



# **Market Operator Monthly Report**

**April 2014**

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### 1 Executive Summary

This Single Electricity Market Operator's (SEMO) report covers the month of operation of April 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 April 2014, Settlements had no late publications as per the Trading and Settlement code.

195 general queries were received in April 2014. During the same period 166 general queries were resolved.

There were five defaults by Participants during April 2014. The largest of these was an Energy Initial invoice for €1,999.99, which was remedied the same working 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		-	-
Market Participants	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	5	-
	Credit Risk Management	-	-
SEMO	Pricing & Scheduling	-	3
	Settlement	-	-
	Funds Transfer	-	-
	Credit Risk Management	-	1
	Other	-	-
<b>Total</b>		<b>5</b>	<b>4</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*

There were no parties joining the Market in April 2014.

There were no terminating parties in April 2014.

Five new units became effective in the Market in April 2014.

- PT\_400136 I\_RIEWIC - Cenergise
- PT\_500075 I\_NIMOYLE - Cenergise
- GU\_400762 - Great Island CCGT
- GU\_401600 – Beam Hill Wind Farm
- SU\_400168 – Templederry Renewable Energy Supply Limited

One unit was de-registered from the Market in April 2014.

- GU\_400380 – Beam Hill Wind Farm

### *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

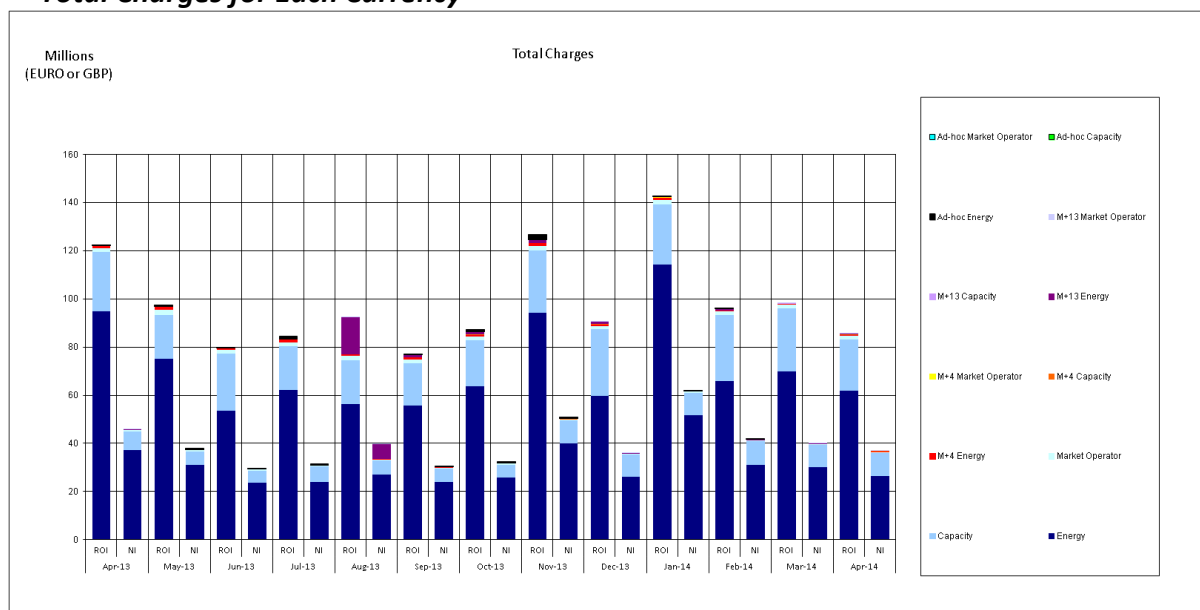


Figure 1 - Total Charges for Each Currency

Market	April 2014	
	ROI	NI
Energy	€62,098,778	£26,448,427
Capacity	€21,155,742	£9,644,851
Market Operator	€1,388,175	£386,840
M+4 Energy	€528,105	£307,949
M+4 Capacity	€142,466	£77,962
M+4 Market Operator	€4,902	£2,649
M+13 Energy	€242,053	£53,805
M+13 Capacity	€38,031	£9,613
M+13 Market Operator	€1,783	£381
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
<b>Total</b>	<b>€85,600,036</b>	<b>£36,932,477</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

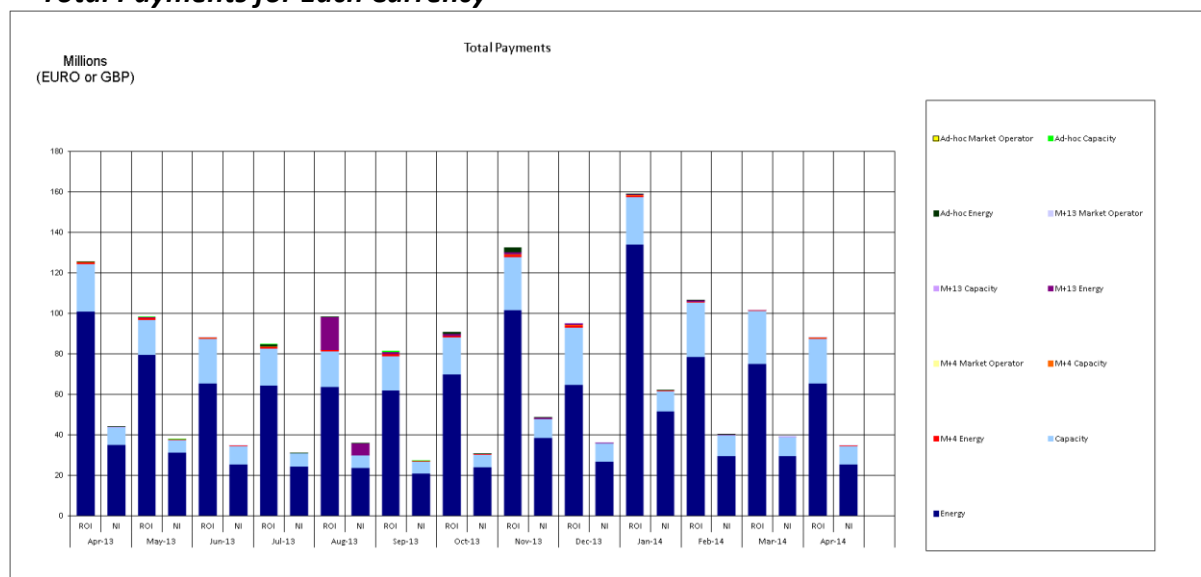


Figure 2 - Total Payments for Each Currency

Market	April 2014	
	ROI	NI
Energy	€65,482,680	£25,517,456
Capacity	€21,981,963	£8,979,410
M+4 Energy	€549,302	£303,951
M+4 Capacity	€147,627	£73,719
M+4 Market Operator	€4,399	£2,139
M+13 Energy	€259,727	£56,295
M+13 Capacity	€38,566	£9,189
M+13 Market Operator	€1,783	£381
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
<b>Total</b>	<b>€88,466,048</b>	<b>£34,942,539</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 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:

April 2014	
Imbalance (Energy Only)	-€20,779,469.80

Table 4 - Balancing Costs for Energy Settlement

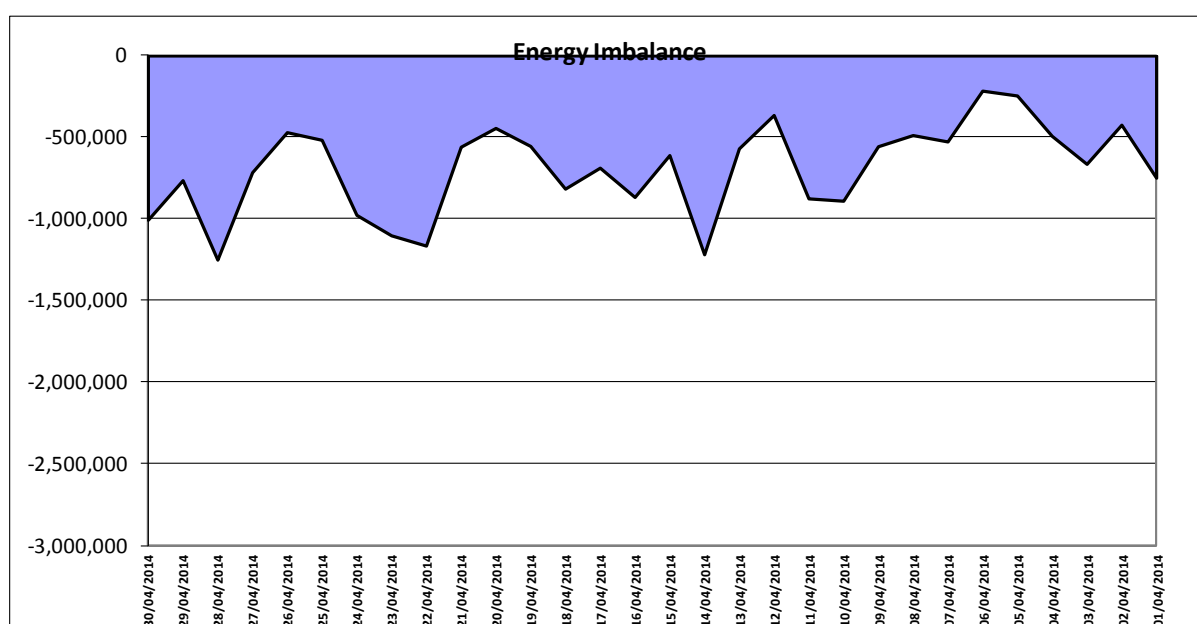


Figure 3 – Energy Imbalances

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](#) .

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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:

- 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
04/04/2014	12	€1,005,736.03	€ 304,802.51
11/04/2014	13	€508,440.18	€ 423,038.98
18/04/2014	14	-€217,860.87	€ 56,687.76
25/04/2014	15	€843,391.20	-€ 37,846.05

**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:

April 2014	
Capacity Charges	-€39714545.68
Capacity Payments	€39714280.72
Balancing Costs	-€264.96
VAT	-€3,446.68

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

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.

## Market Operator Monthly Report

### **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
29/03/2014	04/04/2014	12	£ 1,802.89	£ 0.00	£1,802.89
05/04/2014	11/04/2014	13	-£26,103.61	£ 0.00	-£ 26,103.61
12/04/2014	18/04/2014	14	-£ 24,381.12	£ 0.00	-£24,381.12
19/04/2014	25/04/2014	15	£ 1,908.48	-£ 1,050.00	£ 858.48

**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 £1,802.89 and a cost of €-26,103.61. 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 (£).

Date Of Invoice	Capacity Month	Currency Costs For Capacity Settlement
12/05/2014	April 2014	£32,156.04

**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.

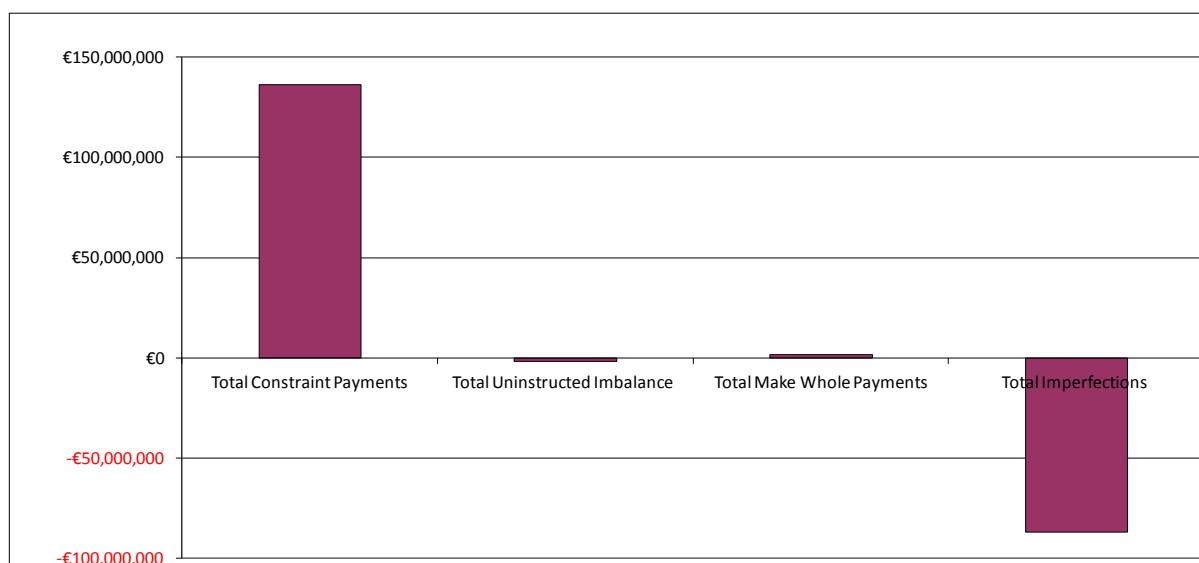
These values have been collected across the months since the start of the new financial year, 1st October 2013. The values expressed in Euros are as follows.

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
€136,474,445.01	-€1,788,788.56	€1,613,021.30	-€86,825,421.11

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

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 December 2013 and M+13 resettlement period of March 2013 for Energy and Capacity.

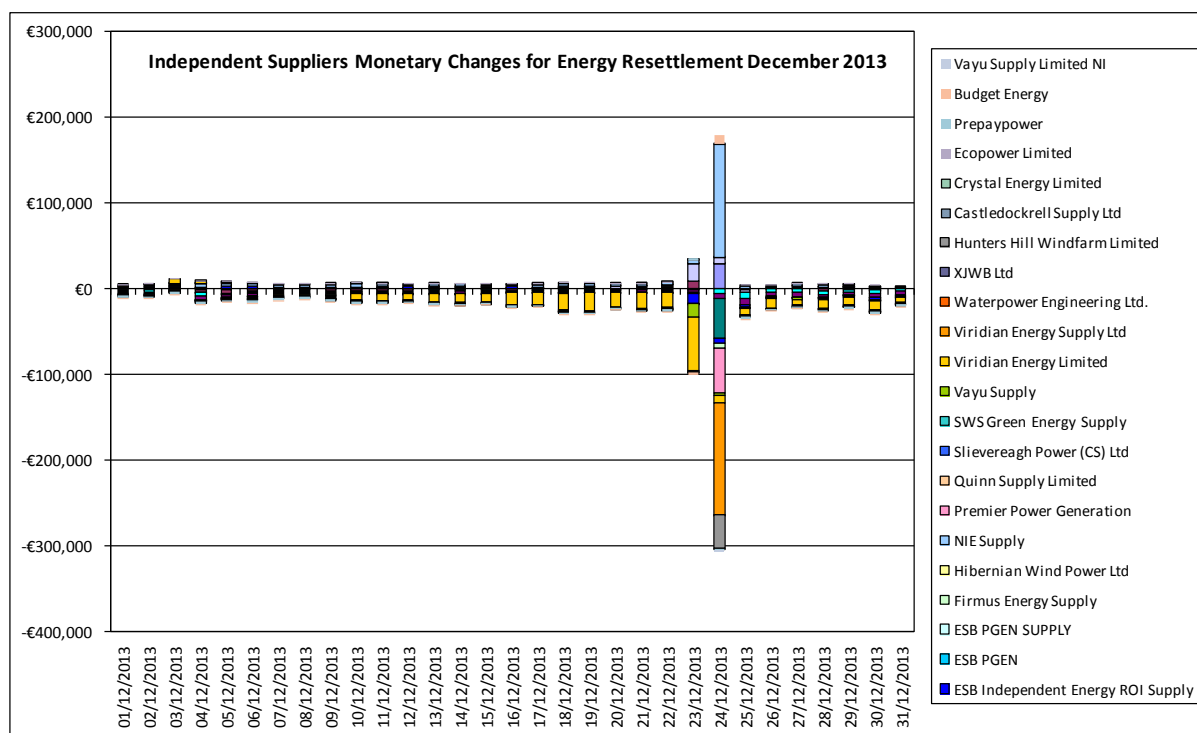
## Market Operator Monthly Report

### 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).

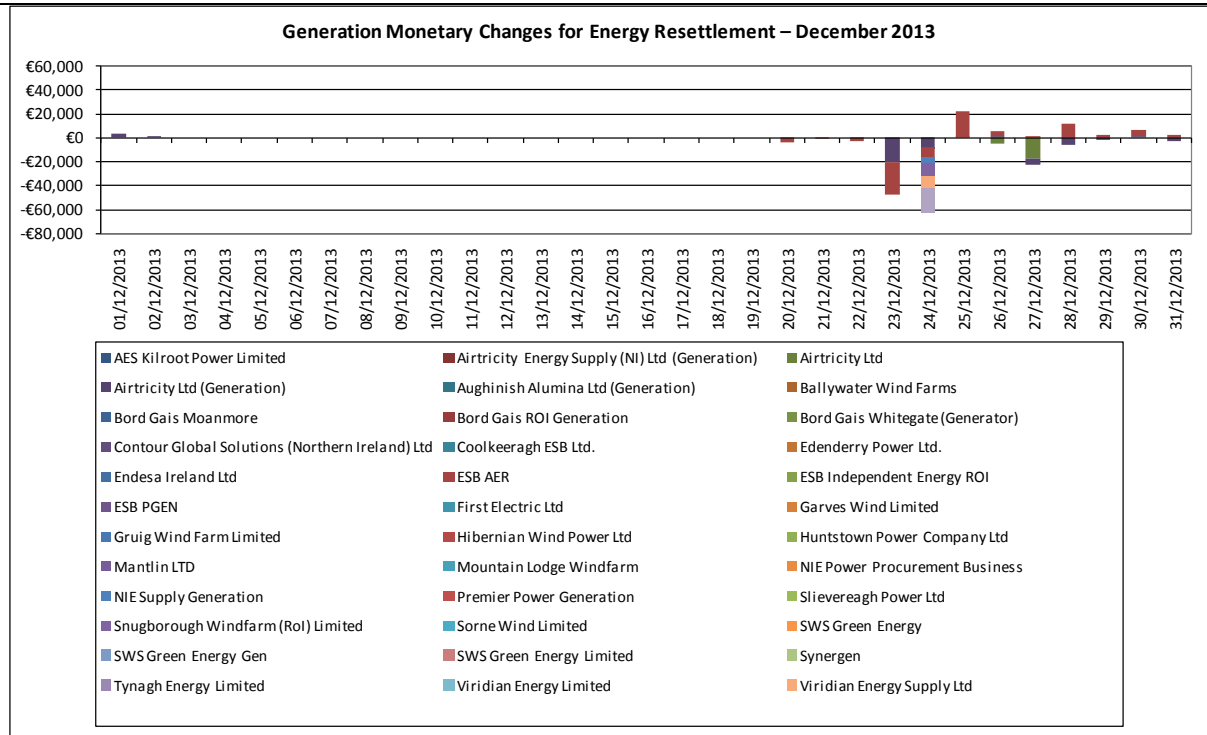
The reverse is true for Figure 7 & 10.



**Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement – December 2013**

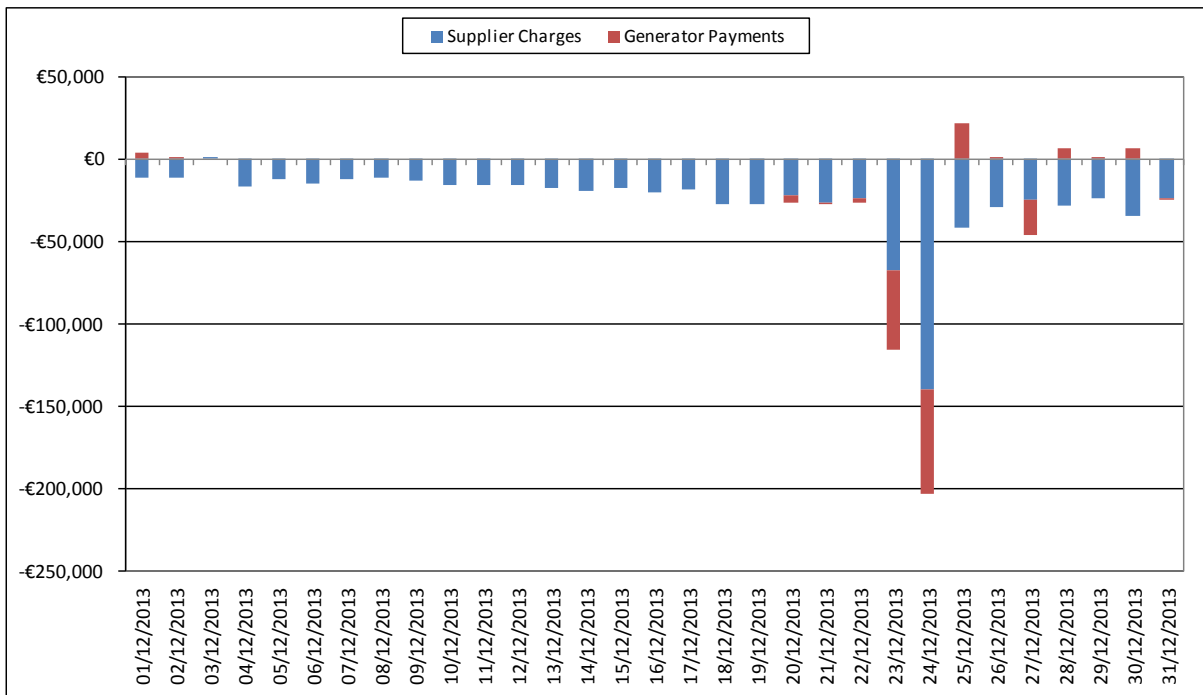
The above variances relates purely to rounding for Participant's between Initial and M+4 Resettlement.

# Market Operator Monthly Report



**Figure 6 – Generation Monetary Changes for Energy Resettlement – December 2013**

Changes noted above are driven by updates to Meter Data for 23<sup>rd</sup> and 24<sup>th</sup> December 2013.



**Figure 7 – Total Monetary Changes for Energy Resettlement – December 2013**

M+13 Resettlement

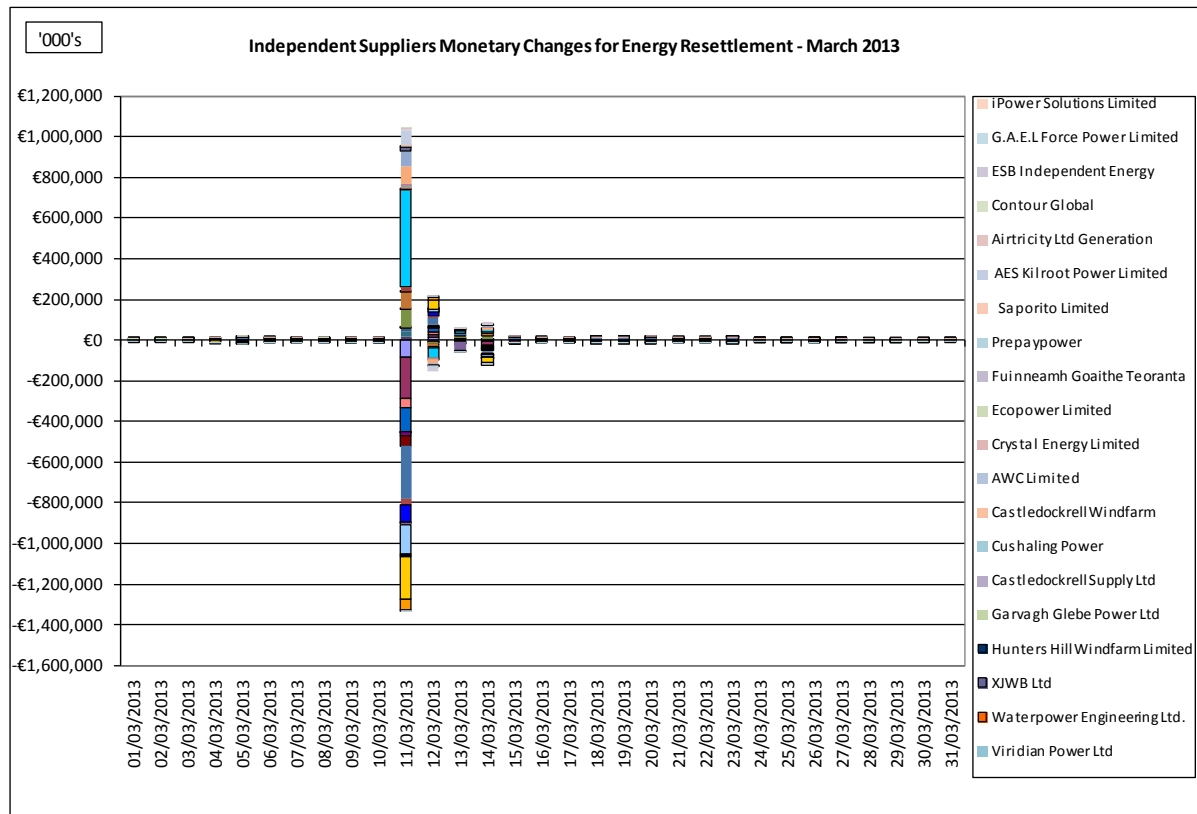


Figure 8 - Independent Suppliers Monetary Changes for Energy Resettlement – March 2013

Changes noted above are driven by updates to Non-Price Effecting Metered Demand from the original Day +4 submissions and a re-price on Trade Dates 11<sup>th</sup> and 13<sup>th</sup> March 2013.

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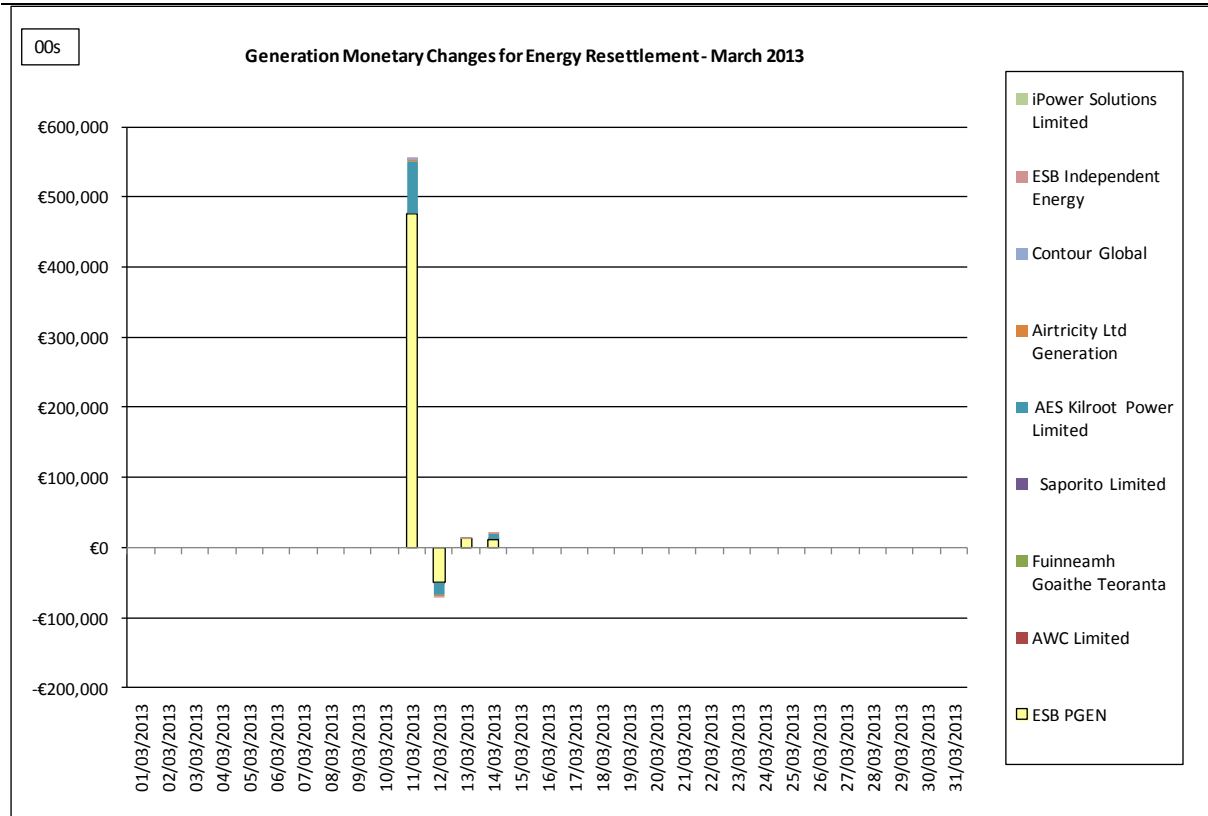


Figure 9 - Generation Monetary Changes for Energy Resettlement – March 2013

Changes noted above are due to re-prices on Trade Dates 11<sup>th</sup> and 13<sup>th</sup> March 2013.

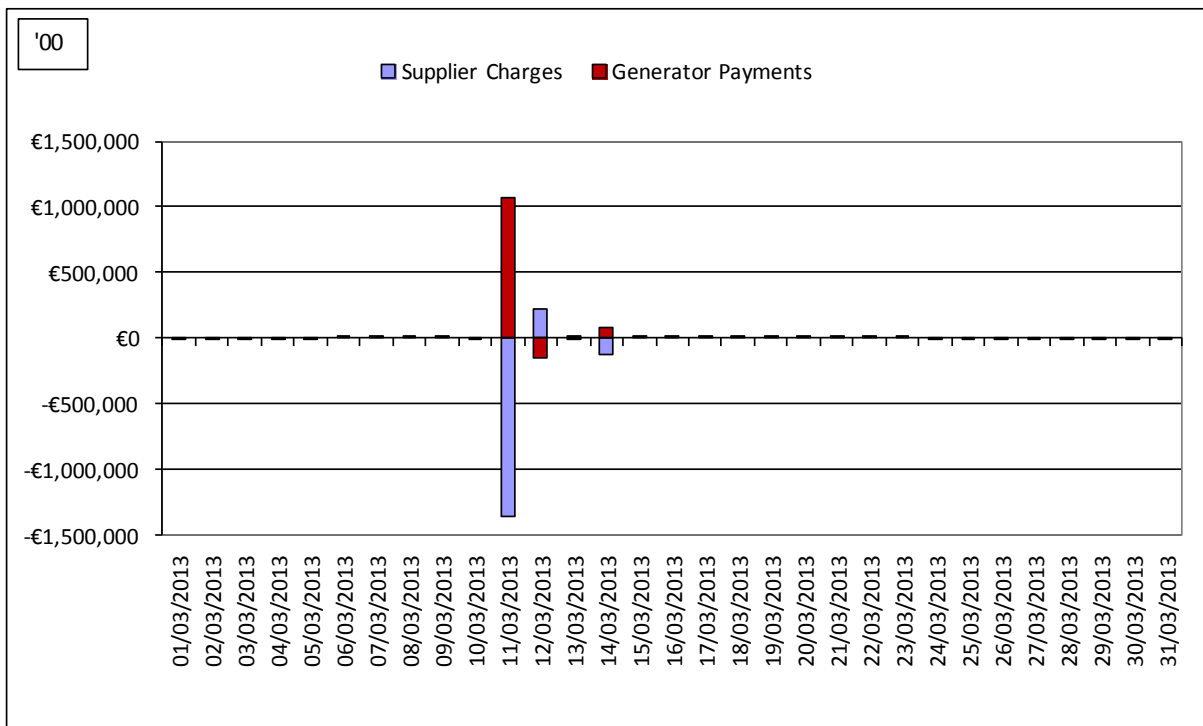


Figure 10 - Total Monetary Changes for Energy Resettlement – March 2013



## Market Operator Monthly Report

### 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.

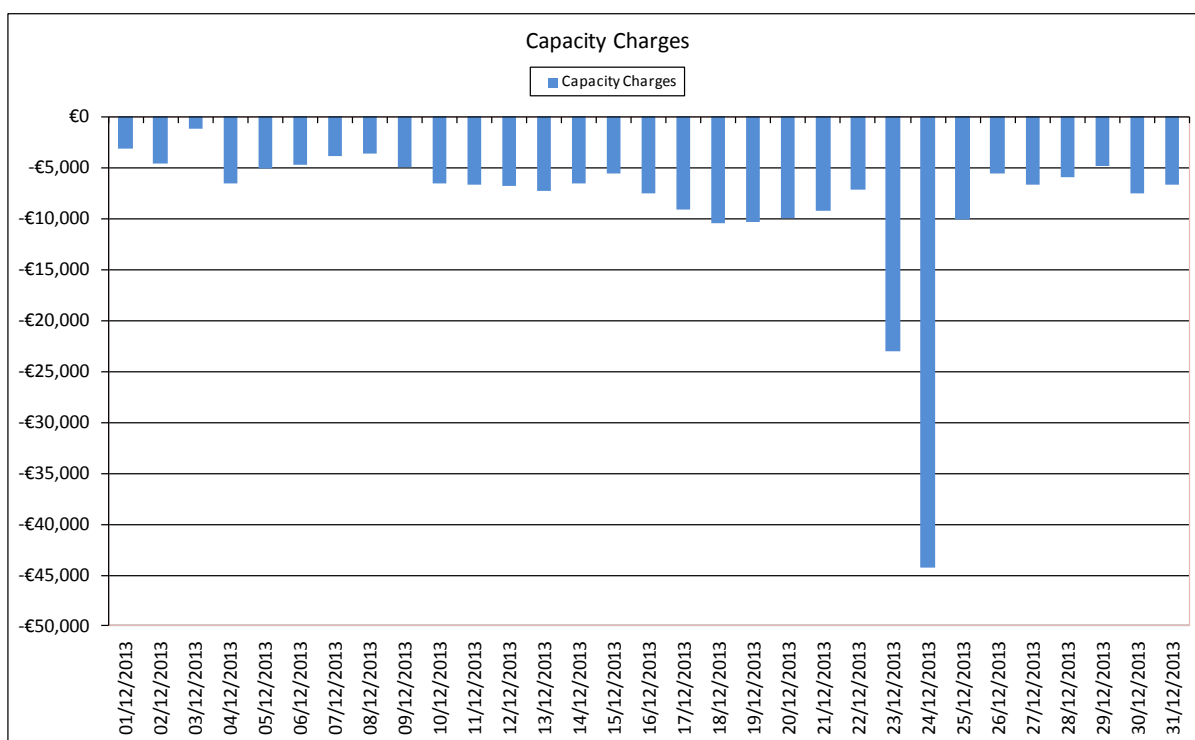


Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement – December 2013

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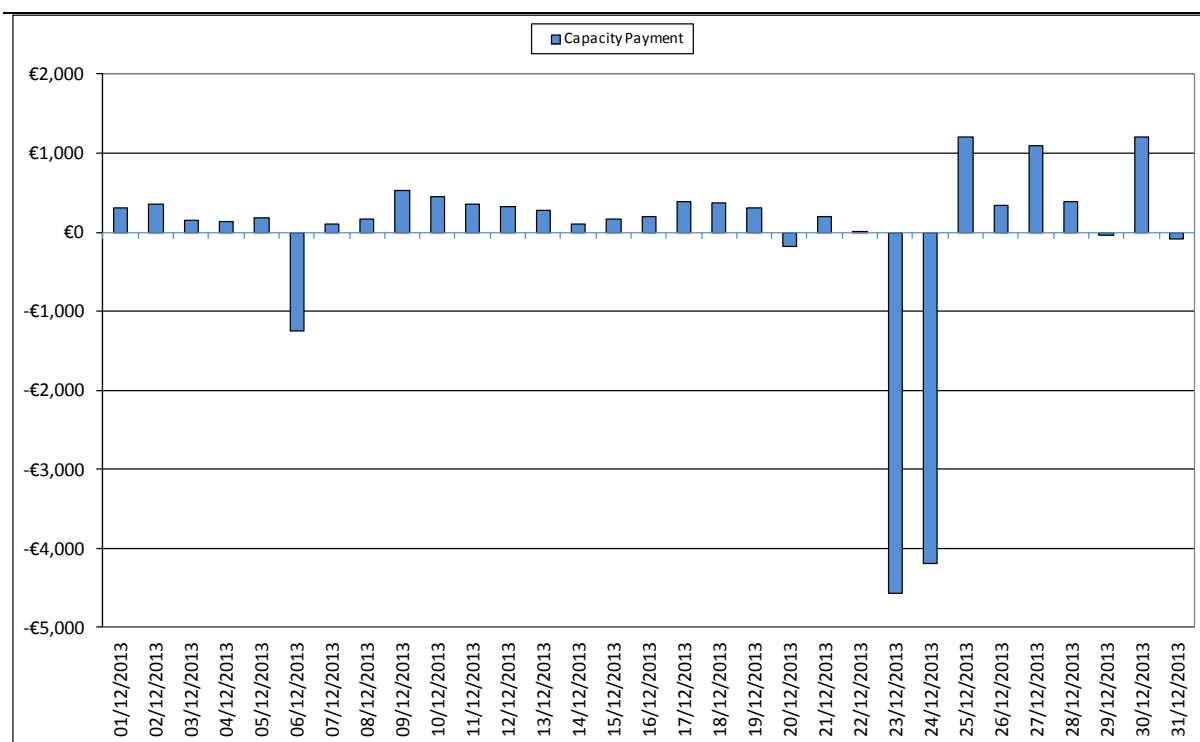


Figure 12 - All Generation Monetary Change for Capacity Resettlement – December 2013

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

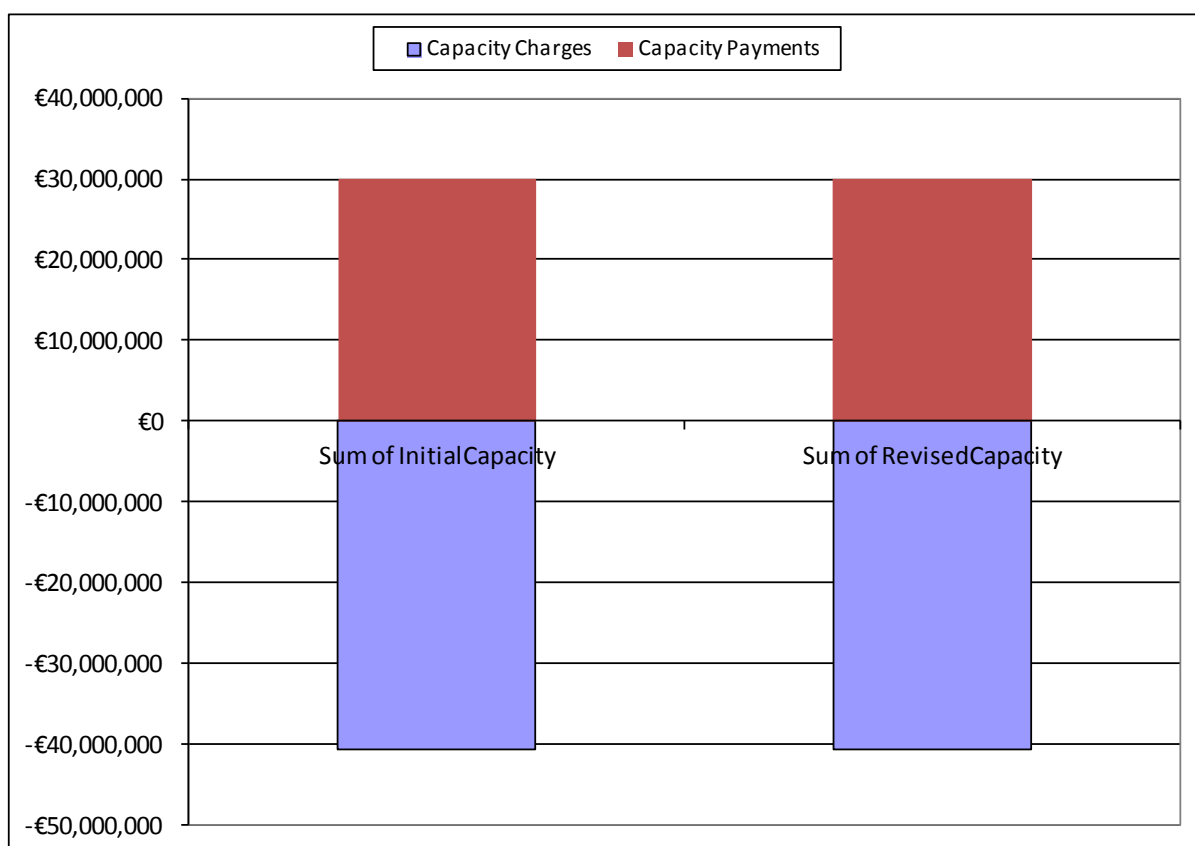


Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement December 2013

## Market Operator Monthly Report

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

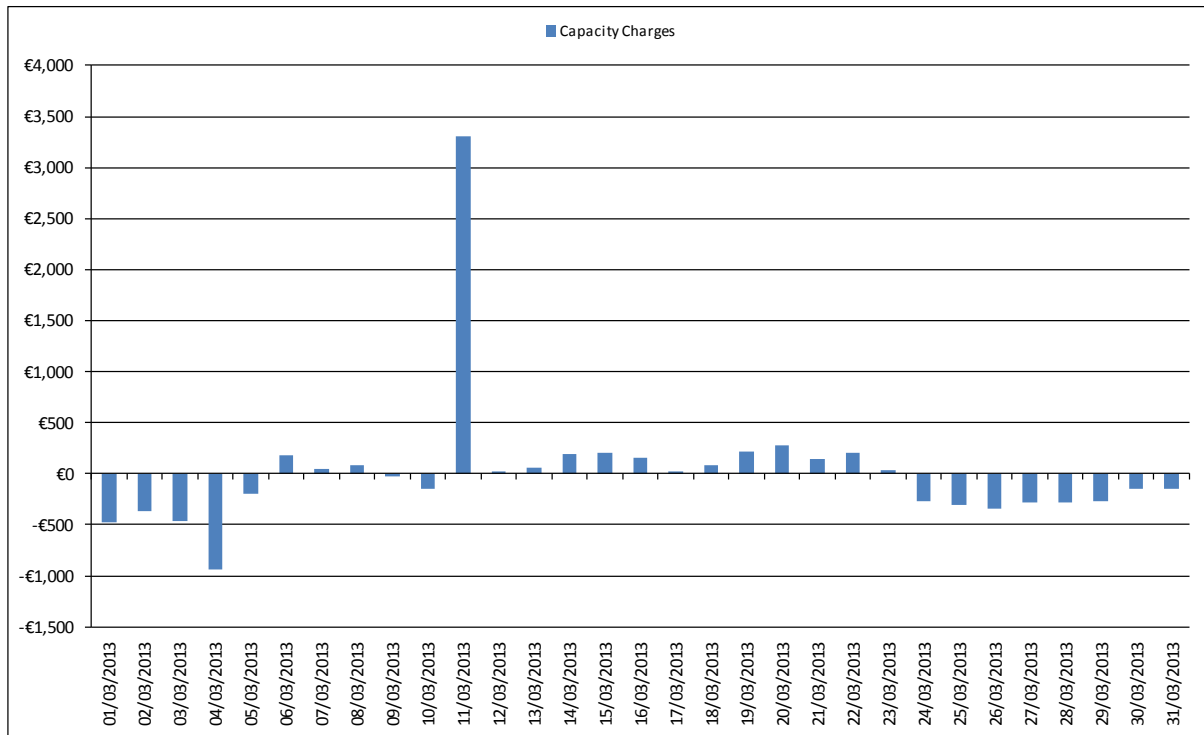


Figure 14 - Independent Suppliers Monetary Changes for Capacity Resettlement – March 2013

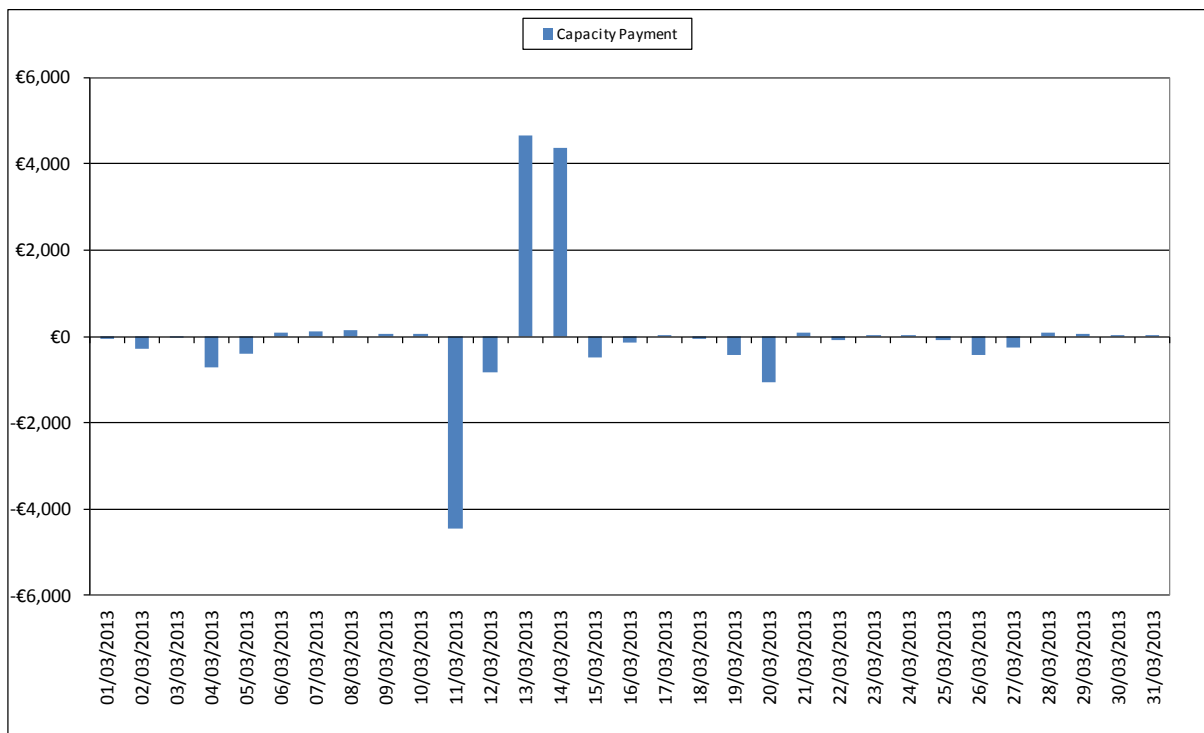
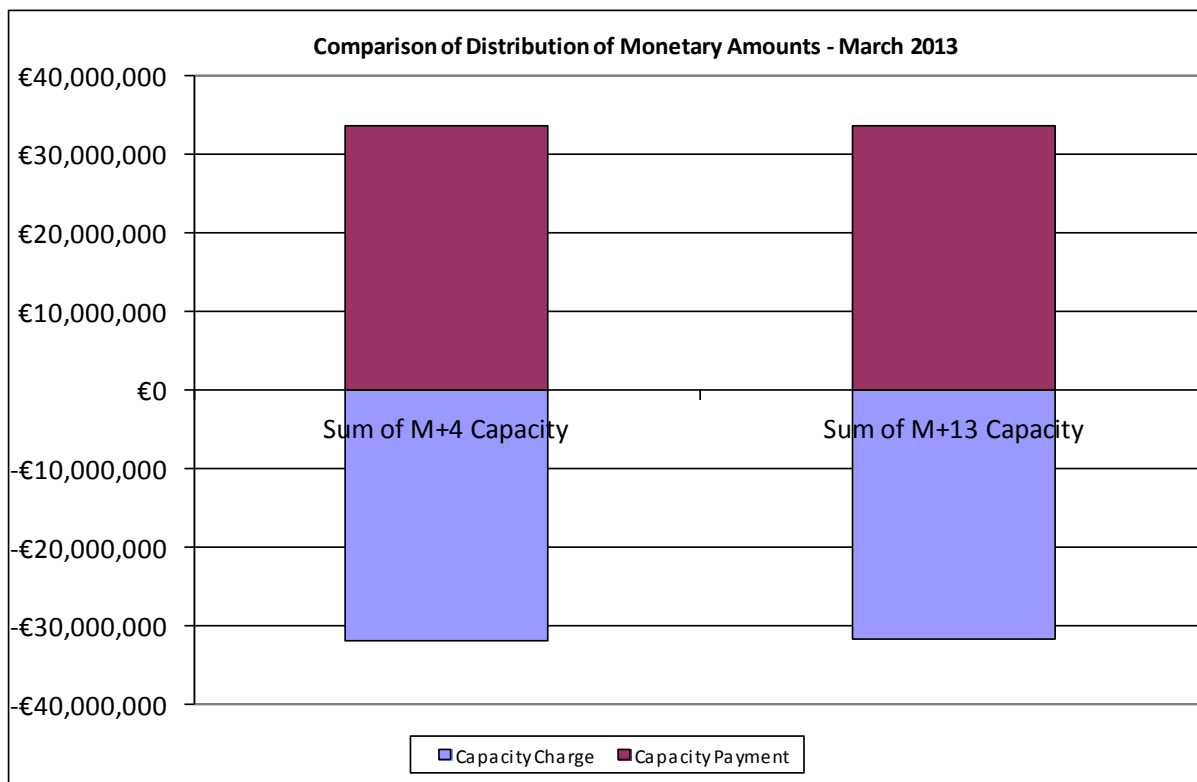


Figure 15 - All Generation Monetary Change for Capacity Resettlement – March 2013



**Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – March 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 April 2014.

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	194	165	29	197	2.32	174
Important	0	0	0	0	0.00	0
Urgent	1	1	0	1	0.89	1
Settlement	10	5	5	8	10.22	6
Credit	0	0	0	0	0.00	0
Dispute	1	1	0	2	12.12	1
Data	0	0	0	0	0.00	0
<b>Total/Average</b>	<b>206</b>	<b>172</b>	<b>34</b>	<b>208</b>	<b>5.11</b>	<b>182</b>

Table 10 – Helpdesk Statistics

Definitions:

- *Resolved within the Period* refers to queries raised and resolved within the calendar month of April 2014.
- *Resolved in the Period* refers to queries resolved within April 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 April 2014.
- *Not Resolved* refers to queries raised but not resolved within April 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 decreased by 0.61 working days in April from 1.68 working days in March to 1.07 working days in April. 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 April 2014 that took over 20 working days to resolve. There are currently no pending calls that have been open longer than 20 working days.

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 April 2014 with regard to formal Settlement Queries.

### 5 Disputes and Queries

#### *List of Disputes by Topic*

As of 12<sup>th</sup> May there are no outstanding Disputes.

**Table 11 - List of Disputes**

#### *List of Queries by Topic*

##### 5.1.1 Data Queries

There were no formal data queries raised during the month of April.

##### 5.1.2 Settlement Queries

There were ten Settlement queries raised in April 2014. Out of this eight were upheld and one is still open. As at 12<sup>th</sup> May 2014 there are four open queries.

Topic	Number Of Queries
Dispatch Instructions	4
Loss Adjustment Factors	1
Meter Data	1
Bid Offers	1
Availabilities	1

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

- Four queries relating to Dispatch Instructions were upheld. One query was deemed to be high materiality (>€50,000) requiring ad-hoc resettlement and three queries were deemed to be of low materiality and will be corrected during the next scheduled resettlement which is M+4. One query relating to Dispatch Instructions has not been closed yet.
- One query in relation to Loss Adjustment Factors was upheld. This was deemed to be of low materiality and will be corrected during the next scheduled resettlement which is M+4.
- One query relating to incorrect Meter Data was upheld. The issue was deemed to be of low materiality (<€50,000) and will be corrected during the next scheduled resettlement which is M+4.
- One query relating to incorrect Bid Offers was upheld. The issue was deemed to be of low materiality (<€50,000) and will be corrected during the next scheduled resettlement which is M+4.
- One query relating to incorrect Availability declarations was upheld. This will be corrected during the next scheduled resettlement which is M+4.

#### *Unresolved Queries*

## Market Operator Monthly Report

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There are four unresolved Settlement queries as at 12<sup>th</sup> May 2014.

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, 71.77% of data used was submitted by Participants through the normal Bid-Offer process. 28.21% of the data used was based on Standing Commercial Offer Data. 0.02% 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 four Re-Price runs carried out in April 2014.

There were no Resettlement runs carried out in April 2014.

#### **6.1.2 System Errors**

There were no defects identified in April 2014 that required resettlement. There were no system defects identified in April 2014 that required re-pricing.

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



## Market Operator Monthly Report

### 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 April 2014.

#### 6.2.1 MSP Postings April 2014

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

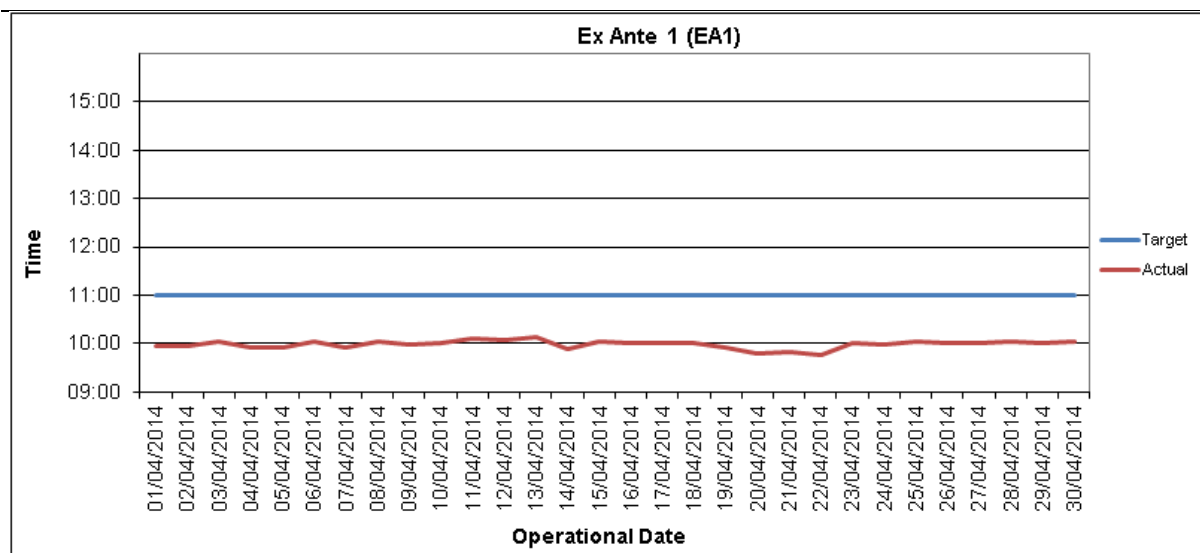


Figure 17 – Ex-Ante 1

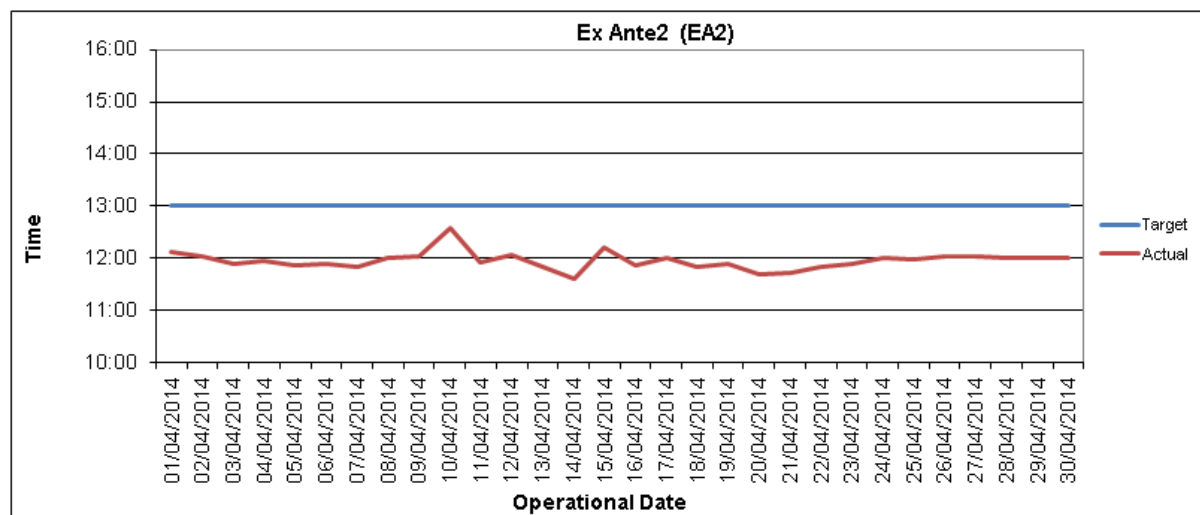


Figure 18 – Ex-Ante 2

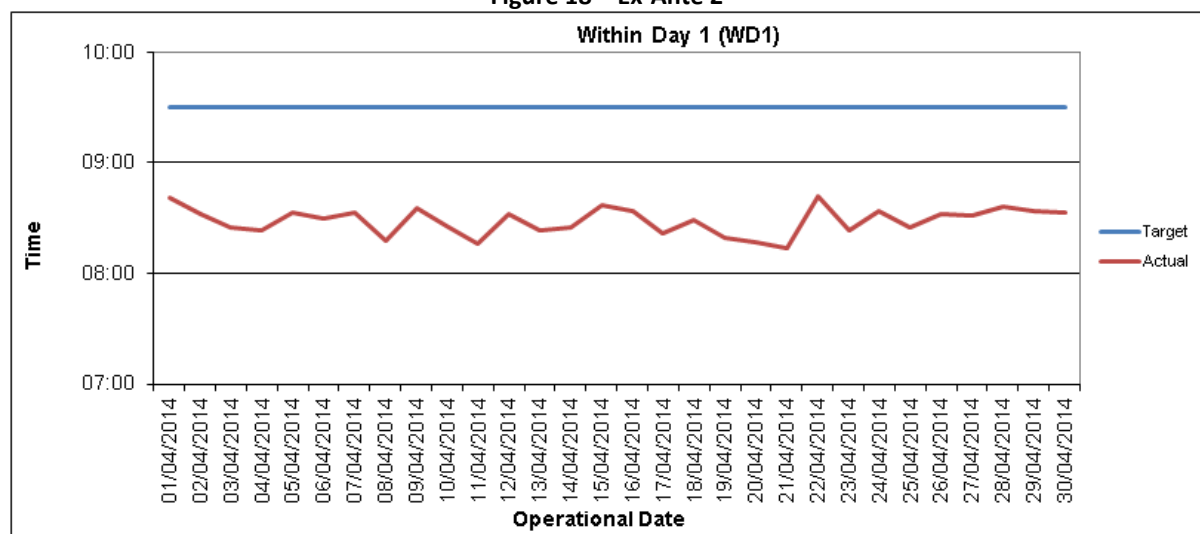


Figure 19 – Within Day 1

## Market Operator Monthly Report

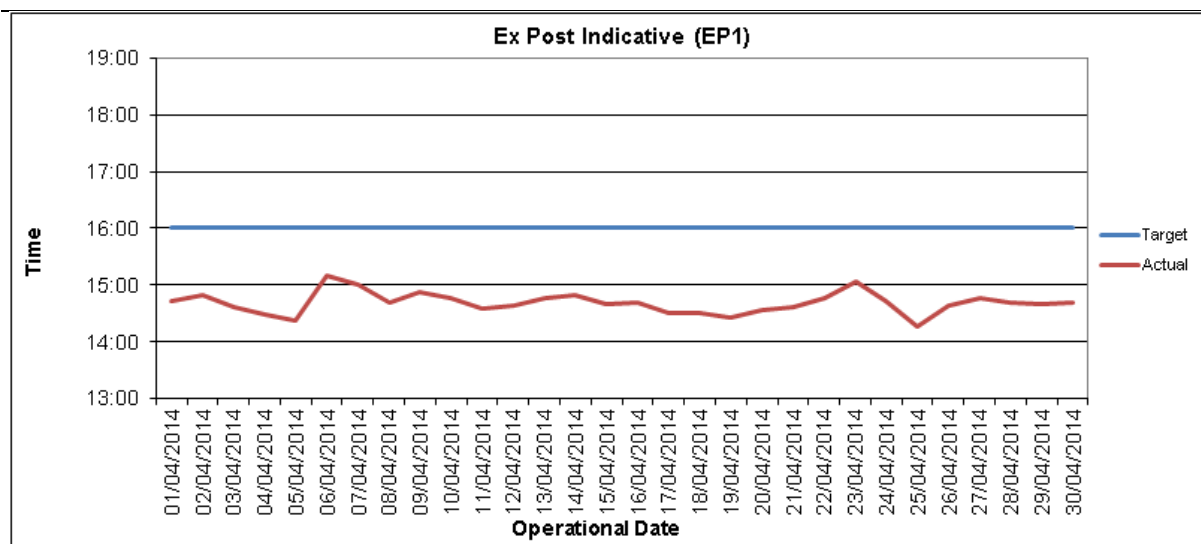


Figure 20 - Ex-Post Indicative

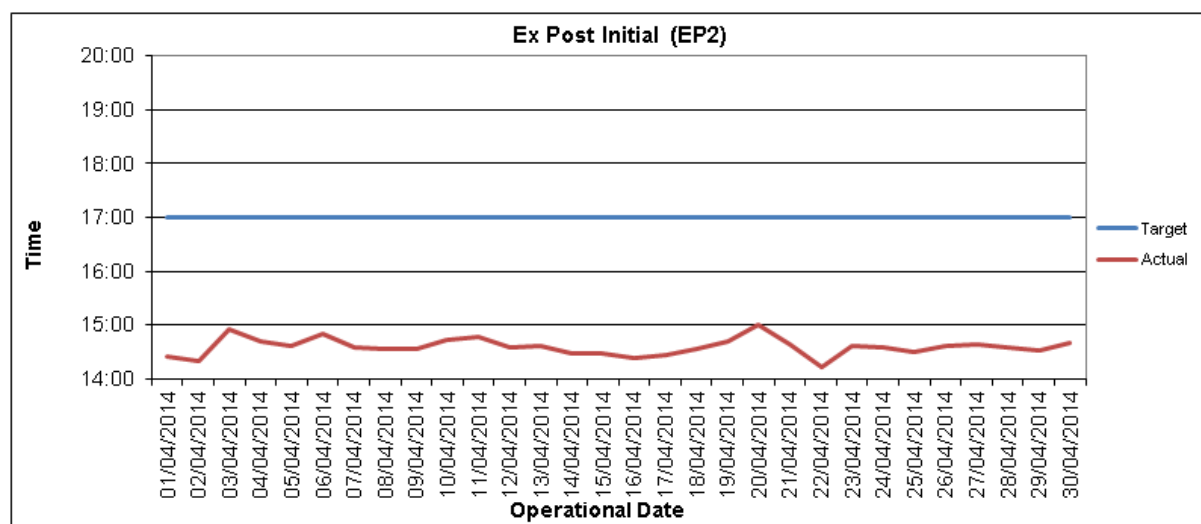


Figure 21 - Ex-Post Initial

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

## Market Operator Monthly Report

### 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 April 2014, there were two instances of publishing with the MIP solver.

Details 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 April 2014

The publication timings for Settlement runs are provided below.

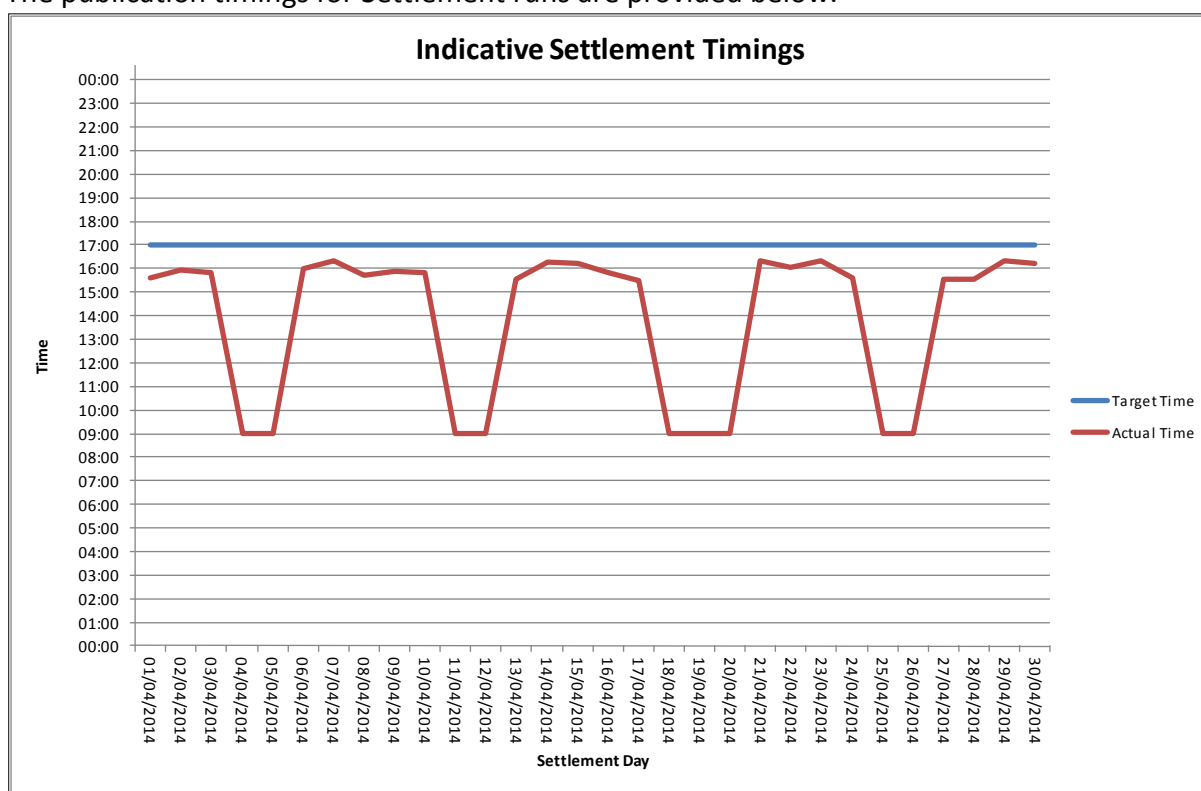
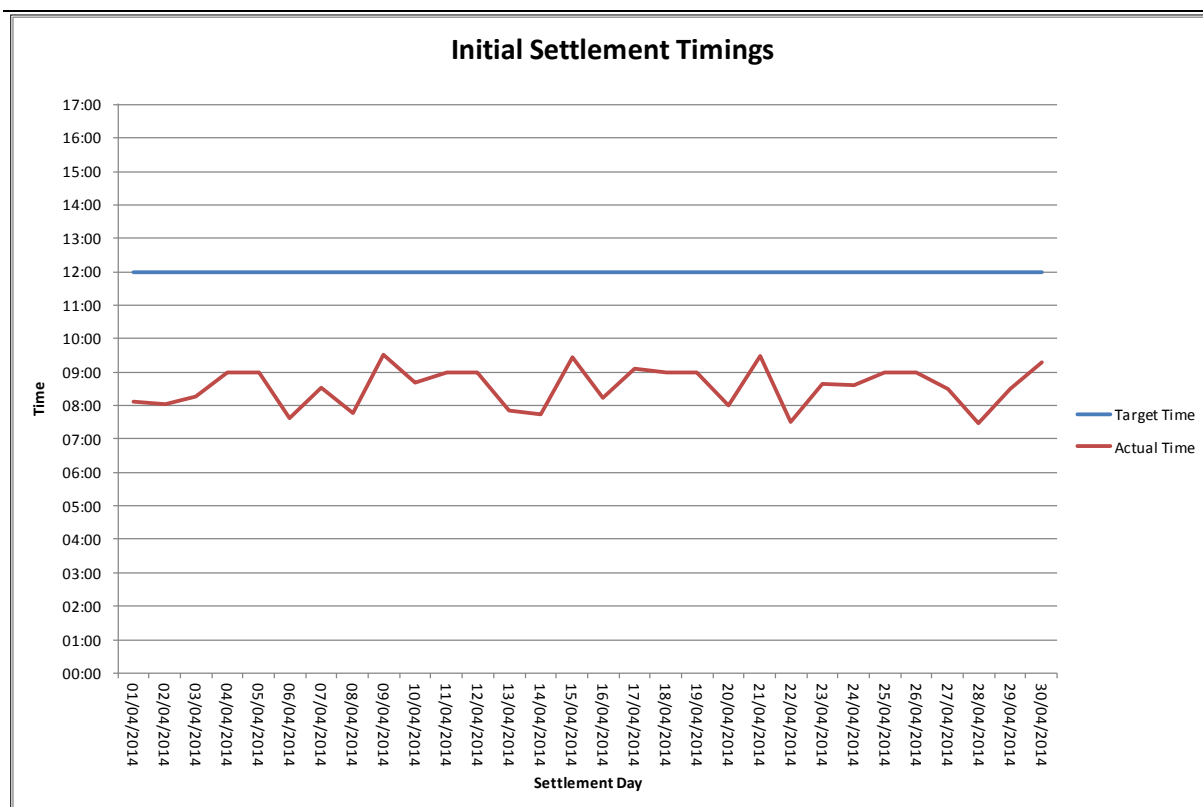


Figure 22 - Indicative Settlement Postings

## Market Operator Monthly Report



**Figure 23 - Initial Settlement Postings**

Further details of any delays noted above are provided in Appendix A

### 6.5 Market System Releases

#### 6.5.1 Release SEM R2.4.0 (Proposed Deployment: May 16<sup>th</sup>, 2014)

The following table outlines the approved scope for the SEM R2.4.0 release to the Central Market Systems:

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

The following are the high-level milestones for the SEM R2.4.0 release that occurred during the month of April:

- System Integration Testing completed on April 30<sup>th</sup>.
- The Market Test phase completed to schedule on April 25<sup>th</sup>.
- Deployment is on schedule for Friday May 16<sup>th</sup>.

### 6.5.2 Release SEM R2.5.0 (Proposed Deployment: October 2014)

The release cut-off date for the SEM R2.5.0 release to the Central Market Systems was Friday, February 21st, 2014.

A meeting of the Change Control Forum (CCF) was held on April 2<sup>nd</sup> at which the scope for this release was discussed. The minutes of this meeting were published on the SEMO website on April 3<sup>rd</sup>.

A scope proposal was issued to the Regulatory Authorities on April 9<sup>th</sup> seeking approval. Approval was received on May 1<sup>st</sup> and the High Level Impact Assessment (HLIA) will be published to the industry in the first week of May.

The approved scope for this release is as follows:

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

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

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

### 7 Occasional Components

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

There was no Business Continuity Tests performed during April 2014.

#### *Administered Settlement*

There was no requirement to run Administered Settlement during April 2014.

#### *Communications or Systems Failures*

There were a number of Market Interface system issues during April 2014;

SONI TSO reported an issue when trying to submit the LOLP feed – investigation by Market Systems could not identify an issue and no previous submission of this feed could be seen in the systems. This information was fed back to SONI who discovered that they should be sending the feed to EirGrid TSO rather than SEMO.

A problem was identified when MI was failing to send files to the MIUN calculator – investigation discovered that a file transfer process had hung. A reset of the application addressed the issue.

Load & Wind forecast files were not received – issue reported by Market Operations. No problem was identified on the Market systems; this was communicated back to EirGrid who identified an issue on their systems.

An issue was reported by the NCC in SONI and passed to the IA in relation to EWRP files from AMP – investigation discovered that the client cert for EirGrid FTPS server transfer.eirgrid.com had expired, this caused files been sent by AMP to be fail validation. Market systems took over the management of the issue between AMP & EirGrid IT to get a new cert installed.

MIUN calculator errored out before completing an EA run – no core issue identified but the suspicion is that it was related to a server failing over a ‘clustered’ disk. This is a normal operation of a cluster server setup.

Lockheed-Martin reported an issue when trying to upload MIUN files – issue identified with an open vendor session on the server, once removed the files uploaded successfully.

NIE MDP file submission issue: This is a known issue with a workaround in place, a permanent fix will be introduced as part of the R2.4.0 release.

## Market Operator Monthly Report

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AMP reported a problem trying to send FTP files to NG – investigation did not discover a problem on the EirGrid/AMP or MS side. This started working and the suspicion is that it was on the NG side.

Market Ops reported that the sequence messages for WD1 were not updating - the Tomcat service on both web server was restarted which addressed the issue.

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

There was no Denial of Service Attacks during April 2014.

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

No Parameters were submitted to the Regulatory Authorities in April 2014.



## 8 Appendix A: Detail of Code Breaches

### *Market Participant*

Issue Number	Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach
3970	11/04/2014	Money In	Timing	Participant	Payment Default	PT_400114 Endesa Generacion SA defaulted on a March 2014 Initial FMOC invoice.	Participant Error.	A Default Notice was issued to the Participant.	Major
3957	23/04/2014	Money In	Timing	Participant	Payment Default	PT_500057 LCC Power defaulted on an Initial and a M+13 VMOC Invoice.	Participant Error	A Default Notice was issued to the Participant	Major
3955	14/04/2014	Money In	Timing	Participant	Payment Default	PT_400068 Ecopower Supply Limited defaulted on a March 2014 Initial Capacity invoice.	Participant Error.	A default notice was issued to the Participant.	Major
3950	11/04/2014	Money In	Timing	Participant	Payment Default	PT_400090 Activation Energy defaulted on a March 2014 Initial FMOC invoice.	Participant Error.	A default notice was issued to the Participant.	Major
3945	09/04/2014	Money In	Timing	Participant	Payment Default	PT_400119 Aughrim Power Supply Limited defaulted on a March 2014 Initial Energy invoice.	Participant Error.	A default notice was issued to the Participant.	Major

**Table 16 - Code Breaches – Market Participants**

### *Data Provider*

There were no issues to report in April 2014

**Table 17 - Code Breaches – Data Providers**

## Market Operator Monthly Report

### SEMO - Pricing and Scheduling

Issue Number	Ops Date Identified <sup>†</sup>	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach <sup>‡</sup>
3946	10/04/2014	EA1	Timing	SEMO	File Submission	MIUNs for Moyle were incorrect for EA1 Trading Day 11/04/2014	MIUN calculator produced incorrect MIUN data.	IT provided a revised MIUN file. This was uploaded to the CMS and MIUNs were published at 11:34. This was communicated to Participants via a Market Message at 11:50	Minor
3947	11/04/2014	EA1	Timing	SEMO	File Submission	MIUNs for EWIC were incorrect for EA1 Trading Day 12/04/2014	MIUN calculator produced incorrect MIUN data.	IT provided a revised MIUN file. This was uploaded to the CMS and MIUNs were published at 11:23. This was communicated to Participants via a Market Message at 11:40	Minor
3948	11/04/2014	EA2	Timing	SEMO	File Submission	MIUNs were incorrect for EA2 Trading Day 12/04/2014	MIUN calculator produced incorrect MIUN data.	IT provided a revised MIUN file. This was uploaded to the CMS and MIUNs were published at 13:12. This was communicated to Participants via a Market Message at 13:20	Minor

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

### SEMO – Settlements

There were no issues to report in April 2014

**Table 19 - Code Breaches – Settlements**

### SEMO - Funds Transfer

There were no issues to report in April 2014

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

### SEMO - Credit Management

Issue Number	Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach
3949	08/04/2014	CRM	Timing	SEMO	Operational	The Credit Cover Report for Operational Date 08/04/2014 was not published by 14.30	This was due to an operational error.	The Credit Cover Report was published at 15.09 on the same day - 08/04/2014	Minor

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

***SEMO – Other***

There were no issues to report in April 2014

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

*Data Queries*

Summary Title	Description	ID	Logged On	Date sent to MP
No Issues				

Table 21 - Data Queries

**Settlement Queries**

Summary Title	Description	ID	Logged On	Date sent to MP
Bid Data Not Submitted	CGA (GU_500904) are a newly registered unit who did not submit COD for 29/03/2014 and 30/03/2014 (possibly 31/03/2014 also – please check following days). They had standing bids in the MPI however these are not used in the first 29 days following registration. Zero bids were used in The UUC and RCUC runs for these days – could you check what should happen in this scenario? A lack of COD submission shouldn't equal zero bids in the system. MSQ's were at max availability of 12MW however the issue was spotted and the unit was not dispatched.	GU_500904	2014-04-11	2014-04-16
Incorrect Availability	Incorrect Availability Declarations were sent to the SEM for GU_401380 (Athea Windfarm Phase 1) and GU_400920 (Dromada Windfarm Phase 1) for the 17/04/2014 and 18/04/2014 as their outage ended early (on the 17/04/2014).	Eirgrid	2014-04-29	2014-05-08
Incorrect Dispatch Instructions	In the processing of SEM query, SEM no. 58035, it became apparent that the DI D+3file for the 21/02/2014 were not sent to the SEM. AT the request of SEMO this query is being raised to enable sending of the DI D+3 file for the 21/02/2014. See the two emails attached to this query for further details.	Eirgrid	2014-04-01	2014-04-30
Incorrect Dispatch Instructions	GU_400360 (TH1). Missing pumping instructions. GU-400360 (TH1). At 00:39 on 31st March this unit received pumping instructions which are missing from the Market Operator data and results in high U.I.'s as a result.	PT_400030	2014-04-10	2014-04-24
Incorrect Dispatch Instructions	Unit GU_400140. On the 17th April the Unit was declared to 0mw for a planned outage with effective time of 20:00. We received a dispatch instruction from NCC for 0mw at 20:00. This was confirmed with a phone call between the NCC and ourselves. When receiving some PIR reports for this shut down the DQ is incorrect and seems to show 0 mw effective time 21:00. When collecting files for this query we find that the original dispatch instruction was cancelled on 22nd April and replaced with another dispatch instruction with 0mw and 19:14 as the effective time.	Edenderry Power PT 400026	2014-04-28	2014-05-01

## Market Operator Monthly Report

Incorrect Dispatch Instructions	A DESY dispatch instruction was effective at the wrong time on the 17/04/2014 for GU_400140 (Edenderry Unit 1). The DESY was effective at 20:00 on the 17/04/2014 but it should have been effective at 19:14 on the 17/04/2014.	Eirgrid	2014-04-29	2014-05-02
Incorrect Dispatch Instructions	Incorrect dispatch instructions were sent to the SEM for GU_401380 (Athea Windfarm Phase 1) and GU_400920 (Dromada Windfarm Phase 1) for the 17/04/2014, both windfarms should have been issued a LCLO as their outage ended early (on the 17/04/2014). The following should have been sent to the SEM on D+3; - for GU_401380 (Athea Windfarm Phase 1), LCLO effective at 20:16 on the 17/04/2014. - for GU_400920 (Dromada Windfarm Phase 1), LCLO effective at 20:35 on the 17/04/2014.	Eirgrid	2014-04-29	2014-05-08
Loss Adjustment Factors	Loss adjustment factors were not submitted in time for initial settlement for Contour Global AGU, Unit ID GU_900504 for 13/03/2014 06:00 to 13/03/2014 23:59. Updated Lossfactors were not submitted to the SEM for the 12th March 2014 for the registration of Contour Global GU_500904. They were received but were not able to be pushed in time for the indicative settlement run for that date. As a result to get these into the system A Settlement Query will need to be raised against this date and the data resent by SONI IT.	TSO_SONI	2014-04-11	2014-04-25
Meter Data	We receive demand and generation data from the Meter generation provider NIE to validate our NDLF for PT_500028/36, and for our MG for PT_500034. These figures normally match SEMO's exactly. On the Initial Settlement for 15/04/2014, NIE's demand and generation is very different than SEMO's for all periods for all three participants. The Settlement calculations making up the statements have used SEMO's version of the demand/generation.	Power NI Energy Ltd trading as Power NI	2014-04-23	2014-04-24

**Table 22 - 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 months 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
-	There were no system defects identified in April 2014 that required repricing or resettlement	-	-	-	-	-

**Table 23 - List of System Errors and Failures**

## 11 Appendix D: Details of Operational Timings

### *Market Schedule and Price Runs*

Operational Date	EA1		EA2		WD1		EP1		EP2	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
01/04/2014	11:00	09:58	13:00	12:08	09:30	08:41	16:00	14:43	17:00	14:26
02/04/2014	11:00	09:57	13:00	12:02	09:30	08:32	16:00	14:49	17:00	14:20
03/04/2014	11:00	10:03	13:00	11:54	09:30	08:25	16:00	14:37	17:00	14:55
04/04/2014	11:00	09:55	13:00	11:57	09:30	08:23	16:00	14:29	17:00	14:43
05/04/2014	11:00	09:56	13:00	11:52	09:30	08:33	16:00	14:22	17:00	14:37
06/04/2014	11:00	10:03	13:00	11:53	09:30	08:30	16:00	15:10	17:00	14:50
07/04/2014	11:00	09:56	13:00	11:50	09:30	08:33	16:00	15:01	17:00	14:36
08/04/2014	11:00	10:03	13:00	12:01	09:30	08:18	16:00	14:42	17:00	14:34
09/04/2014	11:00	10:00	13:00	12:03	09:30	08:35	16:00	14:52	17:00	14:34
10/04/2014	11:00	10:02	13:00	12:35	09:30	08:26	16:00	14:46	17:00	14:44
11/04/2014	11:00	10:06	13:00	11:55	09:30	08:16	16:00	14:36	17:00	14:47
12/04/2014	11:00	10:05	13:00	12:04	09:30	08:32	16:00	14:38	17:00	14:36
13/04/2014	11:00	10:08	13:00	11:50	09:30	08:23	16:00	14:47	17:00	14:37
14/04/2014	11:00	09:54	13:00	11:37	09:30	08:25	16:00	14:50	17:00	14:28
15/04/2014	11:00	10:03	13:00	12:12	09:30	08:37	16:00	14:40	17:00	14:29
16/04/2014	11:00	10:01	13:00	11:52	09:30	08:34	16:00	14:41	17:00	14:23
17/04/2014	11:00	10:02	13:00	12:00	09:30	08:22	16:00	14:31	17:00	14:27
18/04/2014	11:00	10:02	13:00	11:51	09:30	08:29	16:00	14:31	17:00	14:34
19/04/2014	11:00	09:56	13:00	11:53	09:30	08:19	16:00	14:25	17:00	14:43
20/04/2014	11:00	09:48	13:00	11:42	09:30	08:17	16:00	14:33	17:00	15:00
21/04/2014	11:00	09:50	13:00	11:43	09:30	08:14	16:00	14:37	17:00	14:39
22/04/2014	11:00	09:46	13:00	11:50	09:30	08:42	16:00	14:46	17:00	14:14
23/04/2014	11:00	10:01	13:00	11:54	09:30	08:23	16:00	15:03	17:00	14:37
24/04/2014	11:00	10:00	13:00	12:00	09:30	08:34	16:00	14:43	17:00	14:36
25/04/2014	11:00	10:04	13:00	11:58	09:30	08:25	16:00	14:17	17:00	14:31
26/04/2014	11:00	10:01	13:00	12:02	09:30	08:32	16:00	14:39	17:00	14:37
27/04/2014	11:00	10:02	13:00	12:02	09:30	08:31	16:00	14:46	17:00	14:39
28/04/2014	11:00	10:04	13:00	12:00	09:30	08:36	16:00	14:41	17:00	14:35
29/04/2014	11:00	10:01	13:00	12:01	09:30	08:34	16:00	14:40	17:00	14:32
30/04/2014	11:00	10:03	13:00	12:01	09:30	08:33	16:00	14:42	17:00	14:40

Table 24 – 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
01/04/2014	02/04/2014	02/04/2014	17:00	15:35	01/04/2014	08/04/2014	12:00	08:07
02/04/2014	03/04/2014	03/04/2014	17:00	15:57	02/04/2014	09/04/2014	12:00	08:02
03/04/2014	04/04/2014	04/04/2014	17:00	15:49	03/04/2014	10/04/2014	12:00	08:15
04/04/2014	07/04/2014	07/04/2014	17:00	09:00	04/04/2014	11/04/2014	12:00	09:00
05/04/2014	07/04/2014	07/04/2014	17:00	09:00	05/04/2014	11/04/2014	12:00	09:00
06/04/2014	07/04/2014	07/04/2014	17:00	15:58	06/04/2014	11/04/2014	12:00	07:37
07/04/2014	08/04/2014	08/04/2014	17:00	16:19	07/04/2014	14/04/2014	12:00	08:33
08/04/2014	09/04/2014	09/04/2014	17:00	15:41	08/04/2014	15/04/2014	12:00	07:47
09/04/2014	10/04/2014	10/04/2014	17:00	15:54	09/04/2014	16/04/2014	12:00	09:31
10/04/2014	11/04/2014	11/04/2014	17:00	15:49	10/04/2014	17/04/2014	12:00	08:41
11/04/2014	14/04/2014	14/04/2014	17:00	09:00	11/04/2014	18/04/2014	12:00	09:00
12/04/2014	14/04/2014	14/04/2014	17:00	09:00	12/04/2014	18/04/2014	12:00	09:00
13/04/2014	14/04/2014	14/04/2014	17:00	15:33	13/04/2014	18/04/2014	12:00	07:52
14/04/2014	15/04/2014	15/04/2014	17:00	16:17	14/04/2014	22/04/2014	12:00	07:44
15/04/2014	16/04/2014	16/04/2014	17:00	16:14	15/04/2014	22/04/2014	12:00	09:27
16/04/2014	17/04/2014	17/04/2014	17:00	15:50	16/04/2014	23/04/2014	12:00	08:13
17/04/2014	18/04/2014	18/04/2014	17:00	15:30	17/04/2014	24/04/2014	12:00	09:05
18/04/2014	22/04/2014	22/04/2014	17:00	09:00	18/04/2014	25/04/2014	12:00	09:00
19/04/2014	22/04/2014	22/04/2014	17:00	09:00	19/04/2014	25/04/2014	12:00	09:00
20/04/2014	22/04/2014	22/04/2014	17:00	09:00	20/04/2014	25/04/2014	12:00	08:01
21/04/2014	22/04/2014	22/04/2014	17:00	16:18	21/04/2014	28/04/2014	12:00	09:28
22/04/2014	23/04/2014	23/04/2014	17:00	16:04	22/04/2014	29/04/2014	12:00	07:30
23/04/2014	24/04/2014	24/04/2014	17:00	16:21	23/04/2014	30/04/2014	12:00	08:38
24/04/2014	25/04/2014	25/04/2014	17:00	15:37	24/04/2014	02/05/2014	12:00	08:37
25/04/2014	28/04/2014	28/04/2014	17:00	09:00	25/04/2014	02/05/2014	12:00	09:00
26/04/2014	28/04/2014	28/04/2014	17:00	09:00	26/04/2014	02/05/2014	12:00	09:00
27/04/2014	28/04/2014	28/04/2014	17:00	15:31	27/04/2014	02/05/2014	12:00	08:29
28/04/2014	29/04/2014	29/04/2014	17:00	15:34	28/04/2014	06/05/2014	12:00	07:29
29/04/2014	30/04/2014	30/04/2014	17:00	16:19	29/04/2014	06/05/2014	12:00	08:30
30/04/2014	01/05/2014	01/05/2014	17:00	16:13	30/04/2014	07/05/2014	12:00	09:17

Table 25 - 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
01/01/2014	€955,074.54	€15,701.02	-€363,523.63
02/01/2014	€869,584.76	-€51,270.96	-€411,223.19
03/01/2014	€981,299.90	-€6,763.65	-€416,729.57
04/01/2014	€842,597.58	-€984.25	-€406,468.19
05/01/2014	€1,017,892.87	-€3,304.71	-€374,451.32
06/01/2014	€1,027,467.78	€69,008.95	-€421,209.86
07/01/2014	€1,131,050.74	-€4,313.68	-€429,731.89
08/01/2014	€652,565.38	-€39,328.22	-€457,907.14
09/01/2014	€748,152.68	-€40,827.41	-€453,780.43
10/01/2014	€803,817.65	-€48,315.21	-€448,048.96
11/01/2014	€915,704.71	-€4,318.18	-€411,522.40
12/01/2014	€921,530.28	-€9,195.15	-€379,307.86
13/01/2014	€641,244.74	-€20,649.97	-€453,955.42
14/01/2014	€570,633.32	-€31,654.28	-€466,747.71
15/01/2014	€789,788.53	-€3,878.25	-€443,384.59
16/01/2014	€619,904.29	-€24,560.52	-€456,869.59
17/01/2014	€515,211.70	-€66,689.58	-€454,608.47
18/01/2014	€520,405.35	-€19,031.76	-€421,586.87
19/01/2014	€808,100.39	-€9,045.86	-€397,800.00
20/01/2014	€917,028.91	-€62,048.37	-€448,388.85
21/01/2014	€976,768.66	-€27,263.63	-€444,554.65
22/01/2014	€617,107.10	-€48,174.53	-€447,356.40
23/01/2014	€636,348.17	€11,856.06	-€449,699.08
24/01/2014	€858,787.11	-€3,889.75	-€436,805.26
25/01/2014	€867,668.14	€24,013.08	-€387,936.33
26/01/2014	€1,067,111.91	€8,950.68	-€369,381.21
27/01/2014	€667,942.56	-€16,961.92	-€434,460.28
28/01/2014	€857,567.91	-€2,690.66	-€447,652.80
29/01/2014	€700,070.05	-€18,250.06	-€461,431.27
30/01/2014	€686,455.61	-€5,466.72	-€462,829.04
31/01/2014	€777,271.35	€2,344.09	-€442,761.53
01/02/2014	€1,092,287.94	€46,296.79	-€399,482.81
02/02/2014	€1,040,876.64	-€7,906.04	-€372,329.72
03/02/2014	€814,552.07	-€23,152.17	-€442,954.07
04/02/2014	€765,620.92	-€4,186.12	-€446,429.95
05/02/2014	€619,745.34	-€24,997.27	-€447,492.36
06/02/2014	€570,059.13	-€14,226.00	-€454,172.29
07/02/2014	€733,072.53	-€5,600.31	-€442,576.92

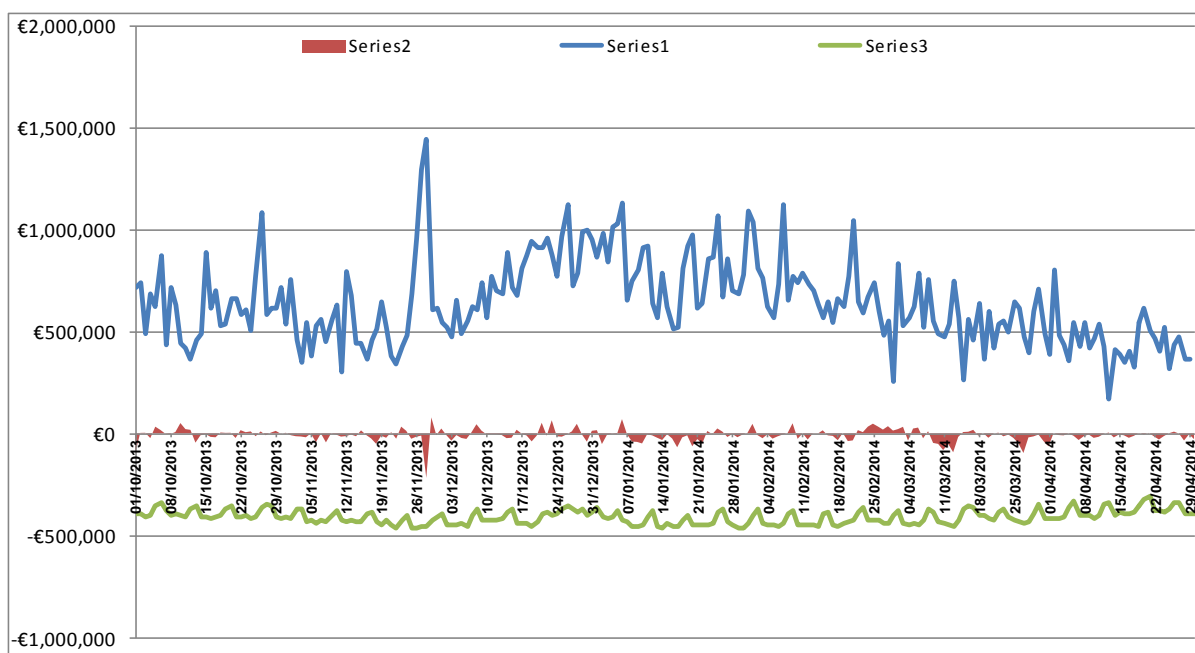
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08/02/2014	€1,126,907.52	€1,739.38	-€390,725.34
09/02/2014	€654,441.39	€49,019.47	-€374,840.33
10/02/2014	€769,918.90	-€26,132.58	-€448,629.96
11/02/2014	€743,530.15	€740.24	-€449,191.11
12/02/2014	€790,821.83	-€29,220.96	-€445,981.56
13/02/2014	€730,779.98	-€898.33	-€445,971.03
14/02/2014	€698,505.74	-€1,078.62	-€458,004.41
15/02/2014	€634,027.20	€15,043.38	-€395,023.34
16/02/2014	€566,490.77	-€9,244.53	-€388,347.11
17/02/2014	€650,193.75	-€11,780.63	-€447,842.88
18/02/2014	€546,435.98	-€32,788.64	-€454,115.28
19/02/2014	€661,463.66	€2,436.11	-€441,435.28
20/02/2014	€627,222.04	-€36,929.66	-€429,485.89
21/02/2014	€772,285.98	-€33,430.62	-€424,158.80
22/02/2014	€1,047,041.63	€15,965.37	-€384,643.79
23/02/2014	€647,688.10	€6,359.48	-€365,258.95
24/02/2014	€593,693.03	€32,810.10	-€427,977.07
25/02/2014	€673,092.66	€47,042.36	-€425,753.08
26/02/2014	€737,469.64	€33,371.98	-€427,771.92
27/02/2014	€599,427.86	€18,597.29	-€438,598.48
28/02/2014	€486,170.94	€35,027.71	-€436,398.07
01/03/2014	€551,273.11	€13,733.62	-€402,126.07
02/03/2014	€253,643.88	€21,061.91	-€380,791.02
03/03/2014	€838,469.31	€31,907.86	-€440,202.27
04/03/2014	€532,230.85	-€34,892.63	-€449,787.29
05/03/2014	€569,397.10	€23,555.80	-€438,585.32
06/03/2014	€627,047.33	€28,301.63	-€445,574.58
07/03/2014	€791,058.04	-€23,188.94	-€422,122.27
08/03/2014	€524,758.24	€10,428.20	-€373,550.80
09/03/2014	€757,796.75	-€45,810.91	-€384,189.33
10/03/2014	€554,422.76	-€50,527.70	-€435,033.51
11/03/2014	€490,320.26	-€80,176.23	-€441,302.05
12/03/2014	€474,930.61	-€50,381.14	-€448,528.36
13/03/2014	€535,105.11	-€90,832.92	-€452,732.25
14/03/2014	€750,264.06	-€16,885.72	-€425,233.91
15/03/2014	€565,699.81	€6,798.70	-€370,939.19
16/03/2014	€260,949.62	€8,107.37	-€352,376.53
17/03/2014	€564,851.76	€17,272.05	-€364,550.61
18/03/2014	€461,877.22	-€10,830.22	-€397,299.39
19/03/2014	€638,241.59	€2,103.82	-€404,183.93
20/03/2014	€366,615.71	-€20,983.02	-€414,658.34
21/03/2014	€596,761.02	-€1,539.05	-€422,392.61
22/03/2014	€421,180.67	€3,792.17	-€386,455.45
23/03/2014	€533,746.14	-€13,893.35	-€370,919.40
24/03/2014	€556,053.41	-€5,517.38	-€412,252.02
25/03/2014	€499,032.80	-€21,665.91	-€424,799.72
26/03/2014	€645,898.84	-€47,573.09	-€436,022.93
27/03/2014	€618,021.01	-€94,304.81	-€440,855.08
28/03/2014	€474,746.28	-€19,091.39	-€428,576.54
29/03/2014	€396,800.83	-€14,274.61	-€390,148.61
30/03/2014	€601,577.41	-€5,279.56	-€347,892.04
31/03/2014	€709,881.34	-€36,965.35	-€413,090.30

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01/04/2014	€493,506.80	-€62,047.30	-€420,270.95
02/04/2014	€390,689.63	€1,285.10	-€416,199.09
03/04/2014	€805,100.52	-€7,736.37	-€419,384.63
04/04/2014	€480,942.40	-€9,391.04	-€410,276.35
05/04/2014	€437,083.55	€30.09	-€365,827.83
06/04/2014	€361,422.25	-€11,522.38	-€330,325.19
07/04/2014	€548,948.94	-€31,726.93	-€399,979.51
08/04/2014	€424,359.83	-€13,685.38	-€398,299.01
09/04/2014	€549,232.01	-€5,003.33	-€401,907.82
10/04/2014	€419,557.15	-€21,387.03	-€413,392.52
11/04/2014	€464,961.09	-€16,069.99	-€403,394.20
12/04/2014	€538,279.15	-€1,971.04	-€349,655.90
13/04/2014	€429,660.02	€4,249.05	-€337,368.15
14/04/2014	€173,425.17	-€19,212.43	-€398,627.50
15/04/2014	€409,386.74	-€5,372.55	-€388,585.54
16/04/2014	€387,544.85	-€8,738.90	-€391,905.20
17/04/2014	€353,527.14	-€21,038.69	-€393,877.38
18/04/2014	€406,743.60	-€11,653.05	-€383,249.86
19/04/2014	€326,411.09	€1,994.99	-€351,174.26
20/04/2014	€542,284.63	-€4,968.48	-€321,329.94
21/04/2014	€612,266.82	€2,530.54	-€311,006.56
22/04/2014	€507,354.80	-€13,928.47	-€373,861.21
23/04/2014	€468,135.27	-€29,267.76	-€380,271.71
24/04/2014	€406,217.05	-€12,686.25	-€386,511.77
25/04/2014	€522,164.29	€890.22	-€371,853.20
26/04/2014	€316,953.67	€8,739.69	-€338,460.42
27/04/2014	€434,994.12	-€842.19	-€338,502.78
28/04/2014	€471,489.47	-€34,016.83	-€395,652.40
29/04/2014	€367,047.29	-€4,206.25	-€395,371.12
30/04/2014	€366,195.91	-€27,414.20	-€393,628.42

**Table 26 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges**

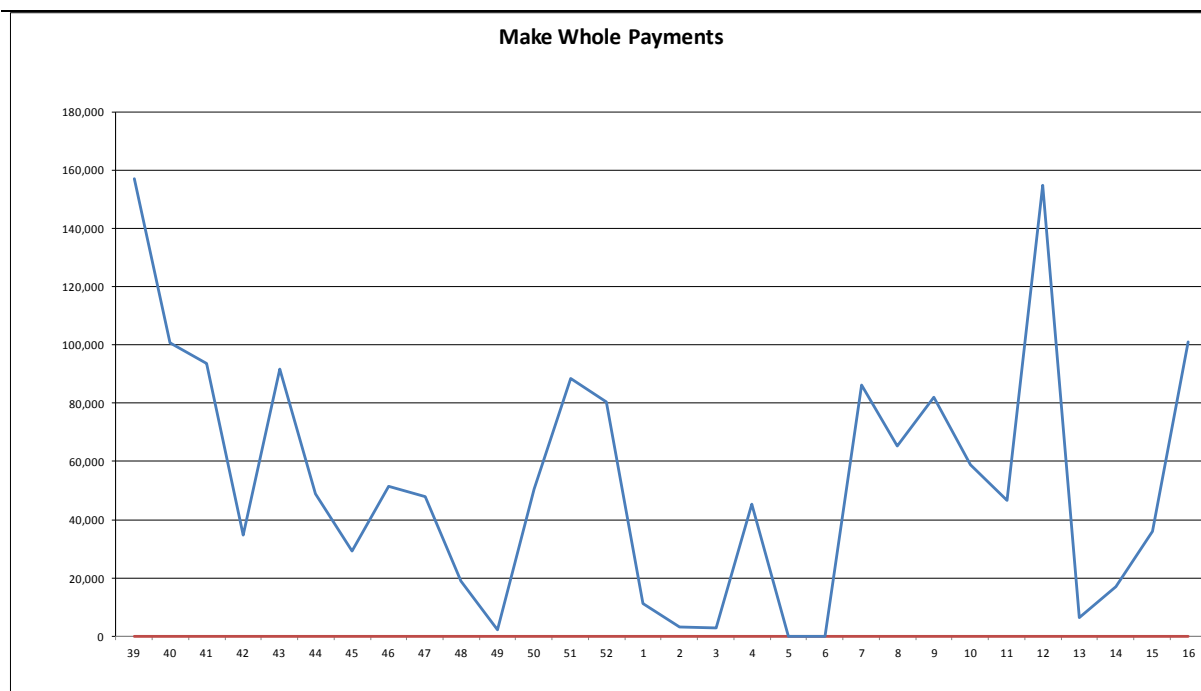


**Figure 24 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges**

Week No	Make Whole Payments
39	€157,154.18
40	€100,559.86
41	€93,700.82
42	€34,755.70
43	€91,699.33
44	€48,763.34
45	€29,311.13
46	€51,580.95
47	€47,924.57
48	€18,836.02
49	€2,320.81
50	€50,370.62
51	€88,625.27
52	€80,442.97
1	€11,198.45
2	€3,215.89
3	€2,907.21
4	€45,212.77
5	€0.24
6	€0.21
7	€86,074.69
8	€65,438.76
9	€82,008.00
10	€58,736.16
11	€46,720.09
12	€154,971.87
13	€6,346.71
14	€17,151.75
15	€35,987.24
16	€101,005.68

**Table 27 - Make Whole Payments**

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**Figure 25 - Make Whole Payments**

Week No	Testing Charges
39	€0.00
40	€0.00
41	€0.00
42	€0.00
43	€0.00
44	-€464.74
45	-€4,169.12
46	-€4,361.08
47	-€13,358.69
48	€0.00
49	-€983.42
50	€0.00
51	€0.00
52	€0.00
1	€0.00
2	€0.00
3	€6,382.50
4	€0.00
5	€0.00
6	€0.00
7	-€971.99
8	-€14,525.39
9	€0.00
10	-€10,047.37
11	€0.00
12	-€4,842.44
13	-€452.54
14	€0.00
15	€0.00
16	€0.00

Table 28 - Testing Charges

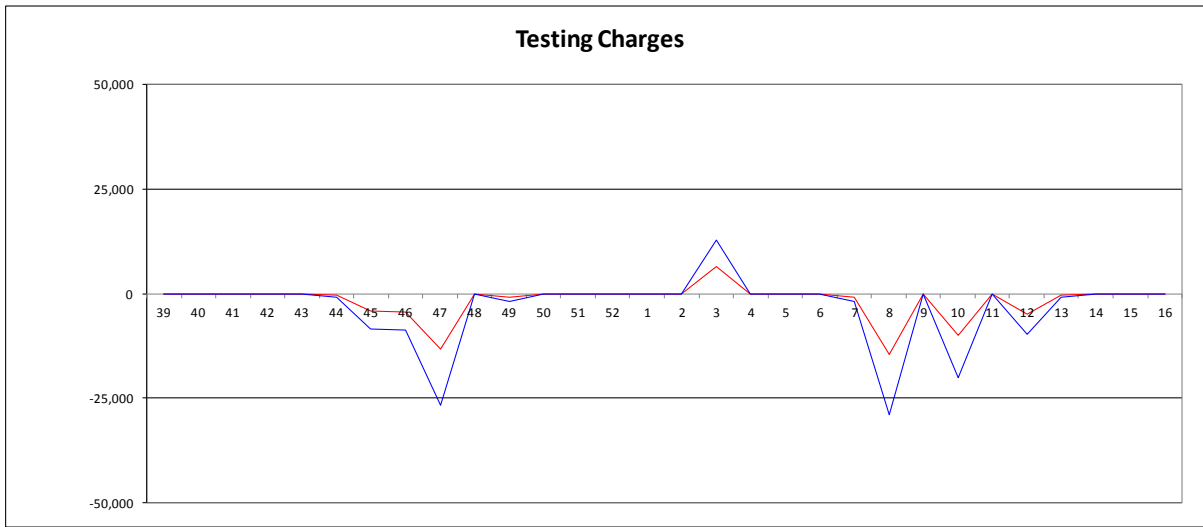


Figure 24 - Testing Charges

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

The table below lists for each unit the number of times in operations during March 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_400116	DSU_401400			30	30
PT_400106	DSU_401330		1		1
PT_400090	DSU_401270	30			30
PT_400106	DSU_401330	38			38
PT_400101	DSU_401300	30			30
PT_400021	GU_401380	25			25
PT_400021	GU_401600	2			2
PT_400024	GU_400120	30			30
PT_400024	GU_400121	30			30
PT_400026	GU_400140	30			30
PT_400030	GU_400180	39			39
PT_400030	GU_400181	40			40
PT_400030	GU_400182	41			41
PT_400030	GU_400183	39			39
PT_400030	GU_400200	41			41
PT_400030	GU_400201	42			42
PT_400030	GU_400202	38			38
PT_400030	GU_400203	41			41
PT_400030	GU_400210	39			39
PT_400030	GU_400211	40			40
PT_400030	GU_400220	38			38
PT_400030	GU_400221	39			39
PT_400030	GU_400240	40			40
PT_400030	GU_400250	39			39
PT_400030	GU_400251	39			39
PT_400030	GU_400252	40			40
PT_400030	GU_400260	40			40
PT_400030	GU_400270	39			39
PT_400030	GU_400271	39			39
PT_400030	GU_400272	41			41
PT_400030	GU_400280	39			39
PT_400030	GU_400281	39			39
PT_400030	GU_400290	40			40
PT_400030	GU_400300	39			39
PT_400030	GU_400311	41			41
PT_400030	GU_400323	39			39
PT_400030	GU_400360	38			38
PT_400030	GU_400361	38			38
PT_400030	GU_400362	38			38
PT_400030	GU_400363	40			40
PT_400030	GU_400370	39			39
PT_400030	GU_400850	42			42
PT_400032	GU_400380	28			28
PT_400032	GU_400430	30			30
PT_400034	GU_400940	31			31



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PT_400034	GU_401090	30			30
PT_400034	GU_401440	31			31
PT_400035	GU_400480	60			60
PT_400037	GU_400500	34			34
PT_400041	GU_400530	55			55
PT_400044	GU_400540	60			60
PT_400054	GU_400620	31			31
PT_400055	GU_400630	31			31
PT_400062	GU_401310	20			20
PT_400064	GU_400750	30			30
PT_400064	GU_400751	30			30
PT_400064	GU_400752	30			30
PT_400064	GU_400753	30			30
PT_400064	GU_400754	30			30
PT_400064	GU_400760	30			30
PT_400064	GU_400761	30			30
PT_400064	GU_400762	2			2
PT_400064	GU_400770	30			30
PT_400064	GU_400771	30			30
PT_400064	GU_400780	30			30
PT_400064	GU_400781	30			30
PT_400075	GU_400930	80			80
PT_400077	GU_400950	31			31
PT_400078	GU_401010	31			31
PT_400078	GU_401011	31			31
PT_500024	GU_500040	36			36
PT_500024	GU_500041	30			30
PT_500027	GU_500130	81			81
PT_500027	GU_500131	81			81
PT_500027	GU_500140	81			81
PT_500040	GU_500280	31			31
PT_500040	GU_500281	31			31
PT_500040	GU_500282	31			31
PT_500040	GU_500283	30			30
PT_500040	GU_500284	30			30
PT_500045	GU_500820	30			30
PT_500045	GU_500821	30			30
PT_500045	GU_500822	30			30
PT_500045	GU_500823	30			30
PT_500045	GU_500824	30			30
PT_500045	GU_500825	30			30
PT_500048	GU_500904	47			47
PT_500050	GU_501040	32			32
PT_500050	GU_501050	32			32
PT_500050	GU_501150	31			31
PT_500050	GU_501190	31			31
PT_500053	GU_501130	30			30
PT_500066	GU_501210	31			31
PT_400021	GU_400021			30	30
PT_400021	GU_400050			30	30
PT_400021	GU_400060			30	30
PT_400021	GU_400070			30	30

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PT_400021	GU_400080			30	30
PT_400021	GU_400591			30	30
PT_400021	GU_400600			30	30
PT_400021	GU_400910			30	30
PT_400021	GU_400920			30	30
PT_400021	GU_401080			30	30
PT_400021	GU_401380			6	6
PT_400025	GU_400130			30	30
PT_400030	GU_400310			30	30
PT_400032	GU_400380			2	2
PT_400032	GU_400430			1	1
PT_400034	GU_401090			1	1
PT_400038	GU_400550			30	30
PT_400050	GU_400650			30	30
PT_400050	GU_400660			30	30
PT_400050	GU_401000			30	30
PT_400050	GU_401060			30	30
PT_400050	GU_401150			30	30
PT_400050	GU_401240			30	30
PT_400050	GU_401250			30	30
PT_400062	GU_400730			30	30
PT_400062	GU_400731			30	30
PT_400062	GU_400840			30	30
PT_400062	GU_401310			11	11
PT_400066	GU_401320			30	30
PT_400066	GU_401370			30	30
PT_400066	GU_401410			30	30
PT_400066	GU_401420			30	30
PT_400066	GU_401430			30	30
PT_400082	GU_401100			30	30
PT_400087	GU_401230			30	30
PT_400123	GU_401470			30	30
PT_500021	GU_500010			30	30
PT_500021	GU_500740			30	30
PT_500021	GU_501160			30	30
PT_500032	GU_500211			30	30
PT_500032	GU_501120			30	30
PT_500039	GU_500270			30	30
PT_500040	GU_500283			1	1
PT_500040	GU_500284			1	1
PT_500044	GU_500720			30	30
PT_500047	GU_500790			30	30
PT_500048	GU_500901			5	5
PT_500048	GU_500902			5	5
PT_500048	GU_500903			5	5
PT_500061	GU_501170			30	30
PT_500062	GU_501180			30	30
	<b>Total</b>	<b>3303</b>	<b>1</b>	<b>1298</b>	<b>4602</b>
	<b>Percentage</b>	<b>71.77%</b>	<b>0.02%</b>	<b>28.21%</b>	<b>100%</b>

Table 29 - 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
Apr-13	ROI	£94,898,266.67	£24,603,683.43	£1,748,803.30	£804,681.41	£212,498.40	£9,193.22	£80,220.96	£20,929.63	£916.08	£48.99	£0.00	£0.00	122,379,242.09
	NI	£37,421,753.53	£7,712,011.14	£502,580.98	£118,654.43	£33,935.90	£1,120.40	£148,272.63	£40,588.36	£1,442.34	£0.00	£0.00	£0.00	45,990,359.71
May-13	ROI	£75,322,037.00	£18,225,439.33	£1,992,774.31	£1,158,818.37	£146,111.71	£15,573.02	£111,887.20	£28,127.61	£1,193.04	£152,210.12	£652.17	£0.00	97,154,823.88
	NI	£31,159,914.52	£5,593,300.54	£573,502.76	£82,329.55	£16,818.23	£626.00	£137,450.86	£29,792.11	£1,305.88	£59,854.79	£266.11	£0.00	37,655,161.35
Jun-13	ROI	£53,639,376.33	£23,772,504.60	£1,559,489.89	£540,072.04	£142,565.06	£7,016.24	£102,851.57	£13,071.70	£771.48	£998.47	£0.00	£0.00	79,778,717.38
	NI	£23,668,207.38	£5,028,617.48	£449,494.74	£57,959.79	£29,005.42	£934.94	£79,008.70	£15,600.91	£697.05	£156,734.88	£0.00	£0.00	29,486,261.29
Jul-13	ROI	£62,352,631.32	£18,204,333.81	£1,583,236.61	£975,631.58	£172,502.45	£7,848.20	£63,562.31	£16,373.37	£690.66	£904,389.43	£100,791.99	£0.00	84,381,991.73
	NI	£23,916,092.51	£6,533,901.21	£432,681.38	£92,026.95	£16,773.81	£694.39	£14,400.35	£3,081.82	£130.14	£204,040.13	£152.19	£0.00	31,213,974.88
Aug-13	ROI	£56,496,937.96	£18,035,531.87	£1,912,592.26	£627,109.44	£97,756.86	£9,727.88	£15,214,588.11	£12,273.00	£808.64	£0.00	£0.00	£0.00	92,407,326.02
	NI	£27,126,182.07	£5,775,203.97	£544,995.28	£40,928.60	£52,444.19	£3,674.11	£6,235,909.64	£5,483.53	£223.46	£0.00	£0.00	£0.00	39,785,044.85
Sep-13	ROI	£55,820,919.05	£17,453,995.09	£1,590,840.77	£871,046.03	£104,726.26	£5,239.42	£999,727.04	£165,703.71	£11,019.16	£0.00	£324,142.04	£0.00	77,347,358.57
	NI	£24,090,106.60	£5,421,565.87	£449,859.41	£232,772.49	£25,268.64	£1,265.21	£119,141.06	£13,356.37	£112.60	£0.00	£78,558.74	£0.00	30,432,006.99
Oct-13	ROI	£63,823,874.40	£19,230,805.66	£1,459,680.53	£665,669.95	£112,389.91	£4,962.50	£1,056,400.80	£25,936.14	£883.81	£1,141,610.70	£0.00	£0.00	87,522,214.40
	NI	£25,790,053.14	£5,439,039.21	£415,013.56	£77,362.24	£11,759.56	£437.51	£286,637.75	£5,978.86	£356.54	£375,245.80	£0.00	£0.00	32,401,884.17
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	£305,733.65	£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

Table 30 - 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
Apr-13	ROI	€100,948,367.03	€23,458,654.50	€807,793.67	€206,615.70	€7,720.47	€80,292.46	€20,961.03	€915.98	€15,278.90	€0.00	€0.00	€125,546,599.74
	NI	€35,045,424.03	€8,627,034.92	€119,014.70	€39,049.40	€1,115.60	€148,303.90	€40,600.32	€1,442.59	€132,224.24	€0.00	€0.00	€44,154,209.70
May-13	ROI	€79,510,881.07	€17,301,213.34	€1,115,672.13	€140,740.46	€14,573.32	€112,291.28	€35,779.70	€1,189.42	€224,599.73	€414.39	€0.00	€98,457,354.84
	NI	€31,347,092.48	€6,357,878.47	€111,377.22	€21,468.44	€1,305.48	€139,334.16	€23,234.36	€1,305.31	€1,089.56	€473.49	€0.00	€38,004,558.97
Jun-13	ROI	€62,856,676.93	€22,620,279.73	€495,012.84	€137,864.81	€7,303.60	€61,553.46	€12,972.87	€771.42	€7,168.09	€0.00	€0.00	€86,199,603.75
	NI	€20,005,532.91	€5,952,891.95	€123,662.20	€32,894.53	€1,059.57	€67,817.83	€15,562.24	€697.08	€160,132.43	€0.00	€0.00	€26,360,250.74
Jul-13	ROI	€64,373,421.59	€18,247,432.96	€964,041.86	€173,902.58	€7,906.35	€55,507.11	€17,916.41	€690.80	€924,828.19	€100,969.43	€0.00	€84,866,617.28
	NI	€24,434,329.71	€6,507,406.51	€94,802.99	€15,679.58	€710.78	€12,978.92	€1,777.48	€130.12	€206,821.52	€0.00	€0.00	€31,274,637.61
Aug-13	ROI	€63,981,400.27	€17,490,496.02	€574,908.31	€103,763.23	€10,083.25	€16,006,162.20	€10,709.76	€808.95	€986.69	€0.00	€0.00	€98,179,318.68
	NI	€23,798,215.28	€6,256,493.76	€56,417.87	€47,293.31	€2,768.68	€5,757,671.12	€6,849.67	€223.45	€18,449.41	€0.00	€0.00	€35,944,382.55
Sep-13	ROI	€62,051,092.84	€16,936,760.25	€1,068,679.90	€128,081.30	€7,144.86	€971,541.05	€151,818.04	€11,020.17	€0.00	€416,852.38	€0.00	€81,742,990.79
	NI	€21,229,997.89	€5,817,250.40	€156,880.27	€5,515.98	€108.46	€19,000.09	€25,023.77	€112.65	€0.00	€92.64	€0.00	€27,253,982.15
Oct-13	ROI	€70,147,828.86	€18,147,894.98	€704,498.56	€112,615.82	€6,476.59	€907,795.23	€25,996.67	€883.97	€1,040,063.76	€0.00	€0.00	€91,094,054.44
	NI	€24,161,387.51	€6,338,740.34	€71,964.41	€11,643.56	€445.89	€216,015.53	€5,767.60	€356.54	€303,081.27	€0.00	€0.00	€31,109,402.65
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

Table 31 - 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
04/10/2013	38	-€674,643.65	-€7,304.11
11/10/2013	39	€1,470,454.75	€282,967.81
18/10/2013	40	€1,565,540.72	€261,420.05
25/10/2013	41	€1,216,501.47	-€203,049.68
01/11/2013	42	€1,582,640.50	€227,924.39
08/11/2013	43	€2,175,993.38	€368,919.09
15/11/2013	44	€234,229.47	€89,641.72
22/11/2013	45	€893,912.83	€182,707.89
29/11/2013	46	€112,506.60	€1,606.89
06/12/2013	47	€2,647,032.97	€215,777.46
13/12/2013	48	€752,640.18	€133,576.36
20/12/2013	49	€1,841,603.06	€263,539.44
03/01/2014	50	€2,846,523.20	€390,127.91
03/01/2014	51	€3,745,323.83	€500,276.98
10/01/2014	52	€3,597,778.03	€450,932.98
17/01/2014	1	€3,228,601.37	€473,806.13
24/01/2014	2	€1,326,598.20	€473,806.13
31/01/2014	3	€2,554,714.89	€273,646.36
07/02/2014	4	€2,844,930.59	€413,677.68
14/02/2014	5	€2,595,824.97	€344,267.69
21/02/2014	6	€2,011,856.07	€289,132.53
28/02/2014	7	€1,795,332.18	€260,445.50
07/03/2014	8	€1,243,165.04	€640,903.32
14/03/2014	9	€842,764.84	€498,771.98
21/03/2014	10	€566,483.84	€51,979.84
28/03/2014	11	€604,404.46	€287,653.95
04/04/2014	12	€1,005,736.03	€ 304,802.51
11/04/2014	13	€508,440.18	€ 423,038.98
18/04/2014	14	-€217,860.87	€ 56,687.76
25/04/2014	15	€843,391.20	-€ 37,846.05

**Table 32 – 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 2013	-€304.76	-€94.05
November 2013	-€372.56	€2,045.28
December 2013	-€394.40	€-454.73
January 2014	-€424.40	-€1,164.62
February 2014	-€330.78	-€1,955.12
March 2014	-€332.7	€5,757.11
April 2014	-€294.96	-€3,446.68

**Table 33 - 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
April 2013	-	-	-	-	09/04/2013 29/04/2013
May 2013	-	-	-	-	-
June 2013	-	18/06/2013	-	-	-
July 2013	-	-	-	25/07/2013	16/07/2013
August 2013	-	13/08/2013	14/08/2013	-	05/08/2013
September 2013	-	24/09/2013	05/09/2013	12/09/2013	03/09/2013 30/09/2013
October 2013	-	-	30/10/2013	07/10/2013, 24/10/2013 & 30/10/2013	-
November 2013	-	-	14/11/2013 20/11/2013	14/11/2013	17/11/2013 30/11/2013

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Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
December 2013	02/12/2013 03/12/2013	02/12/2013	02/12/2013 21/12/2013	-	19/12/2013
January 2014	07/01/2014	-	05/01/2014 19/01/2014	04/01/2014 19/01/2014 21/01/2014	-
February 2014	26/02/2014	-	-	-	-
March 2014	-	26/03/2014 27/03/2014	15/03/2014 27/03/2014	22/03/2014	13/03/2014
April 2014	-	11/04/2014	-	07/04/2014	

Table 34 - MIP Algorithms

Operational Date	Trade Date	Run Type	LR Peak SMP	MIP Peak SMP	Published
04/03/2013	05/03/2013	EA1	€586.55	€301.78	MIP
11/03/2013	11/03/2013	WD1	€629.46	€333.37	MIP
11/03/2013	12/03/2013	EA2	€561.28	€221.27	MIP
12/03/2013	11/03/2013	EP1	€1,350.64	€699.49	MIP
15/03/2013	11/03/2013	EP2	€1,350.64	€699.49	MIP
17/03/2013	18/03/2013	EA1	€576.04	€346.00	MIP
18/03/2013	19/03/2013	EA2	€682.41	€346.00	MIP
19/03/2013	18/03/2013	EP1	€576.04	€372.23	MIP
20/03/2013	24/03/2013	EP2	€625.32	€168.48	MIP
21/03/2013	21/03/2013	WD1	€596.97	€259.45	MIP
27/03/2013	26/03/2013	EP1	€508.83	€265.65	MIP
30/03/2013	30/03/2013	WD1	€556.86	€396.00	MIP
30/03/2013	29/03/2013	EP1	€732.81	€414.64	MIP
30/03/2013	26/03/2013	EP2	€509.19	€265.65	MIP
09/04/2013	09/04/2013	WD1	€710.75	€123.59	MIP
29/04/2013	29/04/2013	WD1	€1000.00	€168.92	MIP
17/06/2013	18/06/2013	EA2	€576.24	€84.08	MIP
16/07/2013	16/07/2013	WD1	583.17	48.11	MIP
29/07/2013	25/07/2013	EP2	€591.29	€97.59	MIP
05/08/2013	05/08/2013	WD1	€1,000	€47.02	MIP
12/08/2013	13/08/2013	EA2	€591.14	€91.37	MIP
15/08/2013	14/08/2013	EP1	€590.51	€79.91	MIP
03/09/2013	03/09/2013	WD1	€591.42	€96.56	MIP
06/09/2013	05/09/2013	EP1	€598.70	€116.29	MIP
16/09/2013	12/09/2013	EP2	€1000.00	€313.90	MIP
23/09/2013	24/09/2013	EA2	€609.58	€98.56	MIP



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30/09/2013	30/09/2013	WD1	-€100.00	€31.47	MIP
11/10/2013	07/10/2013	EP2	€1000.00	€77.71	MIP
28/10/2013	24/10/2013	EP2	€517.40	€517.40	MIP
31/10/2013	30/10/2013	EP1	€596.88	€363.43	MIP
03/11/2013	30/10/2013	EP2	€596.88	€363.43	MIP
15/11/2013	14/11/2013	EP1	€555.85	€511.00	MIP
18/11/2013	14/11/2013	EP2	€679.09	€511.00	MIP
17/11/2013	17/11/2013	WD1	€638.64	€572.75	MIP
21/11/2013	20/11/2013	EP1	€ -100.00	€268.28	MIP
30/11/2013	30/11/2013	WD1	€568.78	€283.21	MIP
01/12/2013	02/12/2013	EA1	€569.78	€264.13	MIP
01/12/2013	02/12/2013	EA2	€569.78	€265.85	MIP
02/12/2013	02/12/2013	WD1	€651.62	€243.25	MIP
02/12/2013	03/12/2013	EA1	€1000.00	€311.25	MIP
21/12/2013	21/12/2013	WD1	€637.14	€308.15	MIP
23/12/2013	19/12/2013	EP2	€633.99	€371.89	MIP
08/01/2014	04/01/2014	EP2	€683.07	€550.00	MIP
06/01/2014	05/01/2014	EP1	€683.07	€550.86	MIP
06/01/2014	07/01/2014	EA1	€609.67	€238.04	MIP
20/01/2014	19/01/2014	EP1	€678.86	€592.00	MIP
23/01/2014	19/01/2014	EP2	€678.86	€592.00	MIP
25/01/2014	21/01/2014	EP2	€683.13	€405.24	MIP
26/02/2014	27/02/2014	EA1	€567.34	€172.40	MIP
13/03/2014	09/03/2014	EP2	€1000.00	€359.19	MIP
15/03/2014	15/03/2014	WD1	€1166.98	€101.84	MIP
22/03/2014	21/03/2014	EP1	€583.98	€337.87	MIP
26/03/2014	27/03/2014	EA2	€1000.00	€337.87	MIP
27/03/2014	27/03/2014	WD1	€1000.00	€486.54	MIP
27/03/2014	28/03/2014	EA2	€1000.00	€179.49	MIP
10/04/2014	11/04/2014	EA2	€539.67	€143.88	MIP
03/04/2014	07/04/2014	EP2	€573.67	€670.25	MIP

**Table 35 - MIP Vs LR Peak Price Comparison**