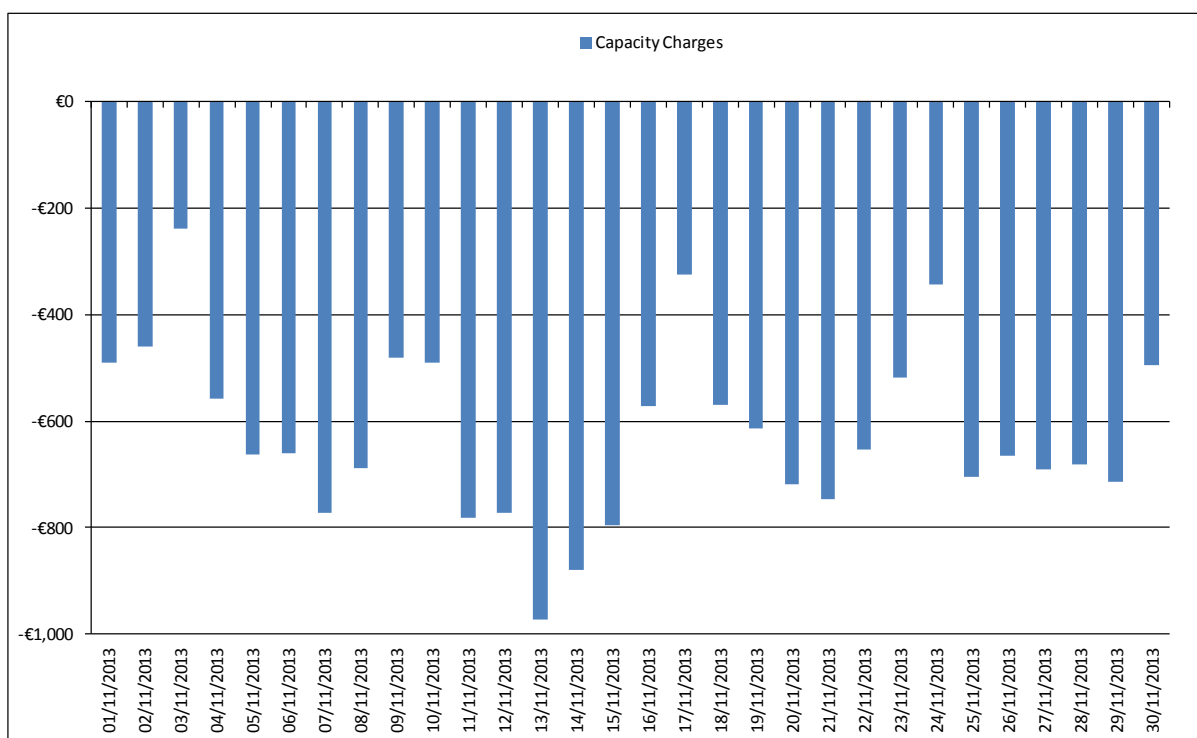


Figure 14 - Independent Suppliers Monetary Changes for Capacity Resettlement – November 2013

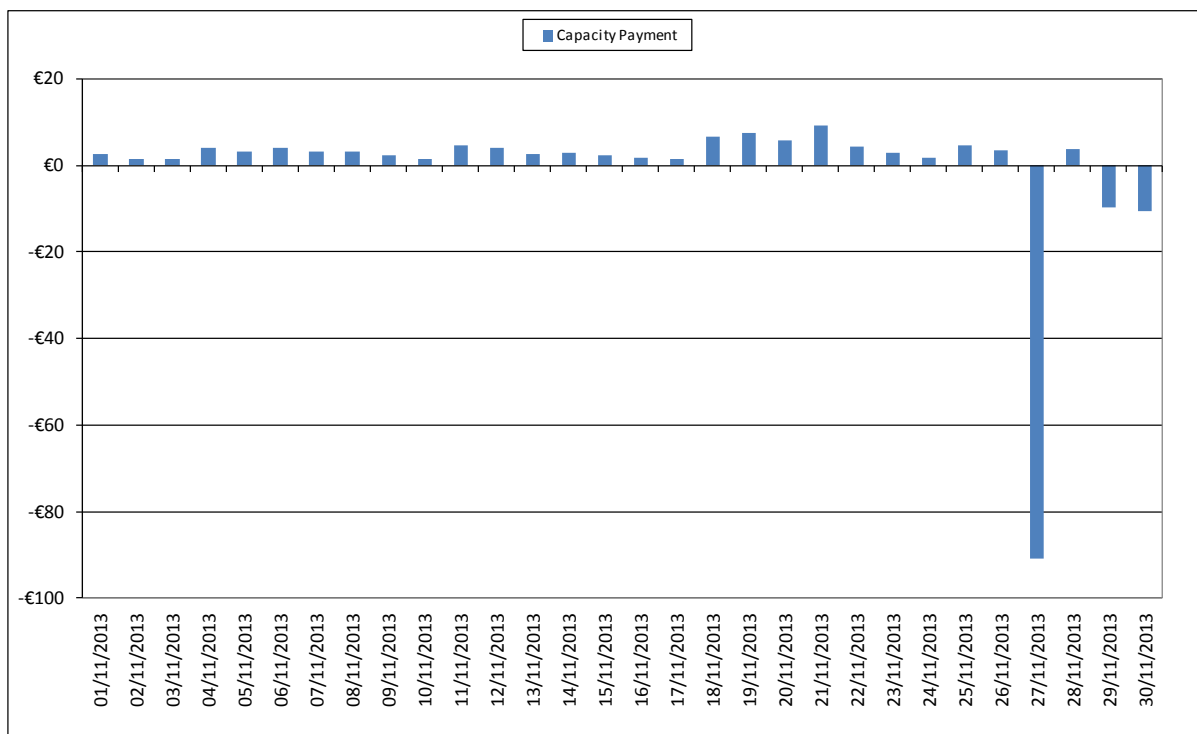
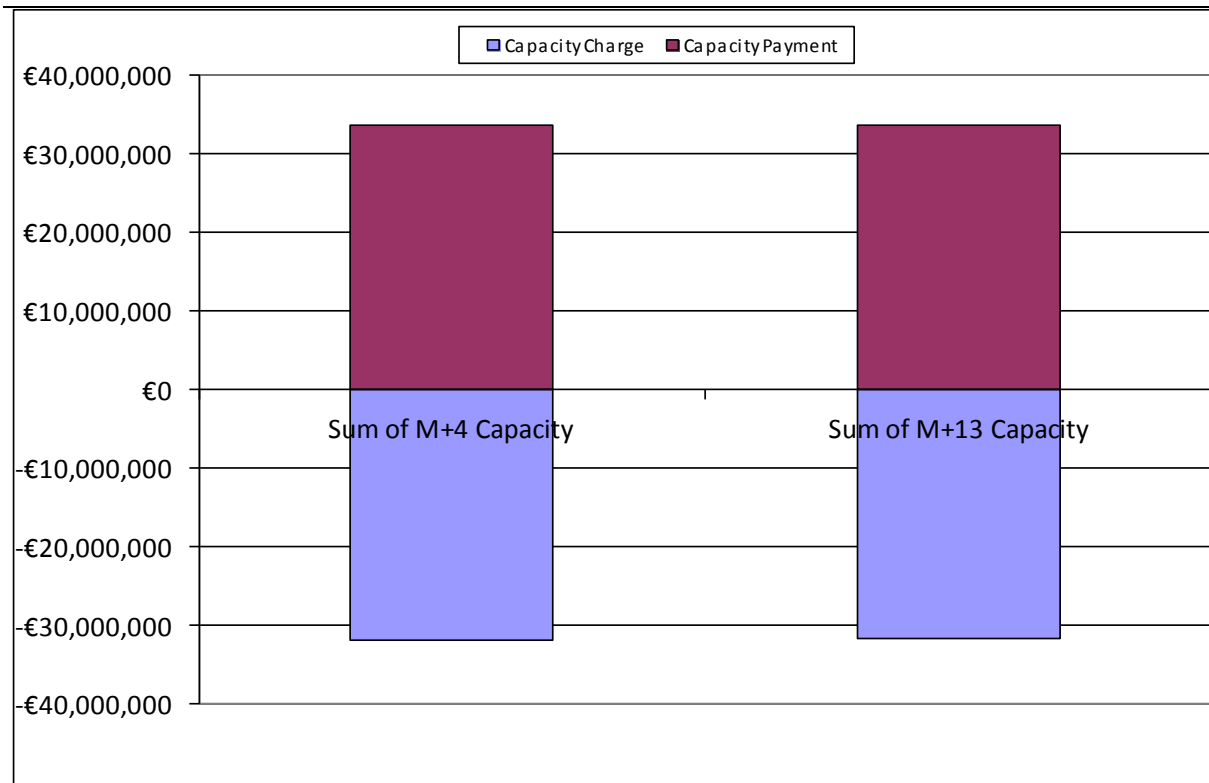


Figure 15 – All Generation Monetary Change for Capacity Resettlement – November 2013

## Market Operator Monthly Report



**Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – November 2013**

The above graph demonstrates despite all the individual changes to payment and charge amounts on a Supplier or Generator Unit basis, the overall Capacity Market resettlement Charge and Payment amounts have not changed due to resettlement.

## 4 Helpdesk Call Statistics

The statistics presented in Table 10 - Helpdesk Call Statistics covers the month of December 2014.

### Market Helpdesk Report: 01/12/14 to 31/12/14

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	142	131	11	144	1.57	135
Important	0	0	0	0	0.00	0
Urgent	1	1	0	1	0.42	1
Settlement	5	5	0	12	6.86	12
Credit	0	0	0	0	0.00	0
Dispute	0	0	0	1	49.10	0
Data	1	1	0	1	0.64	1
<b>Total/Average</b>	<b>149</b>	<b>138</b>	<b>11</b>	<b>159</b>	<b>11.72</b>	<b>149</b>

Table 10 – Helpdesk Statistics

#### Definitions:

- *Resolved within the Period* refers to queries raised and resolved within the calendar month of December 2014.
- *Resolved in the Period* refers to queries resolved within December 2014, and includes queries raised before this time.
- *Resolution Time (Working Days)* refers to average time to resolve, in working days, for this category of query. It is calculated based on all queries for the category, not just December 2014.
- *Not Resolved* refers to queries raised but not resolved within December 2014.
- *Urgent* are general queries which may have an impact on market operations. SEMO has an internal objective to resolve these within 3 working days; however, this is not mandated service level under the Trading & Settlement Code.
- *Disputes* are where a dispute has been raised over the outcome of a data or settlement query.

The average resolution time for General Queries has increased by .06 working days in December to 1.56 from 1.50 working days in November. SEMO has a metric to resolve General Queries within 20 Working Days. These include queries received over the phone and e-mail. There were no queries logged in December 2014 that took over 20 working days to resolve.

Data and Settlement Queries generally continue to be responded to within the timelines required by the Code, i.e. one calendar month. No Formal Query timeline extensions were required during December 2014 with regard to formal Settlement Queries.

## 5. Disputes and Queries

### *List of Disputes by Topic*

There are no outstanding Disputes. One dispute was closed during December 2014.

Dispute	Raised	Resolved
F0060396	2014-09-25	2014-12-05

**Table 11 – List of Disputes**

### *List of Queries by Topic*

#### 5.1.1 Data Queries

There was one formal Data Query raised during the month of December 2014.

Topic	Number Of Queries
Meter Generation	1

**Table 12 – Upheld Data Queries by topic**

#### 5.1.2 Settlement Queries

There were five Settlement Queries raised in December 2014. Of the five, one was rejected, one was not upheld and three were resolved .

Topic	Number Of Queries
Shut Down Costs	2
Testing Tariff	1

**Table 13 –Upheld Settlement Queries by topic**

- Two queries relating to Shut Down Costs were raised. Both of these were deemed to be of low Materiality. However, as the issue persisted over an extended period and M+13 resettlement had already been completed for a portion of the affected period the corrections will be made in M+4, M+13 and via post M+13 Ad-Hoc resettlement.
- One query relating to Testing Tariffs was raised this was deemed to be of low Materiality and will be corrected in M+4.

### *Unresolved Queries*

There are four unresolved Data Queries as at 13<sup>th</sup> January, 2015.

A full list of all the Data and Settlement queries raised is contained in Appendix B.

### **6. Central Systems**

#### ***Proportion of Default Data Used***

On review of the Commercial Offer Data used in the MSP runs, 73.73% of data used was submitted by Participants through the normal Bid-Offer process. 26.27% of the data used was based on Standing Commercial Offer Data. 0.00% of the data used was based on adjusted offer data. None of the data used was based on Default Commercial Offer Data (Default differs from Standing in that it is based on the initial Default data submitted during registration process and not on more recent Standing Data submitted by the Participant through the Market Participant Interface). Details by unit are provided in [Appendix F](#).

#### ***Proportion of Estimated Meter Data used in Initial Settlement and Resettlement***

This is not calculable presently.

#### ***List of System Errors and Re-runs***

##### **6.1.1 Re-Pricing and Resettlement Runs**

There were no Re-Price runs carried out in December 2014.

There were no Resettlement runs carried out in December 2014.

##### **6.1.2 System Errors**

There were two defects identified following the SEM 2.5.0 release.

SETSEMO-114 (UDPUG, UDDOG and UDTTARIFF variables not created for VPTG units) was raised on 10/12/2014 and a fix was deployed to production on 16/12/2014.

SETSEMO-113 (DSUC and MSUC not calculated for Demand Side Units). A fix was delivered from Brady on 05/12/2014 and this was successfully deployed to production on 13/01/2015.

Details are provided in 10 Appendix C: List of All System Errors and Failures.

## 6.2 Operational Timings

This section lists the operation timings of MSP software runs and Settlement runs.

There are five run types for MSP software,

- Ex-Ante 1 Indicative, run on Trading Day – 1 calendar day,
- Ex-Ante 2 Indicative, run on Trading Day – 1 calendar day,
- With In Day 1 Indicative, run on Trading Day,
- Ex-Post Indicative, run on Trading Day + 1 calendar day, and
- Ex-Post Initial, run on Trading Day + 4 calendar days.

The following tables and graphs provide details for the postings of the MSP for December 2014.

### 6.2.1 MSP Postings December 2014

Process	On Time	< 1 hr late	> 1 hr late	Not done
Gate Close EA	31-31	0-31	0-31	0
Post EA1	31-31	0-31	0-31	0
Post EA2	31-31	0-31	0-31	0
Post WD1	31-31	0-31	0-31	0
Post EP1	30-31	1-31	0-31	0
Post EP2	31-31	0-31	0-31	0

Table 14 - Operational Timings

Process	On Time	< 1 hr late	> 1 hr late	Not done
Gate Close	100%	0%	0%	0%
Post EA1	100%	0%	0%	0%
Post EA2	100%	0%	0%	0%
Post WD1	100%	0%	0%	0%
Post EP1	100%	0%	0%	0%
Post EP2	100%	0%	0%	0%

Table 15 - Operational Timings (% on time)



# Market Operator Monthly Report

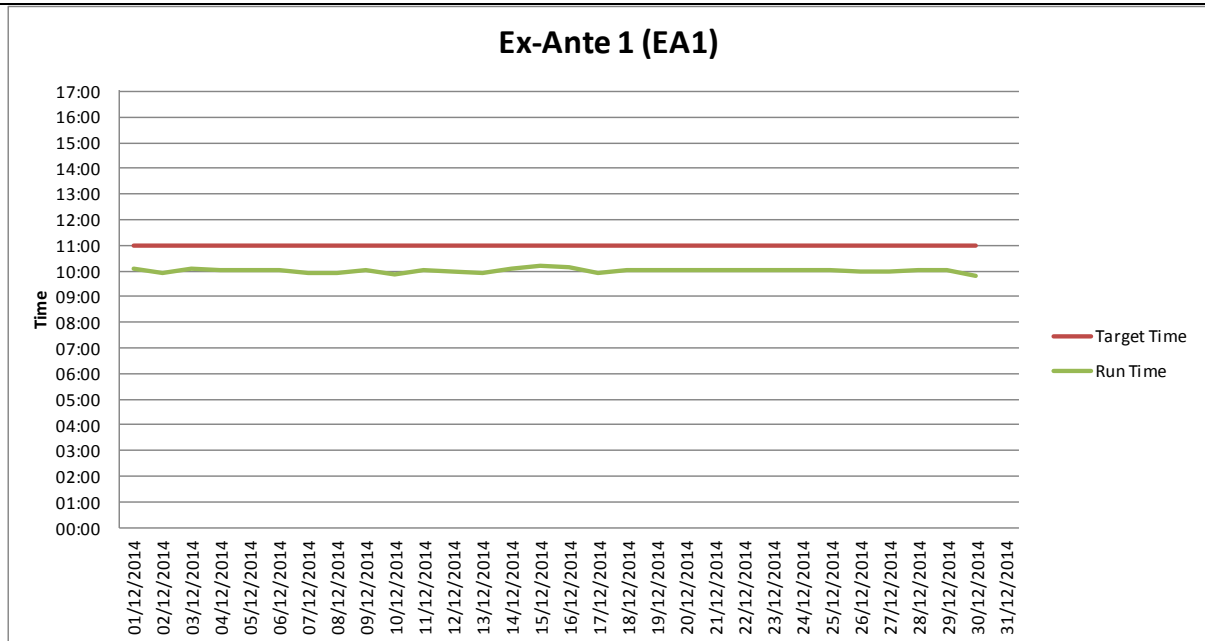


Figure 17 – Ex-Ante 1

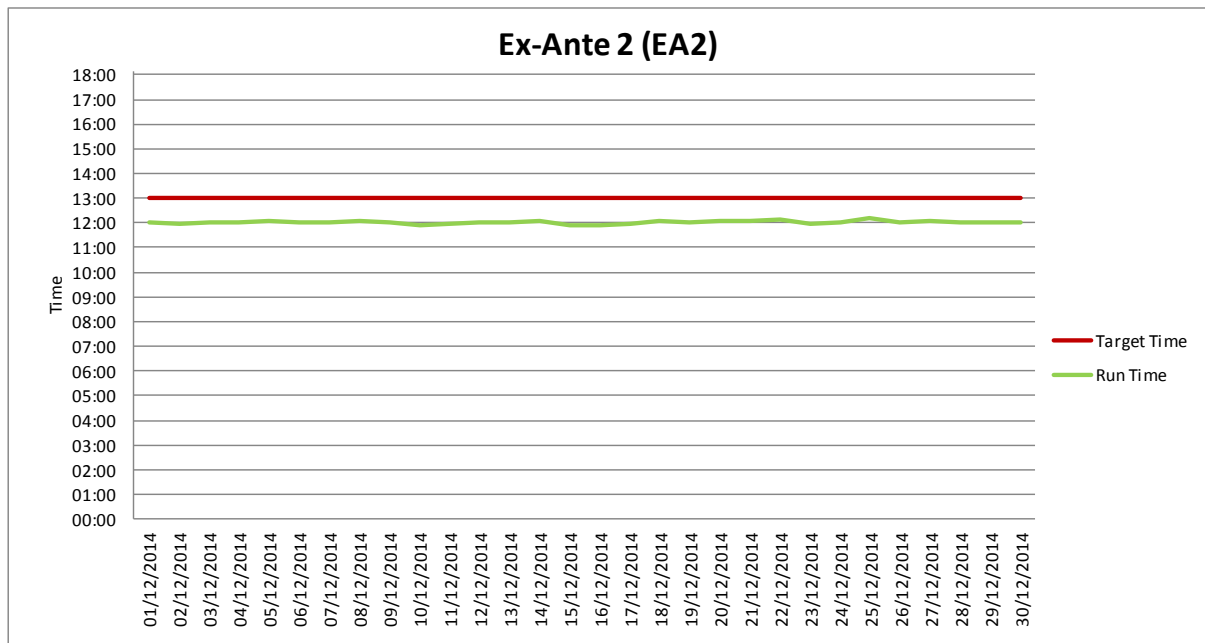


Figure 18 – Ex-Ante 2

# Market Operator Monthly Report

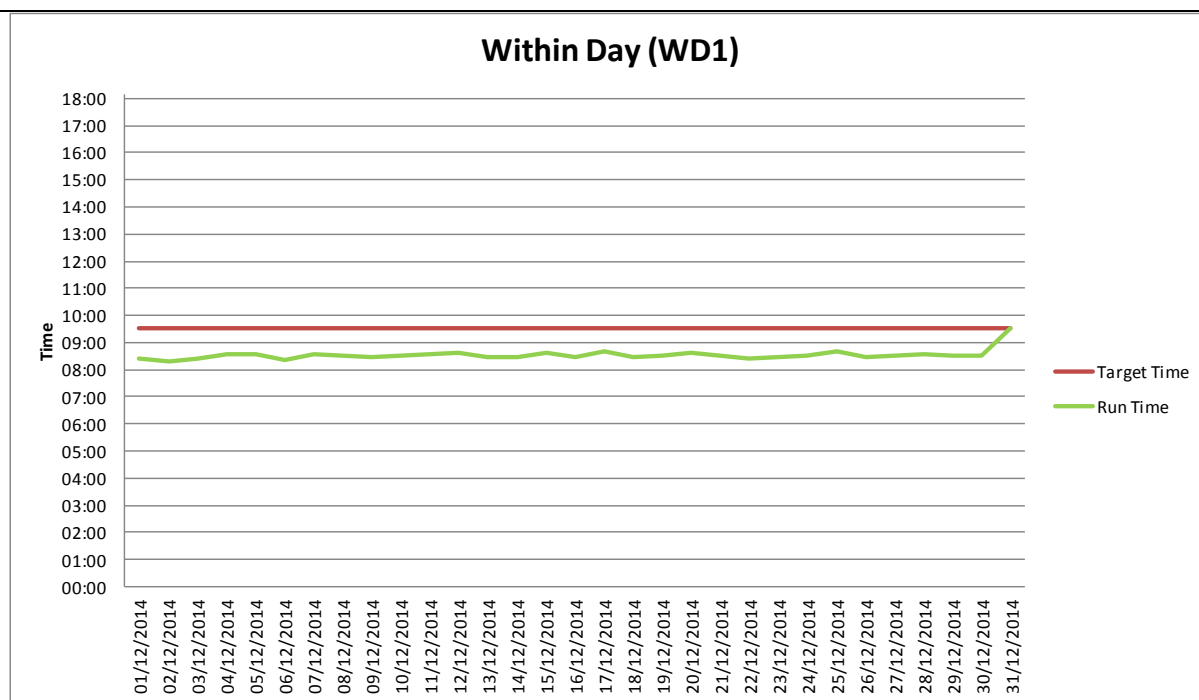


Figure 19 – Within Day 1

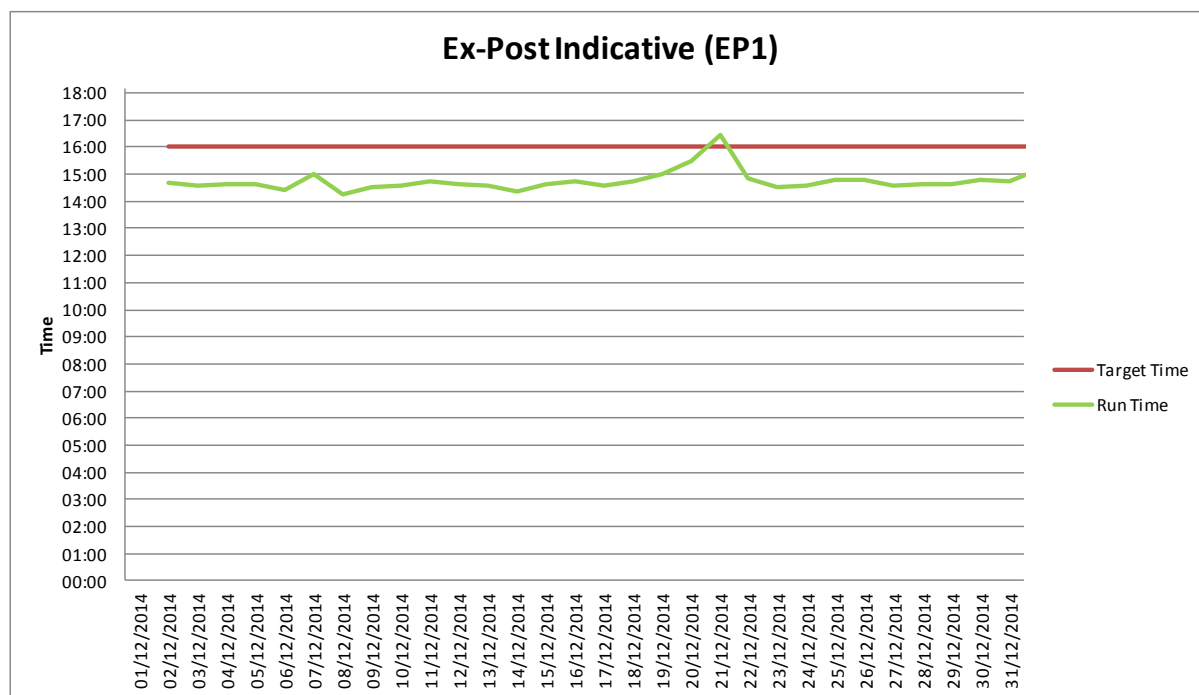


Figure 20 - Ex-Post Indicative

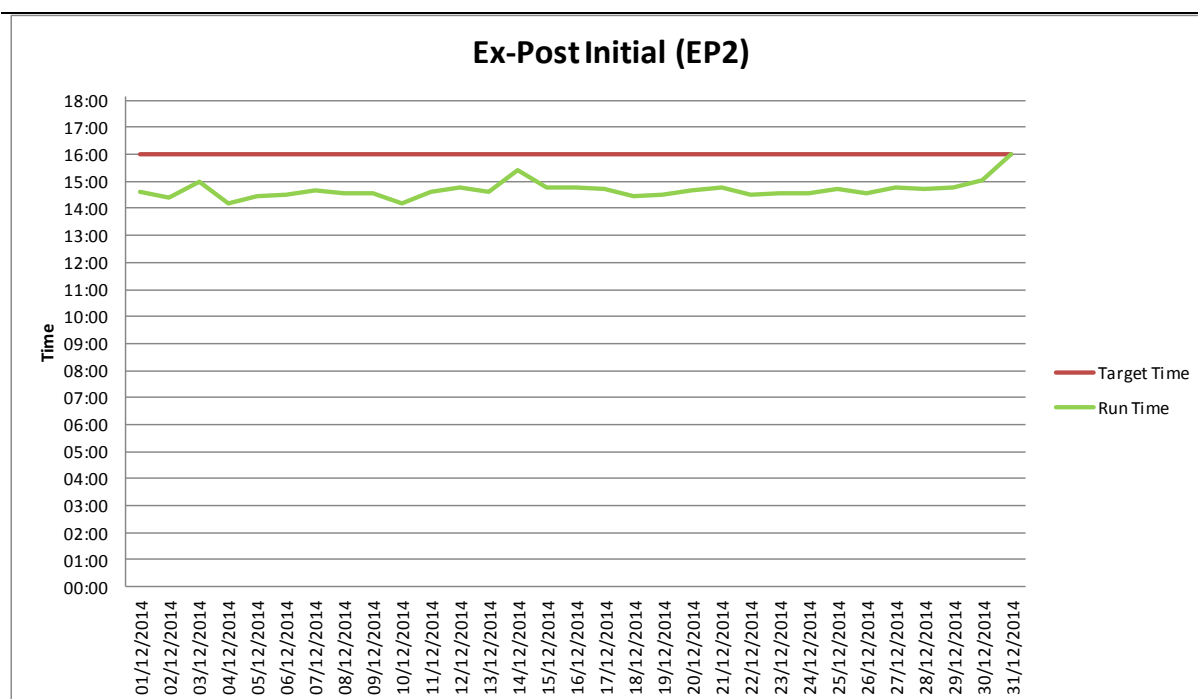


Figure 21 - Ex-Post Initial

Details of the operational timings of the Market System and Price (MSP) runs and Gate Closure are provided in [Appendix D](#).

### 6.2.2 MSP Algorithms

The Market Operator has two different certified solvers used to determine Unit Commitment. These solvers use the Lagrangian Relaxation (LR) and Mixed Integer Programming (MIP) methodologies.

The primary solver used in the SEM is Lagrangian Relaxation (LR). Under certain schedule outcomes where a significant pricing event is observed, the MSP software is re-run using the Mixed Integer Programming (MIP) solver. The outcomes of the two solvers are compared. Where solution determined using the MIP solver provides a better overall solution, this solution may be selected for publishing. An updated policy document on the use of MIP has been published and is available on the SEMO website [here](#).

In December 2014, there were six instances of publishing with the MIP solver.

A detail of historical runs and dates where the MIP algorithm has been used for published results is provided in [Appendix I](#).

6.2.3 Settlement Postings December 2014

The publication timings for Settlement runs are provided below.

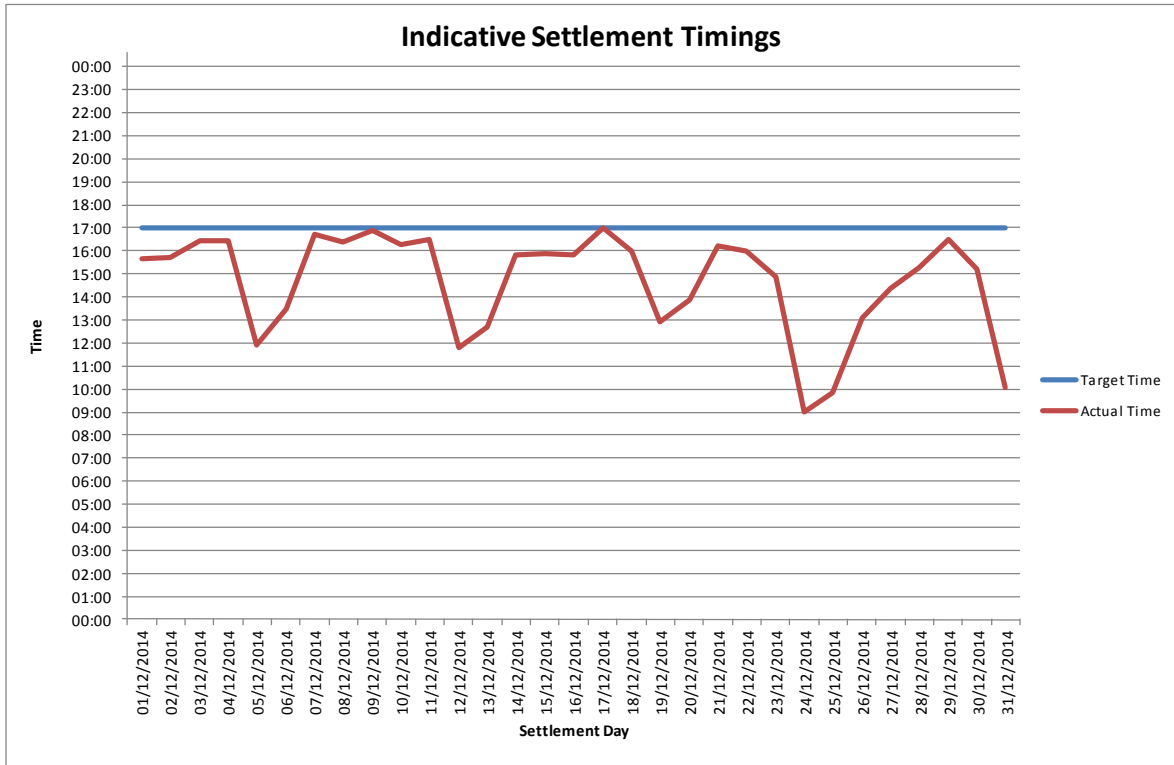


Figure 22 - Indicative Settlement Postings

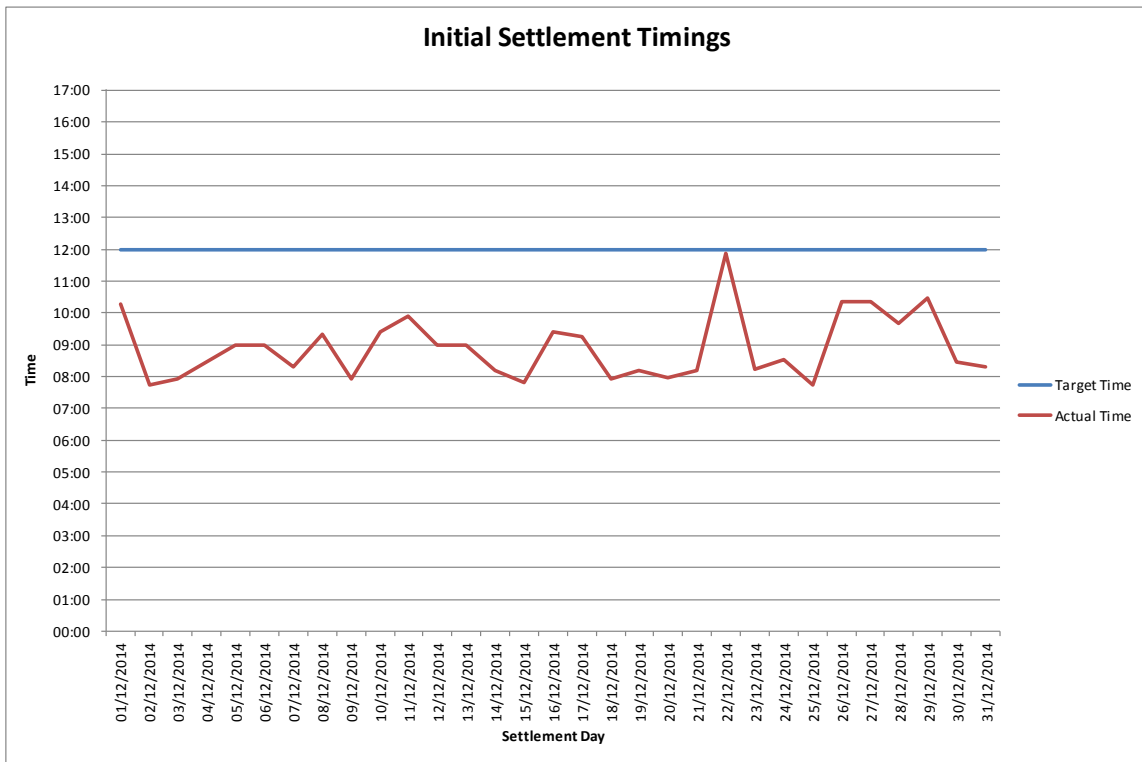


Figure 23 - Initial Settlement Postings

Further details of any delays noted above are provided in [Appendix A](#)

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### 6.5 Market System Releases

#### 6.5.1 Release SEM R2.5.0 (Deployed: November 14<sup>th</sup>, 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.

The following CR's were deployed:

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
SEM_PC_CR336	STL	HMRC VAT Change
SEM_PC_CR340	MA	DSI-Processing of Bids
SEM_PC_CR344	MA	SPOT ATC to override ATC Interval file in UUC

The software was deployed to our Production systems on Friday, November 14<sup>th</sup>, 2014.

We received the first Wash-up release for MI/MA on Friday November 28<sup>th</sup>, 2014. This was deployed on Tuesday December 2<sup>nd</sup> and testing commenced on a number of minor issues around CR's 330 & 344.

This was deployed to Production on December 16<sup>th</sup>, 2014.

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

The release cut-off date for the SEM R2.6.0 release was Friday September 5<sup>th</sup>, 2014.

As at the Cut-Off Date there were no:

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

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

### 7 Occasional Components

#### ***7.1 Disaster Recovery/Business Continuity Tests***

There was no Business Continuity Tests performed during December 2014.

However, a scheduled CMS site switch did take place before Christmas, and all technical operations for the CMS were transferred from the Dublin site to the Belfast site, in essence, testing the business continuity model for the technical aspects of the CMS.

#### ***7.3 Communications or Systems Failures***

There was 1 Market Interface System issue during December 2014;

On the 17/12/2014, Market Operations reported an inconsistency experienced by themselves and some participants whilst trying to download reports from the MPI / Webservice interface. The problem was that a report may not download on the first attempt, but could work after a second or third attempt. Upon investigation by MS IT, it was discovered that there was a replication issue between the Dublin and Belfast file shares, which hold these reports at the back end of the CMS. This issue meant that reports were being created on the Dublin file share, but not being replicated across to the Belfast file share, and in turn, this caused the intermittent download report issue being experienced (depending on the file share accessed to process the download). The issue was dealt with by MS IT, and the replication and inconsistencies corrected and verified.

#### ***7.4 Denial of Service Attacks***

There was no Denial of Service Attacks during December 2014.

#### ***7.5 Submission of Parameters to RAs for Approval***

No parameters were submitted to the Regulatory Authorities during December 2014.

## 8 Appendix A: Detail of Code Breaches

### Market Participant

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
03/12/2014	Money In	Timing	Participant	Payment Default	A Default Notice Issued to Electricity Exchange Ltd PT_400116.	Invoice 1000153789, July 2014 M+4 Capacity was not paid resulting in a Payment default.	A Default Notice was Issued to Electricity Exchange Ltd PT_400116. Payment was drawn from the Participants Cash Collateral Account.	Major
03/12/2014	Money In	Timing	Participant	Payment Default	PT_500037 Bord Gais Interconnector defaulted on Energy Invoicing.	PT_500037 defaulted on Energy Invoice 1000154128 Week 43 2013 M+13.	Default Notice issued to Bord Gais Interconnector PT_500037. Call on participants cash collateral account was required	Major
05/12/2014	Money In	Timing	Participant	Payment Default	Default Notice issued to Firmus Energy PT_500046.	Invoice 1000153714 was not paid which resulted in a Payment Default with a Default Notice being issued.	Default Notice issued to Firmus Energy PT_500046. The full payment was received on the 09.12.2014.	Major
12/12/2014	Money In	Timing	Participant	Payment Default	Default Notice issued to PT_400068 Ecopower Supply Ltd.	1000154999 for Week 47 2014 Initial Energy was not paid. Payment was not received before the cut off time but was remedied the next day which resulted in a payment default with a Default Notice being issued.	Default Notice issued to PT_400068 Ecopower Supply Ltd.	Major
12/12/2014	Money In	Timing	Participant	Payment Default	Default Notice issued for PT_400059 Slievreagh Power.	Capacity Initial Invoice 1000155165 was not paid. A Cash Collateral Drawdown was requested but there were insufficient funds available. Participant contacted to make payment.	Default Notice issued for PT_400059 Slievreagh Power.	Major
12/12/2014	Money In	Timing	Participant	Payment Default	Default Notice issued to PT_400049 Quinn Windfarm Ltd.	FMOC Invoice 1000154560 was not paid before the deadline.	Default notice issued for PT_400049 Quinn Windfarm Ltd. Participant required to remedy.	Major
12/12/2014	Money In	Timing	Participant	Payment Default	Default Notice issued to PT_500048 Contour Global Solutions (NI) LTD.	Nov 2014 FMOC Invoice was not paid before the deadline. Participant required to remedy.	Default Notice issued for PT_500048 Contour Global Solutions (NI) LTD.	Major
17/12/2014	Money In	Timing	Participant	Payment Default	PT_400068 EcoPower Supply Ltd defaulted on a Wk 47 Energy Initial invoice.	Participant error	A Default Notice was issued to PT_400068 EcoPower Supply Ltd .	Major
30/12/2014	Money In	Timing	Participant	Payment Default	PT_400081 Crystal Energy defaulted on a Wk 49 2014 Energy Initial invoice.	Participant error.	A Default Notice was issued to PT_400081 Crystal Energy	Major
30/12/2014	Money In	Timing	Participant	Payment Default	PT_400081 Crystal Energy defaulted on a Capacity M+4 Invoice.	Participant error	A Default Notice was issued to PT_400081 Crystal Energy	Major
30/12/2014	Money In	Timing	Participant	Payment Default	PT_400106 ESB Electric Ireland defaulted on a Capacity M+4 Invoice.	Participant error	A Default Notice was issued to PT_400106 ESB Electric Ireland	Major
30/12/2014	Money In	Timing	Participant	Payment Default	PT_400133 Endeco Technology defaulted on a Capacity M+4 Invoice	Participant error	A Default Notice was issued to the PT_400133 Endeco Technology	Major

Table 16 - Code Breaches – Market Participants

### Data Provider

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
12/12/2014	WD1	Quality	Moyle IA	System	The publication of Within Day (WD1) MOYLE MIUNs for Trade Date 12/12/2014 were delayed.	There was a trip on the MOYLE Interconnector at 09:30am on Trade Date 12/12/2014.	Revised MOYLE MIUNs were published at 13:25 with values set to zero.	Minor

Table 17 - Code Breaches – Data Providers

# Market Operator Monthly Report

## SEMO - Pricing and Scheduling

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
10/12/2014	WD1	Timing	SEMO	System	The publication of EWIC MIUNs for Trading Day 10/12/2014 was delayed.	The MIUN calculator produced an error and a revised file was required.	Revised EWIC MIUNs were published at 09:45 with values set to zero.	Minor
24/12/2014	EA2	Quality	SEMO	System	A revision was required for Ex-Ante 2 (EA2) Moyle MIUNs for Trade Date 25/12/2014.	The MIUN calculator produced an error and a revised file was required.	Revised EWIC MIUNs were published by 12:55.	Minor
30/12/2014	EA1	Timing	SEMO	System	The publication of EWIC MIUNs for Ex-Ante 1(EA1) Trade Date 31/12/2014 were delayed.	The MIUN calculator produced an error and a revised file was required.	Revised EWIC MIUNs were published at 11:27.	Minor

**Table 18 - Code Breaches – Pricing and Scheduling**

## SEMO – Settlements

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
18/12/2014	SE1	Timing	SEMO	Operational	Indicative Energy and VMOC Statements and Participant Information Reports for Settlement Day 17/12/2014 were published after the 17:00 deadline.	Capacity Initial statements processing was delayed which resulted in the indicative processing being delayed.	Indicative Energy and VMOC Statements and Participant Information Reports for Settlement Day 17/12/2014 were published at 17:03 on Thursday, 18/12/2014	Minor

**Table 19 - Code Breaches – Settlements**

## SEMO - Funds Transfer

There were no issues to report in December 2014

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
There are no items to show in this view of the "Issues Log" list. To create a new item, click "New" above.								

**Table 20 - Code Breaches – Funds Transfer**

## SEMO - Credit Management

There were no issues to report in December 2014

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
There are no items to show in this view of the "Issues Log" list. To create a new item, click "New" above.								

**Table 21 - Code Breaches – Credit Risk Management**



## *SEMO – Other*

There were no issues to report in December 2014

<a href="#">Ops Date Identified</a>	<a href="#">Run Type</a>	<a href="#">Quality or Timing</a>	<a href="#">Party</a>	<a href="#">Issue Type</a>	<a href="#">Description</a>	<a href="#">Cause</a>	<a href="#">Resolution</a>	<a href="#">T and SC Breach</a>
There are no items to show in this view of the "Issues Log" list. To create a new item, click "New" above.								

**Table 22 - Code Breaches – Other**

**9 Appendix B: List of Queries by Type**

*Data Queries*

Summary Title	Description	ID	Logged On	Date sent to MP
Meter Generation	Incorrect meter data sent for trading date 18/12/2014 due to communication loss to energy meters	EirGrid	2014-12-22	2014-12-22

**Table 23 - Data Queries**

*Settlement Queries*

Summary Title	Description	ID	Logged On	Date sent to MP
Shut Down Cost	This query was first raised through query ref F0061049. Dispatch shutdown costs are not being applied correctly in the constraint payment calculation for Demand Side Units (DSUs).	PT_400090	2014-12-02	2014-12-23
MIUN issue	On the 24th of October we have a variance between our SEM data and our data on AMP. AMP has a MIUN of 2640 for the day, SEM have an MSQ of 2585 for the whole day.	PT_400115	2014-12-05	2014-12-11
Shut Down Cost	Dispatch shutdown cost not being applied correctly in the constraint payment calculation for demand site units (DSUs). The unit affected is PT_400101 DSU_401300	PT_400101	2014-12-05	2014-12-23
Testing Tariff	Erne 2 were incorrectly charged for Testing Tariff A instead of Testing Tariff B during the period. LEE3 GU_400290 -16-18/11/2014 Capacity MIR data is missing for the above units and dates	EirGrid	2014-12-18	2014-12-23

**Table 24 - Settlement Queries**

### 10 Appendix C: List of All System Errors and Failures

The definitions of the statuses used for the List of All System Errors and Failures are:

- In Progress: Fix being identified and implemented.
- Resolved: Fix has been implemented, but reruns have not been performed.
- Closed: Required reruns have been performed and error-failure has been completely rectified.

Note: Items in the List of All System Errors and Failures that have status 'Closed' in this month's report will not appear in subsequent Monthly Market Operator Reports as they are no longer open issues.

Issue No.	Description	Effect	Fixed from	Re-Pricing	Resettlement	Status
-	SETSEMO-114 (UDPUG, UDDOG and UDTTARIFF variables not created for VPTG units) was raised on 10/12/2014 and a fix was deployed to production on 16/12/2014.	-	-	-	-	-
-	SETSEMO-113 (DSUC and MSUC not calculated for Demand Side Units). A fix was delivered from Brady on 05/12/2014 and this was successfully deployed to production on 13/01/2015.	-	-	-	-	-

Table 25 - List of System Errors and Failures

## 11 Appendix D: Details of Operational Timings

### Market Schedule and Price Runs

Operational Day	EA1 Postings		EA2 Postings		WD1 Postings		EP1 Postings		EP2 Postings	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
01/12/2014	11:00	10:05:00	13:00	12:01	09:30	08:25	16:00	14:41	17:00	14:36
02/12/2014	11:00	09:56:00	13:00	11:59	09:30	08:18	16:00	14:34	17:00	14:23
03/12/2014	11:00	10:06:00	13:00	12:00	09:30	08:26	16:00	14:38	17:00	14:59
04/12/2014	11:00	10:03:00	13:00	12:01	09:30	08:35	16:00	14:39	17:00	14:12
05/12/2014	11:00	10:03:00	13:00	12:03	09:30	08:34	16:00	14:26	17:00	14:27
06/12/2014	11:00	10:01:00	13:00	12:01	09:30	08:22	16:00	15:00	17:00	14:30
07/12/2014	11:00	09:57:00	13:00	12:02	09:30	08:33	16:00	14:15	17:00	14:39
08/12/2014	11:00	09:56:00	13:00	12:03	09:30	08:32	16:00	14:30	17:00	14:34
09/12/2014	11:00	10:01:00	13:00	12:00	09:30	08:27	16:00	14:34	17:00	14:33
10/12/2014	11:00	09:52:00	13:00	11:55	09:30	08:31	16:00	14:43	17:00	14:11
11/12/2014	11:00	10:02:00	13:00	11:59	09:30	08:33	16:00	14:37	17:00	14:38
12/12/2014	11:00	10:00:00	13:00	12:02	09:30	08:36	16:00	14:36	17:00	14:45
13/12/2014	11:00	09:55:00	13:00	12:02	09:30	08:29	16:00	14:21	17:00	14:36
14/12/2014	11:00	10:07:00	13:00	12:03	09:30	08:27	16:00	14:38	17:00	15:25
15/12/2014	11:00	10:13:00	13:00	11:54	09:30	08:37	16:00	10:41	17:00	14:46
16/12/2014	11:00	10:09:00	13:00	11:55	09:30	08:28	16:00	11:07	17:00	14:47
17/12/2014	11:00	09:57:00	13:00	11:58	09:30	08:42	16:00	14:43	17:00	14:44
18/12/2014	11:00	10:03:00	13:00	12:03	09:30	08:28	16:00	15:00	17:00	14:27
19/12/2014	11:00	10:02:00	13:00	12:01	09:30	08:31	16:00	15:28	17:00	14:32
20/12/2014	11:00	10:01:00	13:00	12:03	09:30	08:38	16:00	16:28	17:00	14:39
21/12/2014	11:00	10:03:00	13:00	12:03	09:30	08:32	16:00	14:50	17:00	14:45
22/12/2014	11:00	10:01:00	13:00	12:07	09:30	08:25	16:00	14:32	17:00	14:30
23/12/2014	11:00	10:03:00	13:00	11:57	09:30	08:28	16:00	14:34	17:00	14:35
24/12/2014	11:00	10:01:00	13:00	12:01	09:30	08:32	16:00	14:49	17:00	14:33
25/12/2014	11:00	10:01:00	13:00	12:10	09:30	08:42	16:00	14:48	17:00	14:43
26/12/2014	11:00	09:58:00	13:00	12:02	09:30	08:29	16:00	14:34	17:00	14:35
27/12/2014	11:00	10:00:00	13:00	12:05	09:30	08:32	16:00	14:39	17:00	14:46
28/12/2014	11:00	10:01:00	13:00	12:01	09:30	08:33	16:00	14:37	17:00	14:44
29/12/2014	11:00	10:01:00	13:00	12:02	09:30	08:31	16:00	14:47	17:00	14:46
30/12/2014	11:00	09:50:00	13:00	12:02	09:30	08:32	16:00	14:43	17:00	15:02
31/12/2014	11:00	10:52:00	13:00	13:02	10:30	09:32	16:00	15:09	17:00	16:02

Table 26 – MSP Runs

## Market Operator Monthly Report

### Settlement Runs

Trading Day	INDICATIVE				INITIAL			
	Target Date	Actual Date	Target Time	Actual Time	Trading Day	Actual Date	Target Time	Actual Time
01/12/2014	02/12/2014	02/12/2014	17:00	15:39	01/12/2014	08/12/2014	12:00	10:17
02/12/2014	03/12/2014	03/12/2014	17:00	15:44	02/12/2014	09/12/2014	12:00	07:45
03/12/2014	04/12/2014	04/12/2014	17:00	16:27	03/12/2014	10/12/2014	12:00	07:56
04/12/2014	05/12/2014	05/12/2014	17:00	16:25	04/12/2014	11/12/2014	12:00	08:27
05/12/2014	08/12/2014	08/12/2014	17:00	11:55	05/12/2014	12/12/2014	12:00	12:25
06/12/2014	08/12/2014	08/12/2014	17:00	13:30	06/12/2014	12/12/2014	12:00	12:41
07/12/2014	08/12/2014	08/12/2014	17:00	16:42	07/12/2014	12/12/2014	12:00	08:18
08/12/2014	09/12/2014	09/12/2014	17:00	16:23	08/12/2014	15/12/2014	12:00	09:20
09/12/2014	10/12/2014	10/12/2014	17:00	16:52	09/12/2014	16/12/2014	12:00	07:55
10/12/2014	11/12/2014	11/12/2014	17:00	16:17	10/12/2014	17/12/2014	12:00	09:25
11/12/2014	12/12/2014	12/12/2014	17:00	16:30	11/12/2014	18/12/2014	12:00	09:55
12/12/2014	15/12/2014	15/12/2014	17:00	11:47	12/12/2014	19/12/2014	12:00	12:45
13/12/2014	15/12/2014	15/12/2014	17:00	12:43	13/12/2014	19/12/2014	12:00	12:46
14/12/2014	15/12/2014	15/12/2014	17:00	15:50	14/12/2014	19/12/2014	12:00	08:12
15/12/2014	16/12/2014	16/12/2014	17:00	15:54	15/12/2014	22/12/2014	12:00	07:48
16/12/2014	17/12/2014	17/12/2014	17:00	15:49	16/12/2014	23/12/2014	12:00	09:25
17/12/2014	18/12/2014	18/12/2014	17:00	17:00	17/12/2014	24/12/2014	12:00	09:16
18/12/2014	19/12/2014	19/12/2014	17:00	15:59	18/12/2014	27/12/2014	12:00	07:55
19/12/2014	22/12/2014	22/12/2014	17:00	12:54	19/12/2014	27/12/2014	12:00	08:11
20/12/2014	22/12/2014	22/12/2014	17:00	13:52	20/12/2014	28/12/2014	12:00	07:57
21/12/2014	22/12/2014	22/12/2014	17:00	16:14	21/12/2014	28/12/2014	12:00	08:12
22/12/2014	23/12/2014	23/12/2014	17:00	16:00	22/12/2014	29/12/2014	12:00	11:52
23/12/2014	24/12/2014	24/12/2014	17:00	14:52	23/12/2014	30/12/2014	12:00	08:14
24/12/2014	27/12/2014	27/12/2014	17:00	08:59	24/12/2014	31/12/2014	12:00	08:31
25/12/2014	28/12/2014	28/12/2014	17:00	09:52	25/12/2014	02/01/2015	12:00	07:43
26/12/2014	29/12/2014	29/12/2014	17:00	13:06	26/12/2014	02/01/2015	12:00	10:21
27/12/2014	29/12/2014	29/12/2014	17:00	14:22	27/12/2014	02/01/2015	12:00	10:22
28/12/2014	29/12/2014	29/12/2014	17:00	15:17	28/12/2014	05/01/2015	12:00	09:41
29/12/2014	30/12/2014	30/12/2014	17:00	16:29	29/12/2014	05/01/2015	12:00	10:27
30/12/2014	31/12/2014	31/12/2014	17:00	15:14	30/12/2014	06/01/2015	12:00	08:28
31/12/2014	02/01/2015	02/01/2015	17:00	10:05	31/12/2014	07/01/2015	12:00	08:18

Table 27 - Settlement Runs

## 12 Appendix E: Imperfections Charge

This appendix provides daily data for the Constraint Payments, Uninstructed Imbalance Payments and Imperfections Charges, and as well as the weekly values of Make Whole Payments and Testing Charges.

The following table is updated to take account of the values calculated in the Initial Settlement runs only.

Historical information will be shown in Appendix E until completion of the current financial year. Information prior to that can be found in previous Monthly Market Operator Reports.

Date	Constraints Payments	Uninstructed Imbalances Payments	Imperfections Charges
01/10/2014	€227,003.16	€4,663.19	-€497,010.43
02/10/2014	€735,796.33	-€19,882.49	-€485,485.43
03/10/2014	€614,655.29	€10,871.94	-€504,078.89
04/10/2014	€431,006.78	-€7,434.77	-€448,528.17
05/10/2014	€824,385.72	€10,977.87	-€414,125.03
06/10/2014	€656,891.36	-€20,536.24	-€496,825.27
07/10/2014	€271,569.15	€7,652.10	-€515,909.62
08/10/2014	€317,802.51	-€36,024.01	-€520,694.36
09/10/2014	€271,129.06	-€14,582.31	-€525,428.89
10/10/2014	€442,983.70	-€26,317.26	-€517,313.97
11/10/2014	€311,801.03	€11,849.83	-€473,083.86
12/10/2014	€401,470.02	-€7,407.00	-€451,034.95
13/10/2014	€353,395.99	-€24,498.55	-€513,674.01
14/10/2014	€358,013.74	-€19,066.88	-€523,546.32
15/10/2014	€428,117.82	-€853.11	-€511,064.60
16/10/2014	€310,763.65	-€12,618.38	-€513,456.78
17/10/2014	€483,353.64	-€5,253.97	-€495,989.17
18/10/2014	€1,079,153.36	€23,841.90	-€428,037.24
19/10/2014	€506,373.44	-€2,840.01	-€416,208.56
20/10/2014	€565,796.01	-€13,121.95	-€490,614.73
21/10/2014	€722,480.43	€17,262.53	-€491,996.93
22/10/2014	€622,659.96	-€35,249.53	-€515,127.40
23/10/2014	€299,585.53	€2,462.07	-€513,013.48
24/10/2014	€505,499.46	-€8,503.06	-€505,991.61
25/10/2014	€899,840.05	€24,936.45	-€439,804.29
26/10/2014	€867,189.29	-€8,010.50	-€428,234.85
27/10/2014	€739,332.30	€6,690.55	-€444,796.70
28/10/2014	€553,302.80	-€61,012.80	-€519,037.78
29/10/2014	€754,919.24	-€6,314.82	-€530,046.54
30/10/2014	€636,202.61	-€3,395.44	-€513,730.14
31/10/2014	€508,522.20	-€17,778.71	-€506,014.82
01/11/2014	€546,540.25	-€6,912.86	-€457,086.94
02/11/2014	€318,890.98	-€12,990.39	-€443,511.55
03/11/2014	€569,073.38	-€4,244.85	-€532,442.41
04/11/2014	€669,098.98	-€16,550.06	-€528,960.67
05/11/2014	€546,197.90	-€18,613.60	-€550,138.29
06/11/2014	€637,275.88	-€14,424.86	-€537,063.83
07/11/2014	€382,071.17	-€11,250.48	-€531,305.30
08/11/2014	€416,600.72	-€18,592.20	-€500,732.00
09/11/2014	€324,554.00	-€6,024.57	-€481,392.83

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10/11/2014	€506,959.62	-€12,756.86	-€540,675.17
11/11/2014	€305,371.45	-€44,629.39	-€565,550.06
12/11/2014	€532,498.02	-€28,281.20	-€554,600.49
13/11/2014	€345,990.75	-€17,901.27	-€553,923.16
14/11/2014	€343,466.61	-€1,320.38	-€534,716.18
15/11/2014	€494,457.91	€3,019.64	-€499,765.88
16/11/2014	€360,376.17	€7,373.68	-€482,898.42
17/11/2014	€553,003.49	-€24,556.35	-€545,895.52
18/11/2014	€415,247.34	€4,362.82	-€543,481.42
19/11/2014	€534,047.47	-€12,653.01	-€548,548.06
20/11/2014	€548,216.05	-€26,506.42	-€571,397.50
21/11/2014	€351,743.55	-€34,277.81	-€542,644.18
22/11/2014	€402,367.39	-€15,880.02	-€504,134.67
23/11/2014	€543,674.52	-€9,757.73	-€492,515.83
24/11/2014	€436,153.86	-€3,275.68	-€568,242.69
25/11/2014	€252,433.54	-€17,224.01	-€582,837.38
26/11/2014	€268,639.50	-€6,672.97	-€590,843.52
27/11/2014	€477,133.30	-€17,221.50	-€571,833.74
28/11/2014	€514,059.40	-€24,958.57	-€548,216.58
29/11/2014	€466,095.46	-€17,684.09	-€518,324.65
30/11/2014	€426,493.00	€228.22	-€497,681.99
01/12/2014	€425,729.84	-€17,667.29	-€564,559.17
02/12/2014	€608,884.75	-€9,337.96	-€580,266.39
03/12/2014	€506,617.59	-€48,599.53	-€604,794.55
04/12/2014	€524,348.76	-€26,701.42	-€598,118.36
05/12/2014	€461,085.09	-€25,561.67	-€572,477.87
06/12/2014	€568,753.24	-€12,613.70	-€516,202.71
07/12/2014	€484,127.53	€2,302.13	-€486,982.31
08/12/2014	€885,938.85	-€37,551.38	-€584,787.94
09/12/2014	€718,257.00	-€19,795.27	-€567,508.60
10/12/2014	€694,745.69	-€28,671.71	-€573,652.69
11/12/2014	€523,434.14	-€5,545.19	-€588,404.70
12/12/2014	€674,997.85	-€30,954.05	-€590,328.30
13/12/2014	€574,892.66	-€14,185.39	-€545,225.54
14/12/2014	€628,744.88	-€7,460.18	-€494,683.75
15/12/2014	€586,494.13	-€52,410.95	-€589,165.45
16/12/2014	€596,239.45	-€17,823.19	-€593,950.92
17/12/2014	€709,290.15	-€19,551.47	-€567,440.23
18/12/2014	€896,816.00	€2,905.28	-€554,081.45
19/12/2014	€995,932.96	€4,662.09	-€543,943.87
20/12/2014	€505,276.32	€4,952.12	-€510,278.41
21/12/2014	€1,032,186.15	€3,856.82	-€470,790.42
22/12/2014	€783,718.05	€19,779.93	-€528,728.17
23/12/2014	€580,782.79	€13,315.83	-€531,858.69
24/12/2014	€522,323.53	-€1,231.24	-€497,446.95
25/12/2014	€365,691.72	€1,963.64	-€464,366.17
26/12/2014	€540,788.12	-€8,172.04	-€457,472.59
27/12/2014	€646,748.39	€14,909.59	-€472,798.28
28/12/2014	€607,407.31	€7,022.19	-€497,727.79
29/12/2014	€555,367.66	€7,365.97	-€524,246.05
30/12/2014	€640,363.39	€14,384.93	-€505,239.86
31/12/2014	€603,204.62	€25,349.47	-€482,895.60

Table 28 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

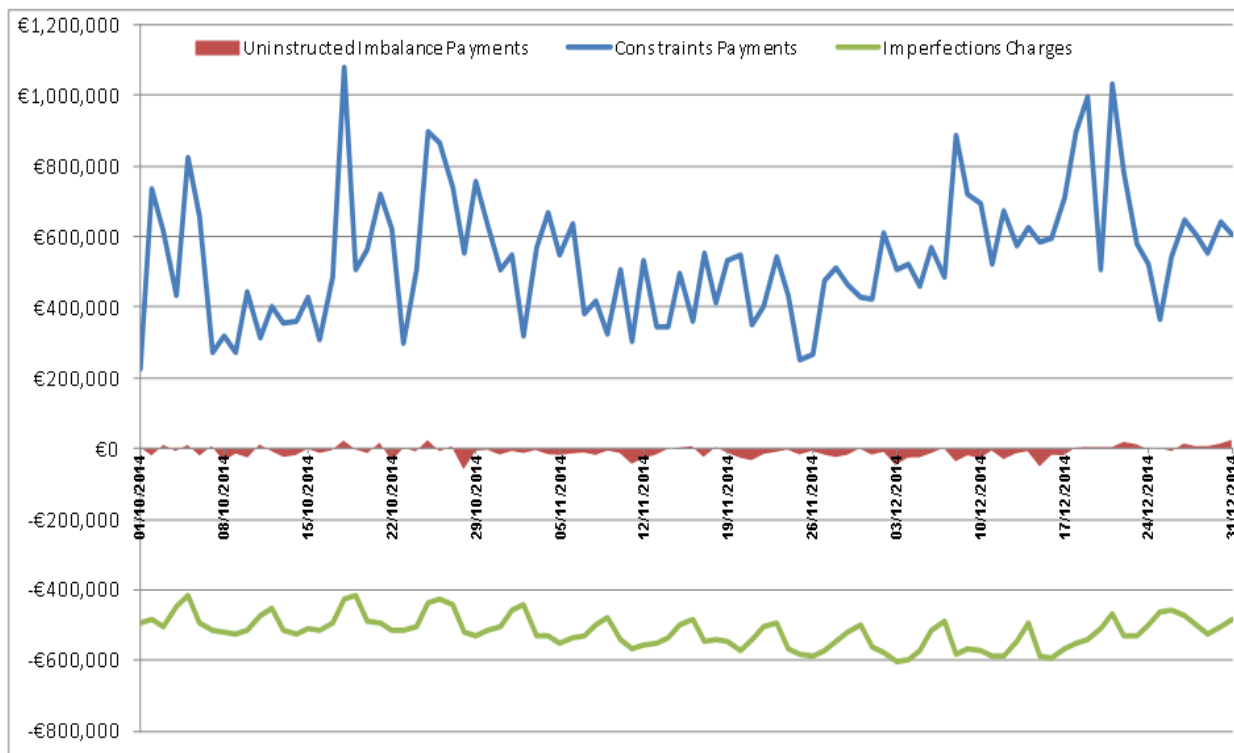


Figure 24 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

Week No	Make Whole Payments
38	€202,188.33
39	€225,015.64
40	€280,671.13
41	€186,568.53
42	€159,900.73
43	€172,804.93
44	€117,287.97
45	€69,322.58
46	€151,346.18
47	€116,593.30
48	€89,395.20
49	€75,360.41
50	€169,324.41

Table 29 - Make Whole Payments



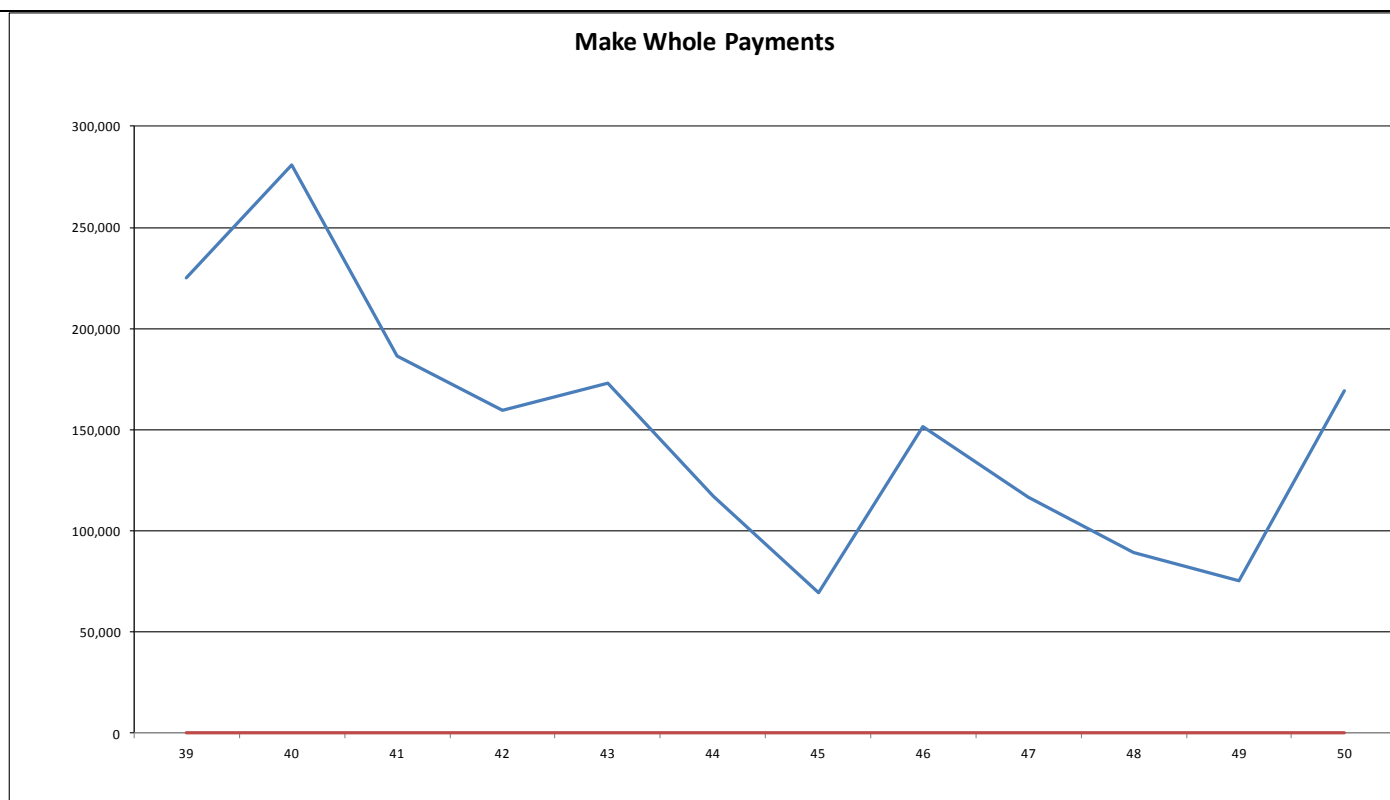


Figure 25 - Make Whole Payments

Week No	Testing Charges
39	-€64,349.25
40	-€23,212.88
41	-€8,173.18
42	-€106,220.13
43	-€106,488.24
44	-€74,217.72
45	-€13,149.01
46	€31,147.27
47	-€34,993.39
48	-€8,926.09
49	-€31,711.41
50	-€91,587.25

Table 30 - Testing Charges

Testing Charges

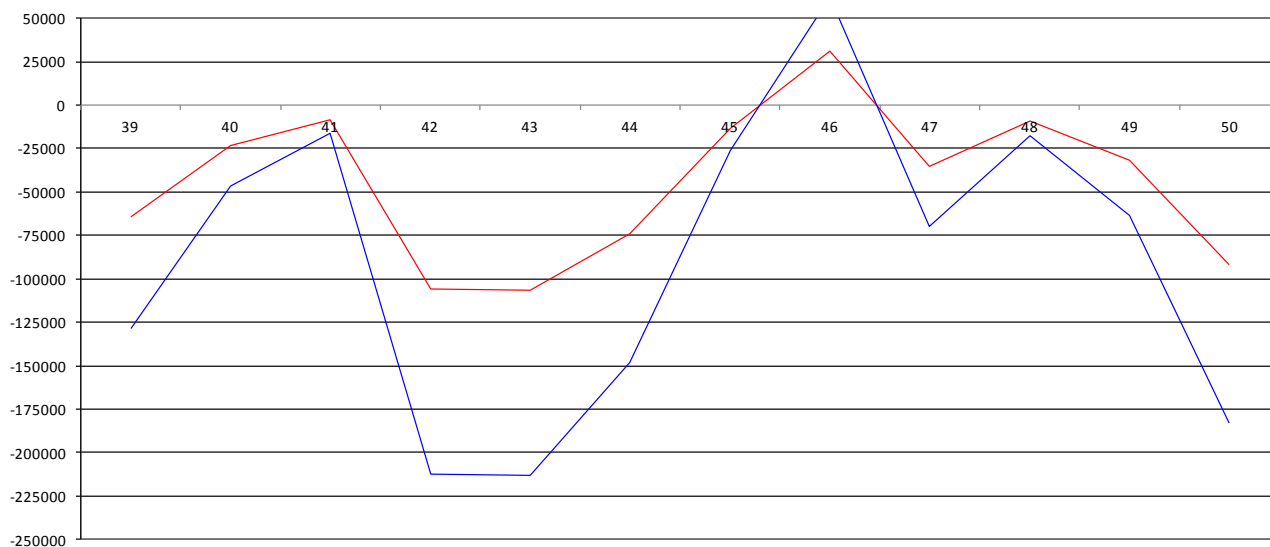


Figure 26 - Testing Charges

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### 13 Appendix F: Default Commercial Offer Data Used

The table below lists for each unit the number of times in operations during December 2014 where the Commercial Offer Data was based on a Participant submission within the Market window, or based on Standing Data or Default Data submitted.

PNAME	RNAME	Manual	Adjusted	Standing	COUNT
PT_400090	DSU_401620			29	29
PT_400090	DSU_401610	33			33
PT_400116	DSU_401400	31			31
PT_400090	DSU_401620	2			2
PT_400106	DSU_401330	44			44
PT_400090	DSU_401270	32			32
PT_400133	DSU_401530			31	31
PT_400124	DSU_401490	32			32
PT_400024	GU_400120	31			31
PT_400024	GU_400121	31			31
PT_400026	GU_400140	31			31
PT_400030	GU_400180	43			43
PT_400030	GU_400181	43			43
PT_400030	GU_400182	42			42
PT_400030	GU_400183	43			43
PT_400030	GU_400200	43			43
PT_400030	GU_400201	42			42
PT_400030	GU_400202	42			42
PT_400030	GU_400203	42			42
PT_400030	GU_400210	41			41
PT_400030	GU_400211	36			36
PT_400030	GU_400220	40			40
PT_400030	GU_400221	41			41
PT_400030	GU_400240	41			41
PT_400030	GU_400250	41			41
PT_400030	GU_400251	41			41
PT_400030	GU_400252	41			41
PT_400030	GU_400260	41			41
PT_400030	GU_400270	41			41
PT_400030	GU_400271	41			41
PT_400030	GU_400272	41			41
PT_400030	GU_400280	41			41
PT_400030	GU_400281	40			40
PT_400030	GU_400290	41			41
PT_400030	GU_400300	44			44
PT_400030	GU_400311	44			44
PT_400030	GU_400323	43			43
PT_400030	GU_400360	40			40
PT_400030	GU_400361	40			40
PT_400030	GU_400362	40			40
PT_400030	GU_400363	41			41
PT_400030	GU_400370	40			40
PT_400030	GU_400850	44			44
PT_400032	GU_400430	31			31
PT_400034	GU_400940	31			31
PT_400034	GU_401090	31			31

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PT_400034	GU_401440	31			31
PT_400035	GU_400480	52			52
PT_400037	GU_400500	33			33
PT_400041	GU_400530	53			53
PT_400044	GU_400540	52			52
PT_400054	GU_400620	31			31
PT_400055	GU_400630	31			31
PT_400064	GU_400750	31			31
PT_400064	GU_400751	31			31
PT_400064	GU_400752	31			31
PT_400064	GU_400753	31			31
PT_400064	GU_400754	31			31
PT_400064	GU_400760	31			31
PT_400064	GU_400761	31			31
PT_400064	GU_400762	31			31
PT_400064	GU_400770	31			31
PT_400064	GU_400771	31			31
PT_400064	GU_400780	31			31
PT_400064	GU_400781	31			31
PT_400075	GU_400930	78			78
PT_400077	GU_400950	30			30
PT_400078	GU_401010	31			31
PT_400078	GU_401011	31			31
PT_400152	GU_401710	23			23
PT_400152	GU_401720	23			23
PT_400152	GU_401730	23			23
PT_400152	GU_401740	23			23
PT_400152	GU_401750	23			23
PT_400152	GU_401760	23			23
PT_500024	GU_500040	45			45
PT_500024	GU_500041	31			31
PT_500027	GU_500130	86			86
PT_500027	GU_500131	86			86
PT_500027	GU_500140	86			86
PT_500040	GU_500280	31			31
PT_500040	GU_500281	31			31
PT_500040	GU_500282	31			31
PT_500040	GU_500283	31			31
PT_500040	GU_500284	31			31
PT_500045	GU_500820	31			31
PT_500045	GU_500821	31			31
PT_500045	GU_500822	31			31
PT_500045	GU_500823	31			31
PT_500045	GU_500824	31			31
PT_500045	GU_500825	31			31
PT_500048	GU_500904	44			44
PT_500050	GU_501040	31			31
PT_500050	GU_501050	31			31
PT_500050	GU_501150	31			31
PT_500050	GU_501190	31			31
PT_500053	GU_501130	31			31
PT_500066	GU_501210	31			31
PT_400021	GU_400021			31	31
PT_400021	GU_400050			31	31

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PT_400021	GU_400060			31	31
PT_400021	GU_400070			31	31
PT_400021	GU_400080			31	31
PT_400021	GU_400591			31	31
PT_400021	GU_400600			31	31
PT_400021	GU_400910			31	31
PT_400021	GU_400920			31	31
PT_400021	GU_401080			31	31
PT_400021	GU_401380			31	31
PT_400021	GU_401600			31	31
PT_400021	GU_401640			31	31
PT_400025	GU_400130			31	31
PT_400030	GU_400211			2	2
PT_400030	GU_400310			31	31
PT_400038	GU_400550			31	31
PT_400050	GU_400650			31	31
PT_400050	GU_400660			31	31
PT_400050	GU_401000			31	31
PT_400050	GU_401060			31	31
PT_400050	GU_401150			31	31
PT_400050	GU_401240			31	31
PT_400050	GU_401250			31	31
PT_400050	GU_401290			31	31
PT_400050	GU_401360			31	31
PT_400062	GU_400730			31	31
PT_400062	GU_400731			31	31
PT_400062	GU_400840			31	31
PT_400062	GU_401310			31	31
PT_400062	GU_401550			31	31
PT_400062	GU_401551			31	31
PT_400062	GU_401560			31	31
PT_400062	GU_401570			31	31
PT_400062	GU_401580			31	31
PT_400077	GU_400950			1	1
PT_400082	GU_401100			31	31
PT_400087	GU_401230			31	31
PT_500021	GU_500010			31	31
PT_500021	GU_500740			31	31
PT_500021	GU_501160			31	31
PT_500032	GU_500211			31	31
PT_500032	GU_501120			31	31
PT_500039	GU_500270			31	31
PT_500044	GU_500720			31	31
PT_500047	GU_500790			31	31
PT_500048	GU_500904			1	1
PT_500061	GU_501170			31	31
PT_500062	GU_501180			31	31
PT_500073	GU_501230			31	31
PT_500074	GU_501250			31	31
PT_400021	I_ROIEWIC	32			32
PT_500075	I_NIMOYLE	85			85
PT_500024	I_NIMOYLE	46			46
PT_500021	I_NIMOYLE	37			37
PT_500069	I_NIMOYLE	92			92

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PT_500058	I_NIMOYLE	31			31
PT_500031	I_NIMOYLE	31			31
PT_400096	I_ROIEWIC	93			93
PT_400113	I_ROIEWIC	30			30
PT_500037	I_NIMOYLE	31			31
PT_400115	I_ROIEWIC	31			31
PT_400136	I_ROIEWIC	58			58
PT_500070	I_NIMOYLE	64			64
PT_400108	I_ROIEWIC	66			66
PT_400030	I_ROIEWIC	47			47
PT_400099	I_ROIEWIC	31			31
	<b>Total</b>	<b>4357</b>	<b>0</b>	<b>1552</b>	<b>5909</b>
	<b>Percentage</b>	<b>73.73%</b>	<b>0.00%</b>	<b>26.27%</b>	<b>100%</b>

Table 31 – Default Commercial Data Used

## 14 Appendix G: Total Charges and Payments Data

The tables below list historical values for Total Charges and Total Payments in the SEM by month and currency since start of the SEM.

- Month of inclusion based on invoice date.
- Amounts are after application of Settlement Reallocation.

Market		Energy	Capacity	Market Operator	M+4 Energy	M+4 Capacity	M+4 Market Operator	M+13 Energy	M+13 Capacity	M+13 Market Operator	Ad-hoc Energy	Ad-hoc Capacity	Ad-hoc Market Operator	Total
Nov-13	ROI	£94,237,410.27	£26,111,830.04	£1,768,924.89	£1,095,479.88	£186,255.41	£10,667.03	£1,203,541.15	£58,436.00	£1,881.53	£2,162,845.35	£0.00	£0.00	126,837,271.55
	NI	£40,120,956.32	£9,383,627.04	£512,345.05	£79,171.25	£13,455.28	£753.82	£304,333.70	£18,778.73	£614.32	£591,913.98	£0.00	£0.00	51,025,949.49
Dec-13	ROI	£59,731,699.86	£27,864,400.43	£1,135,385.04	£777,997.00	£175,711.33	£8,515.85	£874,795.89	£44,746.05	£1,825.43	£0.00	£0.00	£0.00	90,615,076.88
	NI	£26,108,999.75	£9,220,782.35	£325,646.22	£58,193.58	£77,917.35	£571.58	£137,253.25	£14,599.87	£487.47	£0.00	£0.00	£0.00	35,944,451.42
Jan-14	ROI	£114,421,340.65	£24,793,160.86	£2,129,762.27	£798,055.27	£127,352.61	£7,984.34	£204,139.96	£36,418.59	£1,561.86	£473,584.35	£0.00	£0.00	142,993,360.76
	NI	£51,824,850.54	£9,142,377.84	£617,870.56	£62,006.75	£10,003.11	£595.49	£67,335.86	£14,491.45	£574.85	£141,821.26	£0.00	£0.00	61,881,927.71
Feb-14	ROI	£66,102,607.16	£27,393,747.26	£1,496,376.58	£305,793.65	£76,911.71	£2,819.89	£479,013.35	£22,451.87	£9,128.65	£381,194.91	£0.00	£0.00	96,269,985.03
	NI	£31,130,342.59	£9,846,758.26	£422,869.99	£25,720.60	£3,900.39	£240.37	£187,918.65	£15,303.03	£942.92	£235.51	£0.00	£0.00	41,634,232.31
Mar-14	ROI	£70,041,213.49	£26,285,336.21	£1,449,159.95	£261,906.17	£61,216.38	£2,226.19	£92,283.95	£30,407.22	£960.16	£0.00	£0.00	£0.00	98,224,709.72
	NI	£30,175,818.70	£9,293,564.48	£406,620.40	£46,940.79	£7,639.04	£408.77	£52,408.32	£11,933.67	£470.83	£0.00	£0.00	£0.00	39,995,805.00
Apr-14	ROI	£62,098,778.40	£21,155,742.39	£1,388,175.41	£528,104.58	£142,466.39	£4,901.73	£242,053.48	£38,030.86	£1,783.00	£0.00	£0.00	£0.00	85,600,036.24
	NI	£26,448,426.91	£9,644,850.74	£386,840.18	£307,948.88	£77,962.26	£2,649.15	£53,805.05	£9,613.13	£381.03	£0.00	£0.00	£0.00	36,932,477.33
May-14	ROI	£68,945,192.38	£22,029,381.87	£1,615,436.17	£629,905.18	£213,410.99	£7,659.07	£192,421.65	£21,030.53	£1,110.05	£429,407.30	£0.00	£0.00	94,084,955.19
	NI	£28,649,957.73	£7,313,397.03	£439,831.96	£149,812.37	£34,908.87	£997.82	£58,386.93	£9,959.93	£468.77	£0.03	£0.00	£0.00	36,657,721.44
Jun-14	ROI	£52,841,750.77	£17,596,854.80	£1,312,068.35	£423,771.26	£115,750.72	£4,162.65	£89,169.46	£18,685.28	£1,014.73	£28,526.30	£0.00	£0.00	72,431,754.32
	NI	£21,944,762.06	£6,361,219.34	£345,120.63	£120,971.43	£44,784.33	£1,003.03	£41,125.48	£9,461.42	£415.67	£2,532.18	£0.00	£0.00	28,871,395.57
Jul-14	ROI	£48,255,770.91	£22,988,780.17	£1,292,701.68	£332,606.61	£88,357.34	£2,943.28	£85,242.72	£17,526.18	£1,047.39	£0.00	£0.00	£0.00	73,064,976.28
	NI	£16,832,807.07	£5,122,118.14	£325,108.62	£91,338.63	£25,719.39	£870.76	£34,166.04	£7,520.83	£436.14	£0.00	£0.00	£0.00	22,440,085.62
Aug-14	ROI	£70,930,088.87	£29,867,271.70	£888,221.25	£635,976.36	£143,088.63	£7,086.94	£116,364.21	£26,279.71	£995.87	£0.00	£0.00	£0.00	102,615,373.54
	NI	£24,123,259.48	£7,725,422.06	£238,369.94	£58,794.95	£14,543.55	£696.33	£34,690.50	£7,234.36	£296.35	£0.00	£0.00	£0.00	32,203,307.52
Sep-14	ROI	£73,166,499.86	£17,774,079.00	£1,638,145.68	£285,506.09	£62,431.70	£3,367.28	£92,320.83	£30,020.38	£728.19	£0.00	£0.00	£0.00	93,053,099.01
	NI	£24,828,028.32	£5,414,449.74	£421,681.34	£62,719.19	£15,276.27	£566.66	£41,391.12	£13,194.54	£660.78	£0.00	£0.00	£0.00	30,797,967.96
Oct-14	ROI	£24,219,443.57	£5,293,829.01	£290,759.61	£125,095.27	£15,188.14	£796.75	£32,076.91	£6,465.54	£355.27	£0.00	£0.00	£0.00	29,984,010.07
	NI	£73,931,567.89	£18,999,271.36	£1,111,306.76	£521,095.61	£105,483.15	£5,765.50	£89,815.40	£9,518.03	£802.55	£0.00	£0.00	£0.00	94,774,626.25
Nov-14	ROI	£57,386,075.03	£21,066,561.05	£829,482.91	£519,431.32	£147,151.65	£6,123.28	£79,434.93	£23,622.83	£721.00	£0.00	£0.00	£0.00	80,058,604.00
	NI	£21,159,632.98	£6,853,966.46	£220,983.06	£50,691.24	£27,250.12	£653.21	£26,795.35	£6,589.23	£253.47	£0.00	£0.00	£0.00	28,346,815.12
Dec-14	ROI	£70,930,088.87	£29,867,271.70	£888,221.25	£635,976.36	£143,088.63	£7,086.94	£116,364.21	£26,279.71	£995.87	£0.00	£0.00	£0.00	102,615,373.54
	NI	£24,123,259.48	£7,725,422.06	£238,369.94	£58,794.95	£14,543.55	£696.33	£34,690.50	£7,234.36	£296.35	£0.00	£0.00	£0.00	32,203,307.52

Table 32 - Total Charges by Month

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Market		Energy	Capacity	M+4 Energy	M+4 Capacity	M+4 Market Operator	M+13 Energy	M+13 Capacity	M+13 Market Operator	Ad-hoc Energy	Ad-hoc Capacity	Ad-hoc Market Operator	Total
Nov-13	ROI	€101,727,467.69	€26,117,243.83	€1,224,763.25	€189,998.42	€12,263.50	€1,215,831.35	€57,206.41	€1,470.22	€2,187,635.43	€0.00	€0.00	€132,733,880.10
	NI	€38,593,632.08	€9,396,822.98	€111,667.01	€10,330.33	€754.66	€405,512.07	€19,818.44	€503.29	€523,998.04	€0.00	€0.00	€49,063,038.90
Dec-13	ROI	€65,016,104.57	€28,265,983.93	€814,481.63	€237,772.30	€8,560.54	€742,019.49	€45,101.88	€1,753.62	€0.00	€0.00	€0.00	€95,131,777.96
	NI	€26,883,033.60	€8,854,167.97	€62,225.77	€25,458.47	€563.46	€254,389.50	€14,183.48	€467.80	€0.00	€0.00	€0.00	€36,094,490.05
Jan-14	ROI	€134,009,133.84	€23,642,517.67	€793,440.19	€126,432.23	€7,824.65	€221,578.57	€36,894.00	€1,646.36	€479,971.01	€0.00	€0.00	€159,319,438.52
	NI	€51,714,479.92	€10,157,332.65	€82,843.03	€10,154.76	€543.56	€66,035.81	€14,046.97	€605.11	€109,684.36	€0.00	€0.00	€62,155,726.17
Feb-14	ROI	€78,679,881.12	€26,819,095.36	€304,687.52	€76,805.50	€2,536.46	€531,739.65	€29,343.21	€10,349.43	€443,421.38	€0.00	€0.00	€106,897,859.63
	NI	€29,747,186.53	€10,347,544.45	€37,918.21	€4,082.15	€214.26	€179,315.25	€9,737.45	€350.80	€3.55	€0.00	€0.00	€40,326,352.65
Mar-14	ROI	€75,149,006.14	€26,180,620.54	€259,644.98	€60,397.08	€2,170.67	€127,303.70	€28,200.28	€960.40	€0.00	€0.00	€0.00	€101,808,303.79
	NI	€29,749,446.42	€9,292,032.85	€46,950.40	€8,326.93	€408.65	€52,017.29	€13,760.80	€471.08	€0.00	€0.00	€0.00	€39,163,414.42
Apr-14	ROI	€65,482,679.64	€21,981,963.17	€549,302.08	€147,627.43	€4,399.40	€259,726.57	€38,566.49	€1,783.33	€0.00	€0.00	€0.00	€88,466,048.11
	NI	€25,517,456.45	€8,979,409.88	€303,950.50	€73,719.22	€2,138.60	€56,294.66	€9,188.57	€381.08	€0.00	€0.00	€0.00	€34,942,538.96
May-14	ROI	€68,502,489.93	€22,405,052.21	€652,683.44	€210,307.65	€7,807.32	€249,029.58	€16,425.79	€1,110.17	€9,581.32	€0.00	€0.00	€92,054,487.41
	NI	€27,515,054.00	€7,036,489.15	€150,145.26	€37,452.65	€999.79	€81,713.52	€13,718.04	€468.77	€3.89	€0.00	€0.00	€34,836,045.07
Jun-14	ROI	€53,863,542.49	€16,268,861.66	€424,333.36	€121,415.36	€4,245.54	€106,227.35	€17,318.53	€1,014.63	€10,805.33	€0.00	€0.00	€70,817,764.25
	NI	€18,301,490.12	€7,464,864.99	€121,134.45	€40,186.30	€1,005.32	€50,770.87	€10,564.39	€415.66	€29.76	€0.00	€0.00	€25,990,461.86
Jul-14	ROI	€50,929,138.15	€21,772,067.06	€326,631.36	€82,858.43	€2,938.18	€123,130.56	€17,118.42	€1,016.51	€0.00	€0.00	€0.00	€73,254,898.67
	NI	€12,936,147.70	€6,035,816.09	€91,479.13	€29,875.87	€813.16	€67,310.27	€7,807.37	€427.29	€0.00	€0.00	€0.00	€19,169,676.88
Aug-14	ROI	€76,295,371.52	€16,503,906.00	€283,973.76	€42,797.07	€2,738.01	€125,676.42	€0.00	€1,327.83	€29.36	€0.00	€0.00	€93,255,819.97
	NI	€17,625,339.05	€7,511,303.13	€58,743.90	€14,475.87	€679.17	€34,724.44	€7,982.34	€296.61	€0.00	€0.00	€0.00	€25,253,544.51
Sep-14	ROI	€73,630,247.02	€17,405,067.16	€261,367.00	€62,924.88	€3,377.33	€73,033.72	€11,845.94	€728.13	€0.00	€0.00	€0.00	€91,448,591.18
	NI	€22,272,153.08	€5,742,482.51	€49,069.86	€14,962.35	€717.66	€41,404.59	€13,672.05	€509.28	€0.00	€0.00	€0.00	€28,134,971.38
Oct-14	ROI	€17,625,339.05	€7,511,303.13	€58,743.90	€14,475.87	€679.17	€34,724.44	€7,982.34	€296.61	€0.00	€0.00	€0.00	€25,253,544.51
	NI	€18,391,944.98	€5,868,972.09	€82,257.95	€15,709.16	€1,031.70	€42,677.16	€6,422.11	€498.29	€0.00	€0.00	€0.00	€24,409,513.44
Nov-14	ROI	€64,818,088.97	€20,480,936.98	€530,386.99	€157,754.12	€6,116.91	€78,674.36	€23,606.67	€1,289.81	€0.00	€0.00	€0.00	€86,096,854.81
	NI	€14,616,605.70	€7,312,194.38	€50,960.79	€18,897.71	€653.20	€37,498.77	€6,592.72	€254.29	€0.00	€0.00	€0.00	€22,043,657.56
Dec-14	ROI	€79,262,340.64	€30,252,803.13	€636,211.01	€143,171.30	€7,087.15	€116,495.94	€25,330.11	€995.97	€0.00	€0.00	€0.00	€110,444,435.25
	NI	€17,625,339.05	€7,511,303.13	€58,743.90	€14,475.87	€679.17	€34,724.44	€7,982.34	€296.61	€0.00	€0.00	€0.00	€25,253,544.51

Table 33 - Total Payments by Month



## 15 Appendix H: Full Balancing Costs

Historical figures for full Balancing Costs of both the Trading and Capacity Markets, for the current financial year (October to September), are provided below. Information related to periods before this is available in previous Monthly Market Operator Reports.

- Positive values indicate Payments were greater than Charges.
- Negative values indicate Charges were greater than Payments.

### Trading Market

Date Of Invoice	Week No	SEM Balancing Costs	VAT Balancing Costs
03/10/2014	38	-€115,563.34	-€ 12,716.83
10/10/2014	39	€103,327.94	€49,084.94
17/10/2014	40	-€315,014.02	-€ 48,688.42
24/10/2014	41	€234,738.53	€13,856.57
31/10/2014	42	€833,278.35	-€228,026.23
07/11/2014	43	€1,209,277.49	€172,019.41
14/11/2014	44	-€89,236.37	-€18,016.46
21/11/2014	45	-€726,843.59	-€105,801.85
28/11/2014	46	-€504,700.82	-€60,211.13
05/12/2014	47	-€783,945.26	-€105,665.85
12/12/2014	48	-€481,481.35	-€72,270.22
19/12/2014	49	€485,102.80	€53,433.64
31/12/2014	50	€980,523.50	€ 148,117.94

**Table 34 – Full Balancing Costs for Trading Charges and Payments**

Note: SEM Balancing Costs are provided based on daily exchange rates; VAT Balancing Costs are based on the Invoicing Date Trading Day exchange rate. VAT Balancing costs exclude Currency Cost related VAT.

### Capacity Market

Invoice Month	SEM Balancing Costs	VAT Balancing Costs
October 2014	-€361.28	-€ 968.24
November 2014	-€348.12	-€0.03
December 2014	-€393.11	€0.00

**Table 35 - Balancing Costs for Capacity Settlement**

Note: SEM Capacity Balancing Costs and VAT Balancing Costs are provided based on Annual Capacity exchange rate. VAT Balancing costs exclude Currency Cost related VAT.

## 16 Appendix I: MSP Algorithms

The Market Operator has two different certified solvers used to determine Unit Commitment. These solvers use the Lagrangian Relaxation (LR) and Mixed Integer Programming (MIP) methodologies.

The primary algorithm used in the SEM is Lagrangian Relaxation (LR). Under certain schedule outcomes this solution is compared to results achieved using MIP. The SEMO policy on the use of MIP has been updated and is available from the SEMO website [here](#).

Historical information on runs and dates where the MIP algorithm has been used for published results is provided below.

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>October 2014</u>	<u>10/10/2014</u>	<u>03/10/2014</u> <u>15/10/2014</u> <u>28/10/2014</u>	<u>06/10/2014</u> <u>13/10/2014</u> <u>29/10/2014</u>	<u>06/10/2014</u> <u>13/10/2014</u> <u>27/10/2014</u>	<u>19/10/2014</u>
<u>November 2014</u>	-	<u>02/11/2014</u> <u>11/11/2014</u> <u>15/11/2014</u> <u>25/11/2014</u>	<u>20/11/2014</u> <u>24/11/2014</u> <u>26/11/2014</u>	<u>12/11/2014</u> <u>20/11/2014</u> <u>26/11/2014</u>	-
<u>December 2014</u>	<u>14/12/2014</u>	<u>04/12/2014</u> <u>14/12/2014</u> <u>25/12/2014</u>	<u>01/12/2014</u>	<u>04/12/2014</u>	

Table 36 - MIP Algorithms

Operational Date	Trade Date	Run Type	LR Peak SMP	MIP Peak SMP	Published
02/10/2014	03/10/2014	EA2	€1,000	€298.79	MIP
07/10/2014	06/10/2014	EP1	€1,000	€287.16	MIP
10/10/2014	06/10/2014	EP2	€1,000	€288.65	MIP
09/10/2014	10/10/2014	EA1	€1,000	€338.11	MIP
14/10/2014	13/10/2014	EP1	€1,000	€141.67	MIP
17/10/2014	13/10/2014	EP2	€1,000	€269.41	MIP
14/10/2014	15/10/2014	EA2	€1,000	€219.27	MIP
19/10/2014	19/10/2014	WD1	€1,000	€117.07	MIP
31/10/2014	27/10/2014	EP2	€567.43	€452.53	MIP
27/10/2014	28/10/2014	EA2	€1,000	€255.85	MIP
30/10/2014	29/10/2014	EP1	€1,000	€436.71	MIP
01/11/2014	02/11/2014	EA2	€1,000	€215.23	MIP
10/11/2014	11/11/2014	EA2	€1,000	€229.26	MIP
14/11/2014	15/11/2014	EA2	€1,000	€369.02	MIP
24/11/2014	25/11/2014	EA2	€572.13	€424.16	MIP

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21/11/2014	20/11/2014	EP1	€1,000	€228.86	MIP
27/11/2014	26/11/2014	EP1	€1,000	€380.87	MIP
25/11/2014	24/11/2014	EP1	€630.52	€560.63	MIP
16/11/2014	12/11/2014	EP2	€1,000	€357.67	MIP
24/11/2014	20/11/2014	EP2	€1,000	€228.14	MIP
30/11/2014	26/11/2014	EP2	€1,000	€455.21	MIP
01/12/2014	30/11/2014	EP1	€554.66	€841.81	MIP
04/12/2014	05/12/2014	EA2	€1,000	€271.08	MIP
04/12/2014	30/11/2014	EP2	€554.65	€439.23	MIP
14/12/2014	15/12/2014	EA1	€585.68	€241.97	MIP
14/12/2014	15/12/2014	EA2	€585.68	€242.87	MIP
25/12/2014	26/12/2014	EA2	€584.33	€71.42	MIP

**Table 37 - MIP Vs LR Peak Price Comparison**