Market Operator Monthly Report

November 2014

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Market Operator Monthly Report

1   Executive Summary

This Single Electricity Market Operator's (SEMO) report covers the month of operation of November 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 November 2014, Settlements had one late publication as per the Trading and Settlement code for Indicative Settlement.

169 general queries were received in November 2014. During the same period 172 general queries were resolved.

There were six defaults by Participants during November 2014. The largest of these was a Capacity Initial invoice €434,854.42 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		Major	Minor
Area			
Data Providers		-	6
Market Participants	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	6	-
	Credit Risk Management	2	-
SEMO	Pricing & Scheduling	-	3
	Settlement	-	1
	Funds Transfer	-	-
	Credit Risk Management	-	-
	Other	-	-
Total		**8**	**10**

Table 1 - Code Breaches

Further details of each of the code breaches noted above are set out in <u>Appendix A</u>

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.

Joining and Terminating Parties and Units

No Party joined the Market in November 2014.

There were no terminating parties in November 2014.

Two new units became effective in the Market in November 2014

- Mount Lucas Wind Farm – APTG – (PT_400148 / GU_401690)
- Bruckana Wind Farm – APTG – (PT_400150 / GU_401700)

Two units de-registered from the Market in November 2014

- Mount Lucas Wind Farm – APTG – (PT_400128 / GU_401510)
- Bruckana Wind Farm – APTG – (PT_400131 / GU_401520)

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
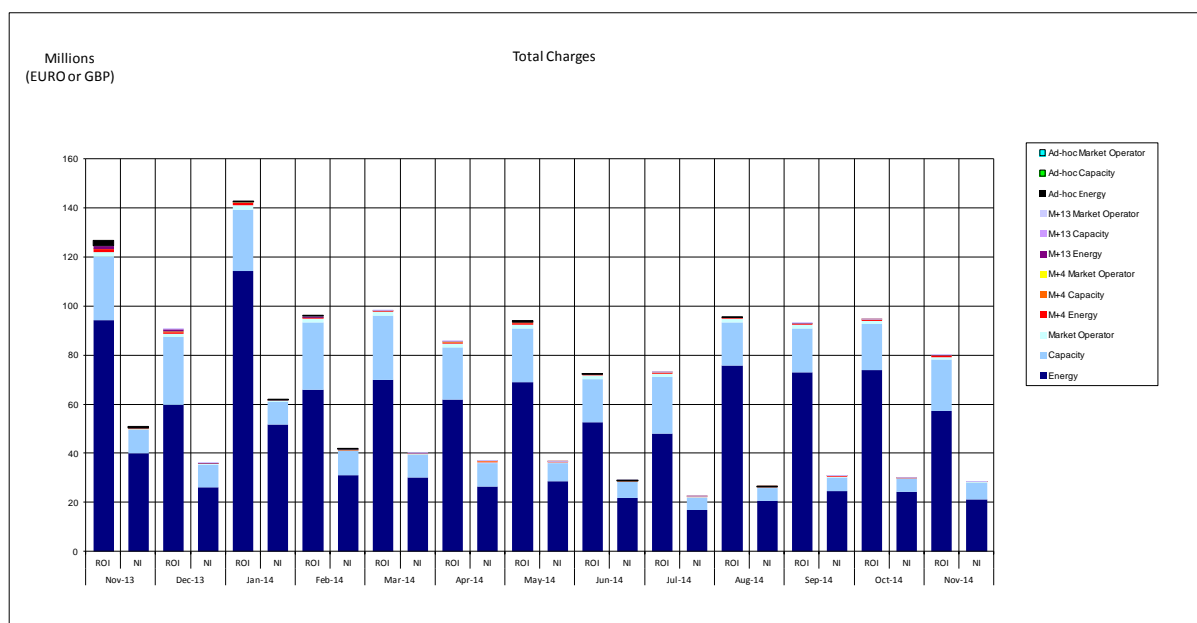
Figure 1 - Total Charges for Each Currency

Market	November 2014	
	ROI	**NI**
Energy	€57,386,075	£21,159,633
Capacity	€21,066,561	£6,853,966
Market Operator	€829,483	£220,983
M+4 Energy	€519,431	£50,691
M+4 Capacity	€147,152	£27,250
M+4 Market Operator	€6,123	£653
M+13 Energy	€79,435	£26,795
M+13 Capacity	€23,623	£6,589
M+13 Market Operator	€721	£253
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
Total	**€80,058,604**	**£28,346,815**

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
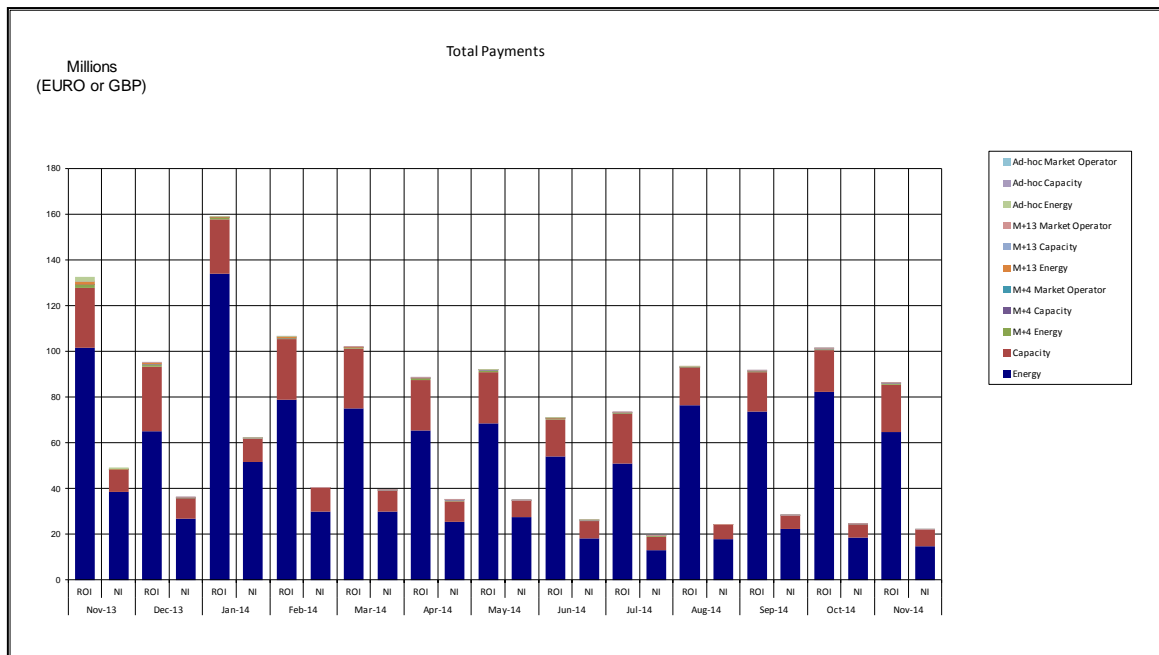
Figure 2 - Total Payments for Each Currency

Market	November 2014	
	ROI	**NI**
Energy	€64,818,089	£14,616,606
Capacity	€20,480,937	£7,312,194
M+4 Energy	€530,387	£50,961
M+4 Capacity	€157,754	£18,898
M+4 Market Operator	€6,117	£653
M+13 Energy	€78,674	£37,499
M+13 Capacity	€23,607	£6,593
M+13 Market Operator	€1,290	£254
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
Total	**€86,096,855**	**£22,043,658**

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:

November 2014	
Imbalance (Energy Only)	-€21,687,324.26

Table 4 - Balancing Costs for Energy Settlement
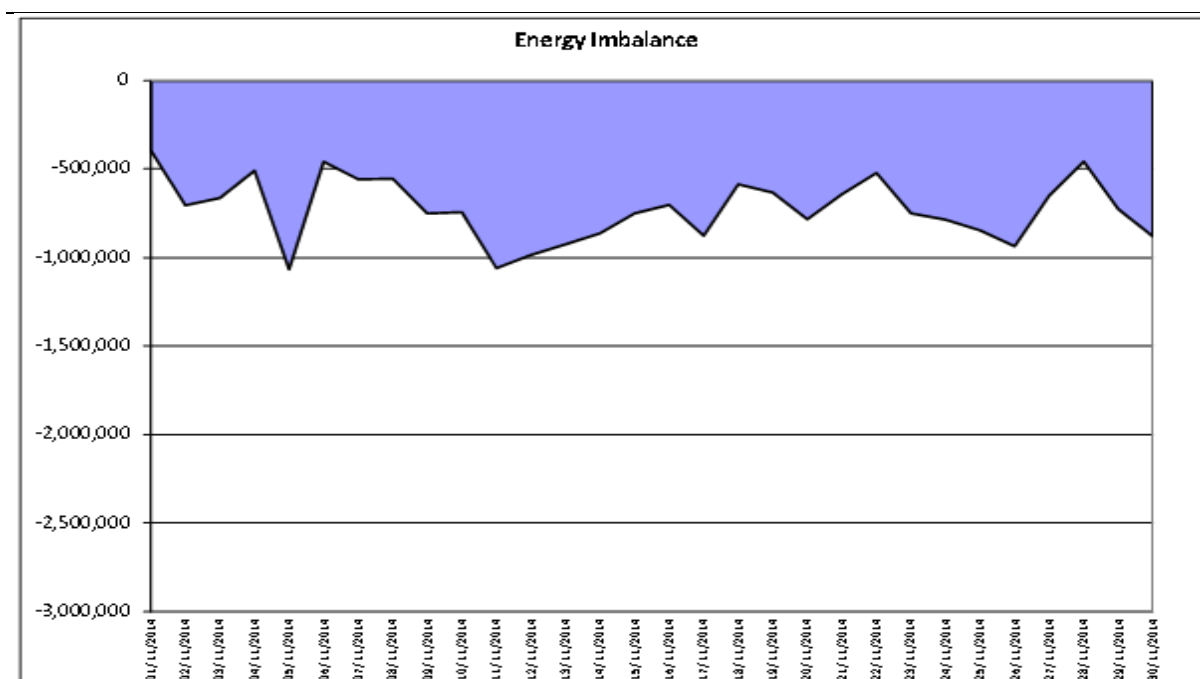
Figure 3 – Energy Imbalances

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:

- 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
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

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:

November 2014	
Capacity Charges	-€56,831,905.18
Capacity Payments	€56,831,557.06
Balancing Costs	-€348.12
VAT	-€0.03

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.

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

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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	07/11/2014	43	£19,975.49	£8,089.26	£ 28,064.75
08/11/2014	14/11/2014	44	-£5,054.30	-£6,368.74	-£11,423.03
15/11/2104	21/11/2014	45	-£6,242.88	-£32,250.45	-£38,493.33
22/11/2014	28/11/2014	46	£26,590.86	£5,349.95	£31,940.81

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 £28,064.75 and a cost of -£38,493.33. 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
09/12/2014	November 2014	£94,485.60

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

€31,749,778.87	-€639,670.14	€1,362,917.70	-€31,071,265.71

Table 9 – Cumulative Imperfections Costs Vs Budget

This is demonstrated in the figure below.
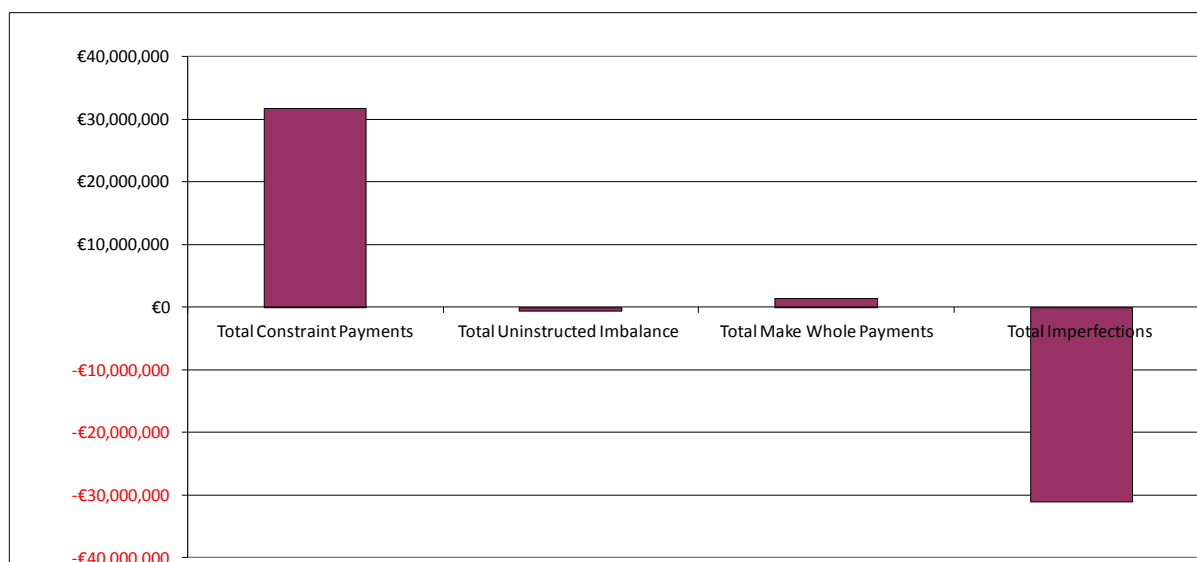
Figure 4 - Cumulative Imperfections Costs Vs Budget

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 July 2014 and M+13 resettlement period of October 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.
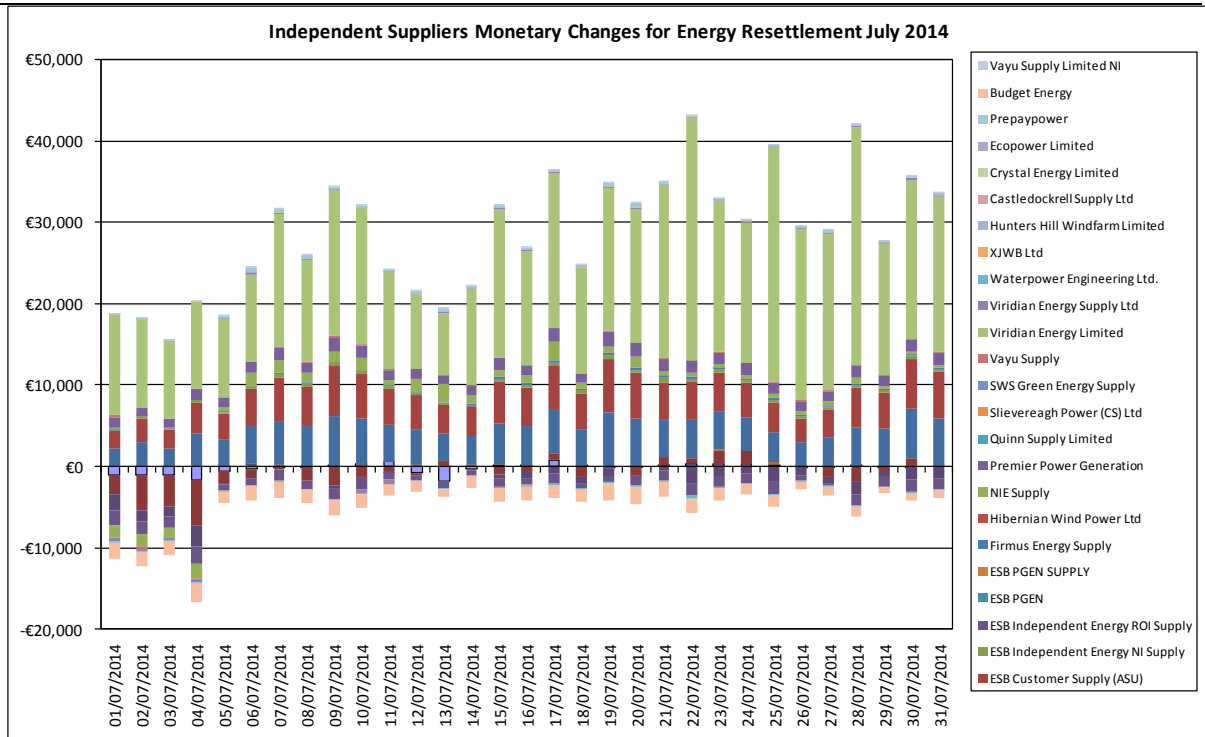
Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement – July 2014

The above variances relates purely to rounding for Participants between Initial and M+4 Resettlement.
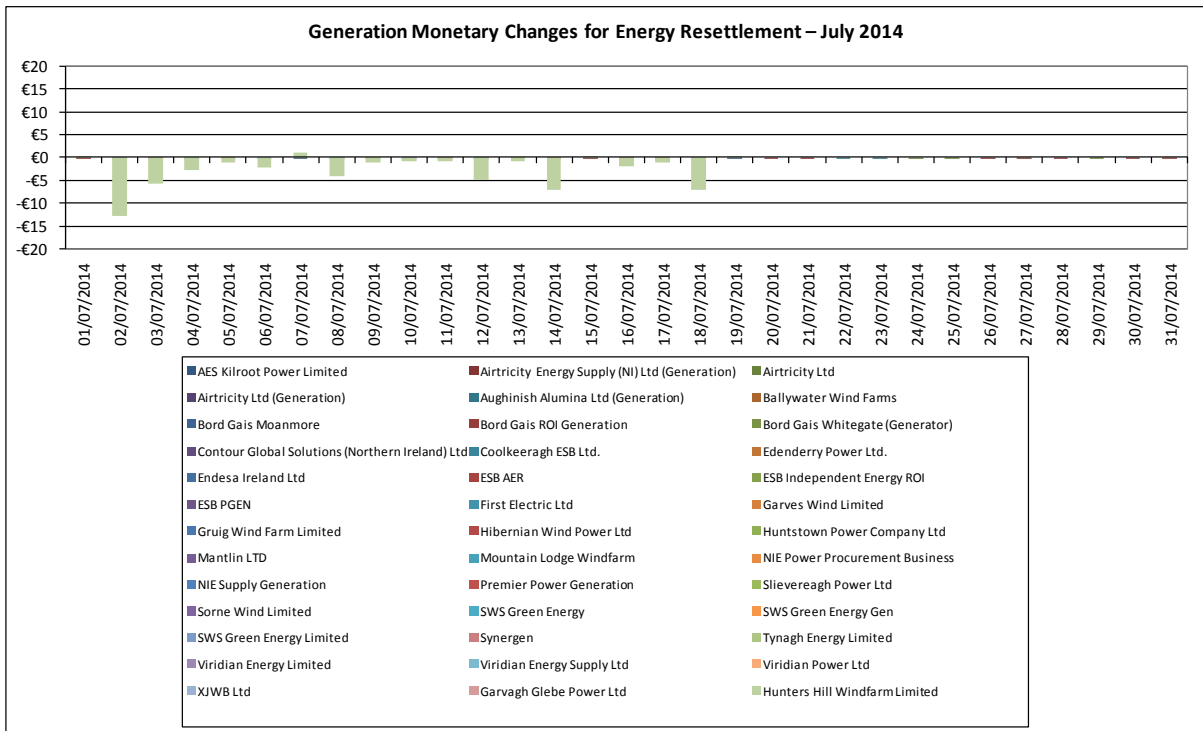
Figure 6 – Generation Monetary Changes for Energy Resettlement – July 2014

Changes noted above are driven by updates to Meter Data.
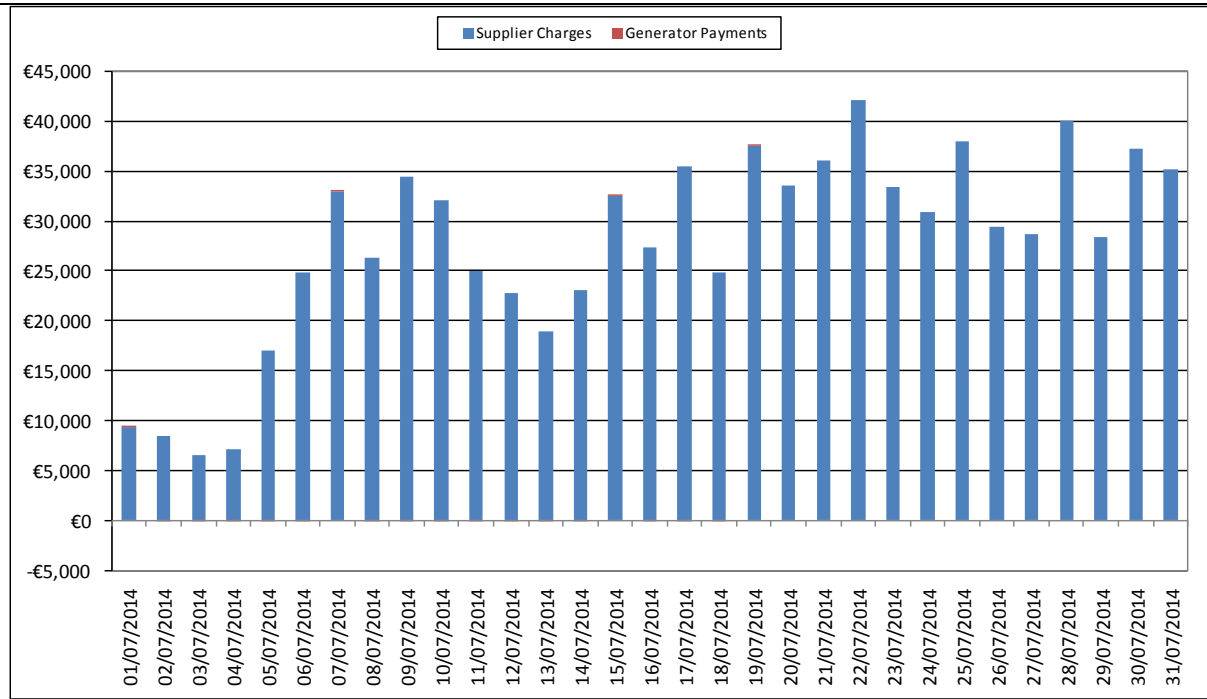
Figure 7 – Total Monetary Changes for Energy Resettlement – July 2014

M+13 Resettlement
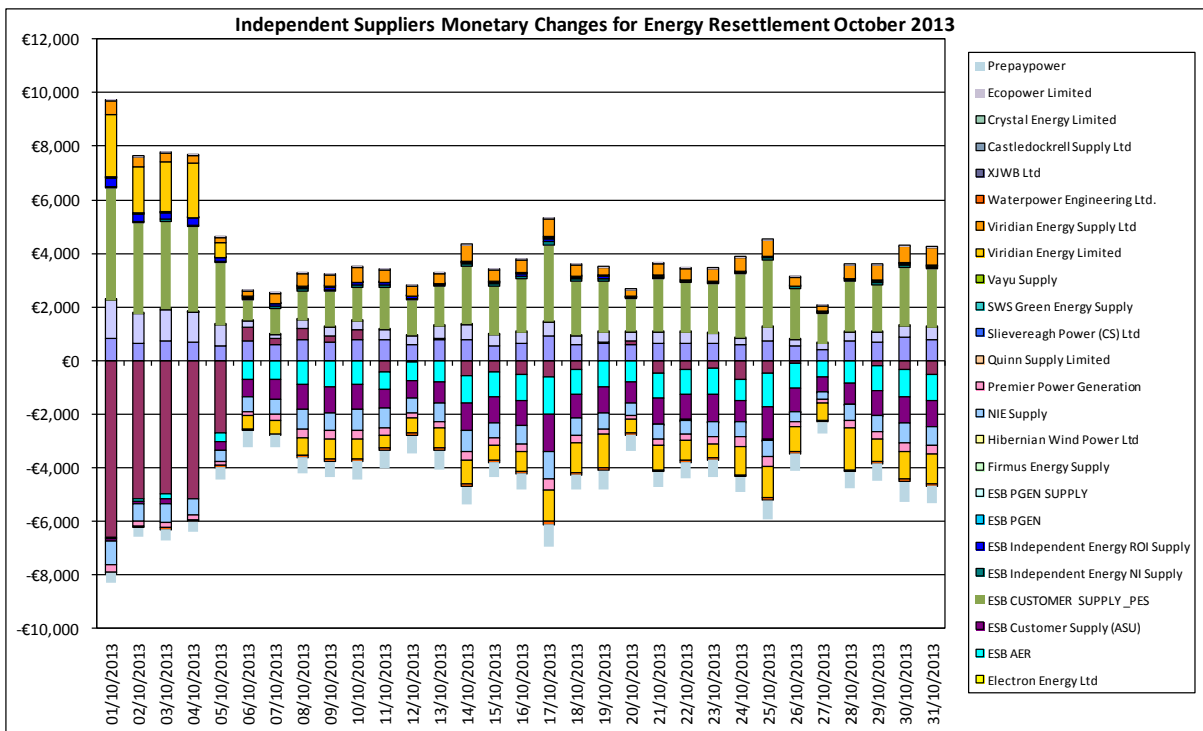
Figure 8 - Independent Suppliers Monetary Changes for Energy Resettlement – October 2013

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

There were no Generation Monetary Changes for Energy Resettlement between M+4 and M+13 Resettlement for October 2013.
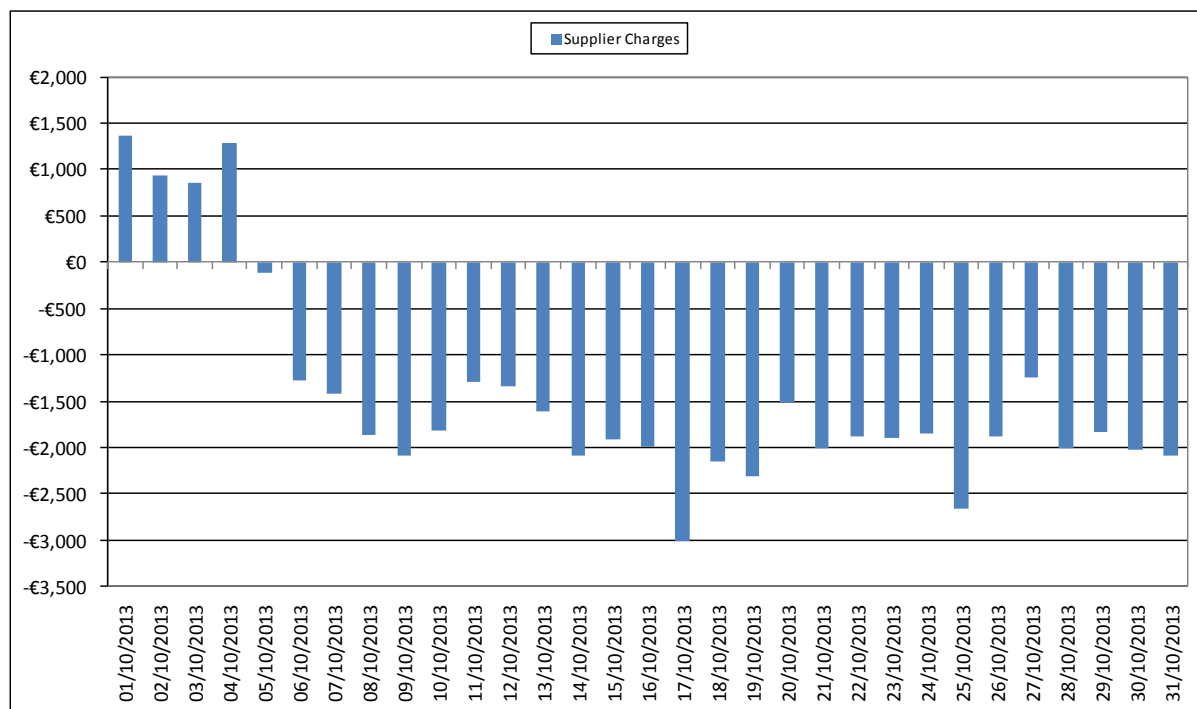
Figure 10 - Total Monetary Changes for Energy Resettlement –October 2013

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.
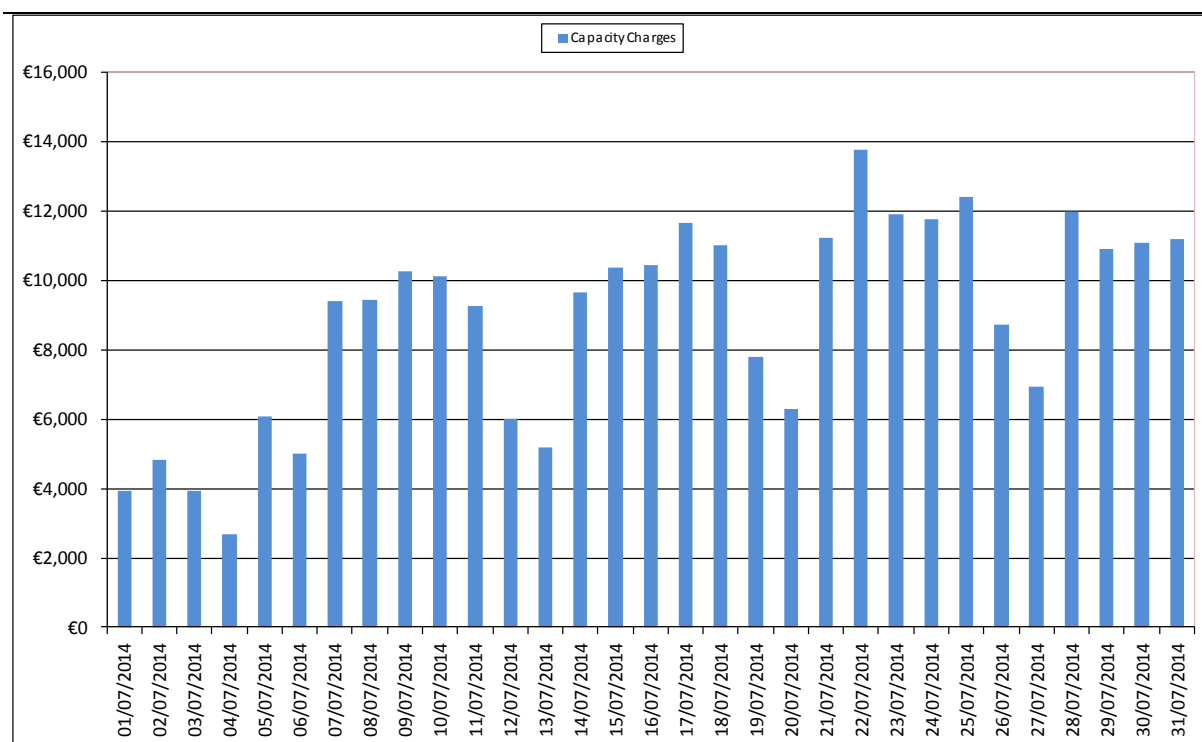
Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement – July 2014
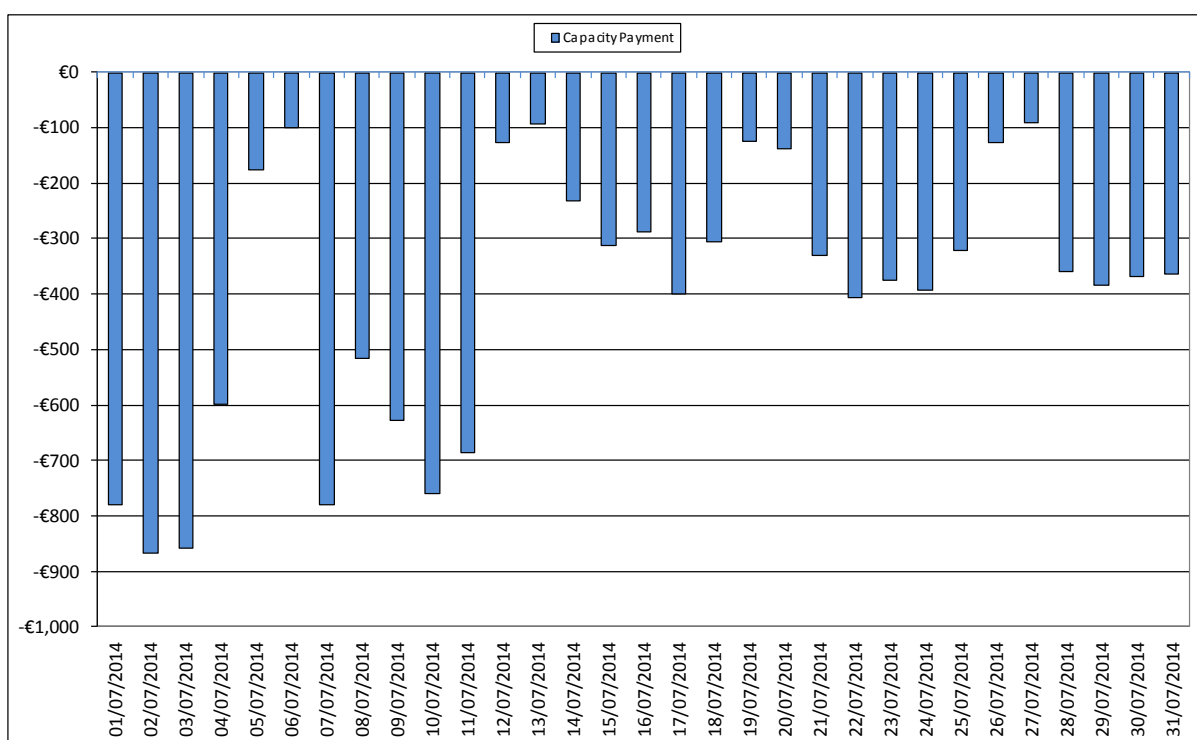
Figure 12 - All Generation Monetary Change for Capacity Resettlement – July 2014

The changes above are driven by updated meter data for Autonomous Price Taker Generators.
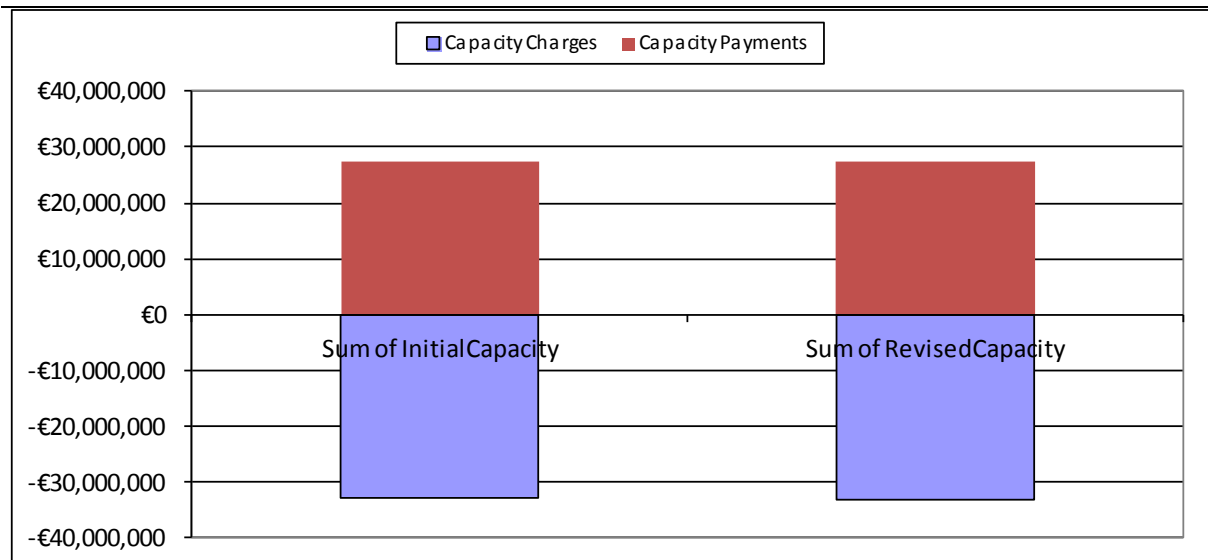
Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement July 2014

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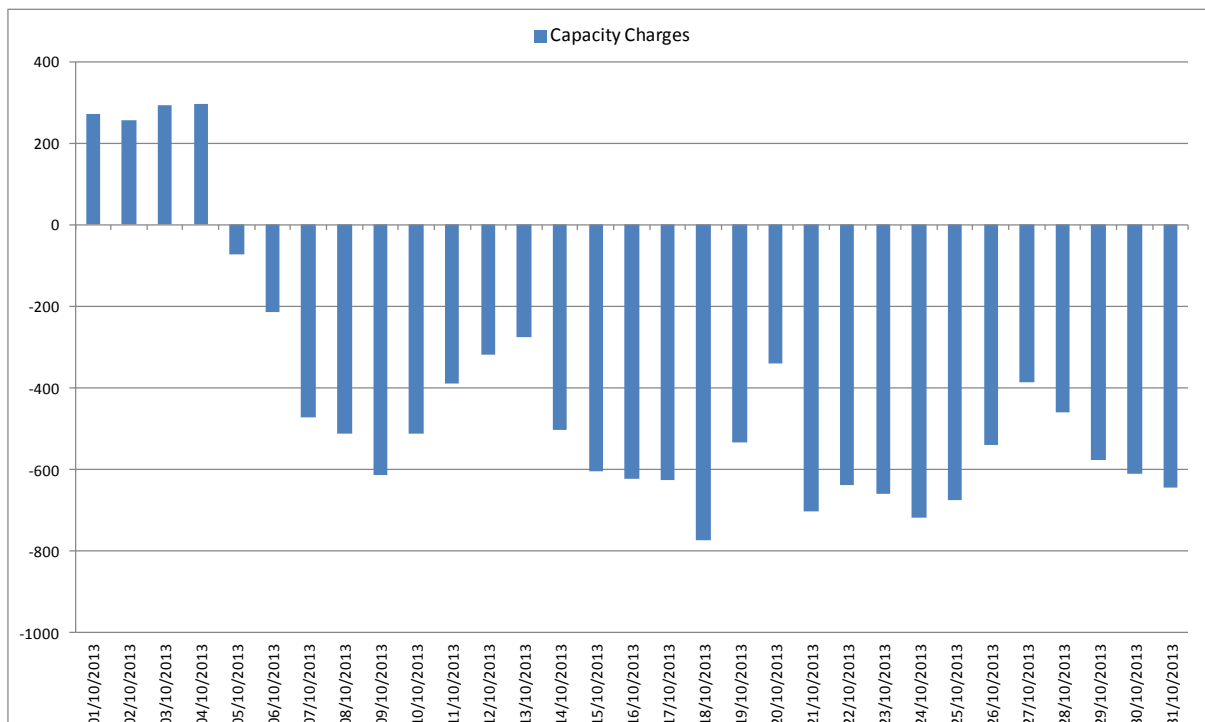
Figure 14 - Independent Suppliers Monetary Changes for Capacity Resettlement – October 2013

The changes above are driven by updated Meter Data for Supplier units
There were no Generation Monetary Changes for Capacity Resettlement between M+4 and M+13 Resettlement for October 2013.
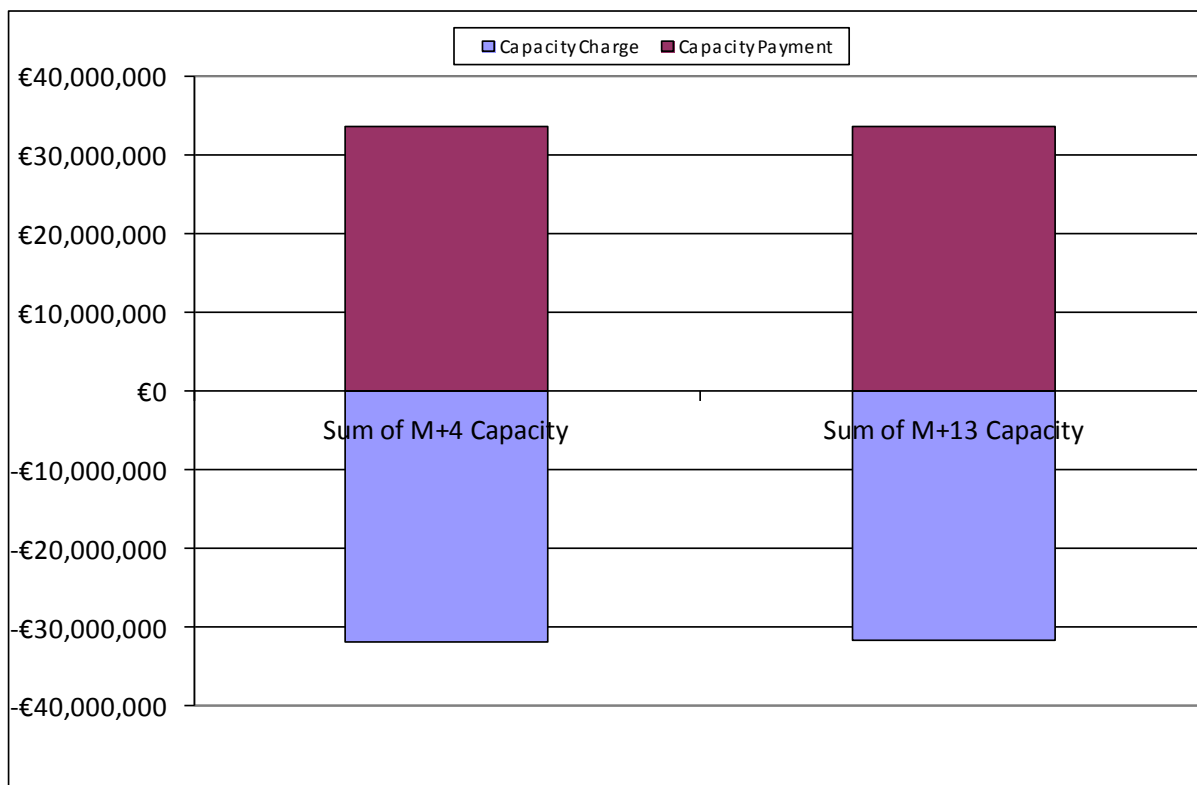
Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – October 2013

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 November 2014.

Market Helpdesk Report: 01/11/14 to 30/11/14

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	169	155	14	172	1.50	158
Important	0	0	0	0	0.00	0
Urgent	0	0	0	0	0.00	0
Settlement	18	11	7	13	4.14	13
Credit	0	0	0	0	0.00	0
Dispute	0	0	0	0	0.00	0
Data	1	1	0	3	8.94	1
Total/Average	**188**	**167**	**21**	**188**	**2.92**	**172**

Table 10 – Helpdesk Statistics

Definitions:
- *Resolved within the Period* refers to queries raised and resolved within the calendar month of November 2014.
- *Resolved in the Period* refers to queries resolved within November 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 November 2014.
- *Not Resolved* refers to queries raised but not resolved within November 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 1.41 working days in November to 1.50 from 2.91 working days in October. SEMO has a metric to resolve General Queries within 20 Working Days. These include queries received over the phone and e-mail.

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 November 2014 with regard to formal Settlement Queries.

5. Disputes and Queries

List of Disputes by Topic

As of the 10th December there are no outstanding Disputes.

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 November 2014.

Topic	Number Of Queries
Dispatch Instructions	1

Table 12 – Upheld Data Queries by topic

5.1.2 Settlement Queries

There were 17 Settlement Queries raised in November 2014. Of the 17, one was withdrawn, one was not upheld, 12 were resolved and three are still open.

Topic	Number Of Queries
Availability	4
Dispatch Instructions	2
Meter Generation	6

Table 13 –Upheld Settlement Queries by topic

- Four queries relating to Availability were raised. Two of these were deemed to be of low Materiality and will be settled in Initial and M+4 respectively. Two were deemed to be of no Materiality.

- Two queries relating to Dispatch Instructions were raised. One was deemed to be of low Materiality and will be settled in M+4, the other was of no Materiality.

- Six queries relating to Meter Generation were raised. All six queries were deemed to be of low Materiality and will be settled in M+4.

Unresolved Queries

There are three unresolved Data Queries as at 10th December, 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, 74.42% of data used was submitted by Participants through the normal Bid-Offer process. 25.58% 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 November 2014.

There were no Resettlement runs carried out in November 2014.

6.1.2 System Errors

There was one potential defect identified following the SEM 2.5.0 release. This may require Resettlement. Once confirmed we will alert operations. This may also require re-pricing. Yet to be confirmed.

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 November 2014.

6.2.1 MSP Postings November 2014

Process	On Time	< 1 hr late	> 1 hr late	Not done
Gate Close EA	30-31	1-31	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	97%	3%	0%	0%
Post EA1	100%	0%	0%	0%
Post EA2	100%	0%	0%	0%
Post WD1	100%	0%	0%	0%
Post EP1	97%	3%	0%	0%
Post EP2	100%	0%	0%	0%

Table 15 - Operational Timings (% on time)

Ex-Ante 1 (EA1)

Figure 17 – Ex-Ante 1

Ex-Ante 2 (EA2)
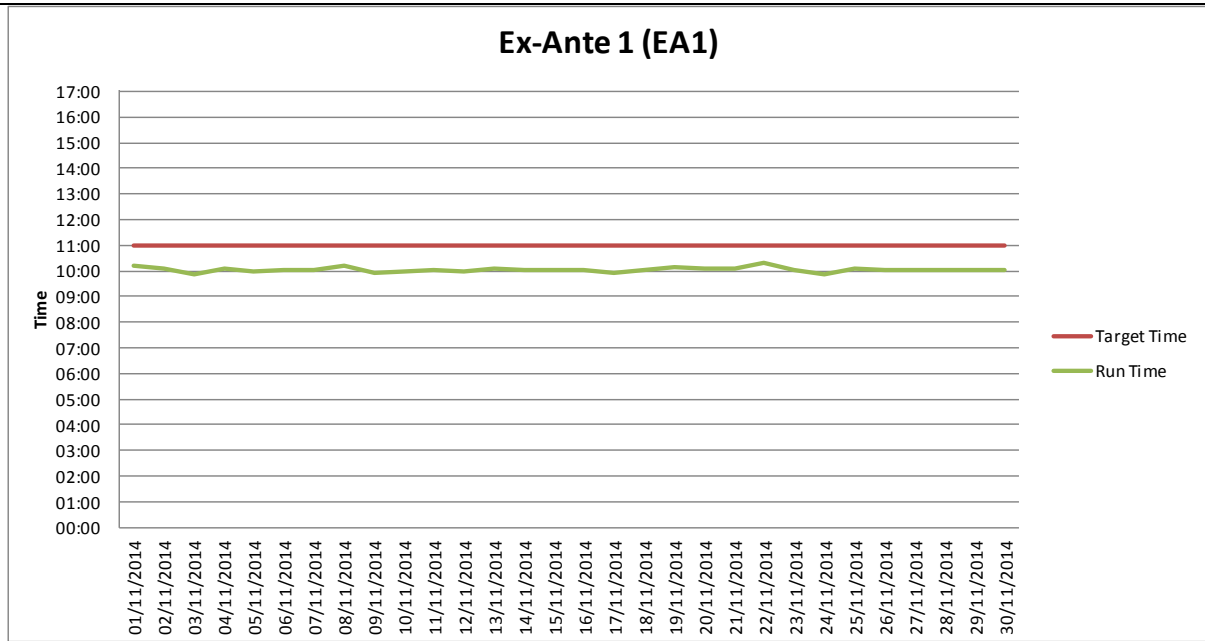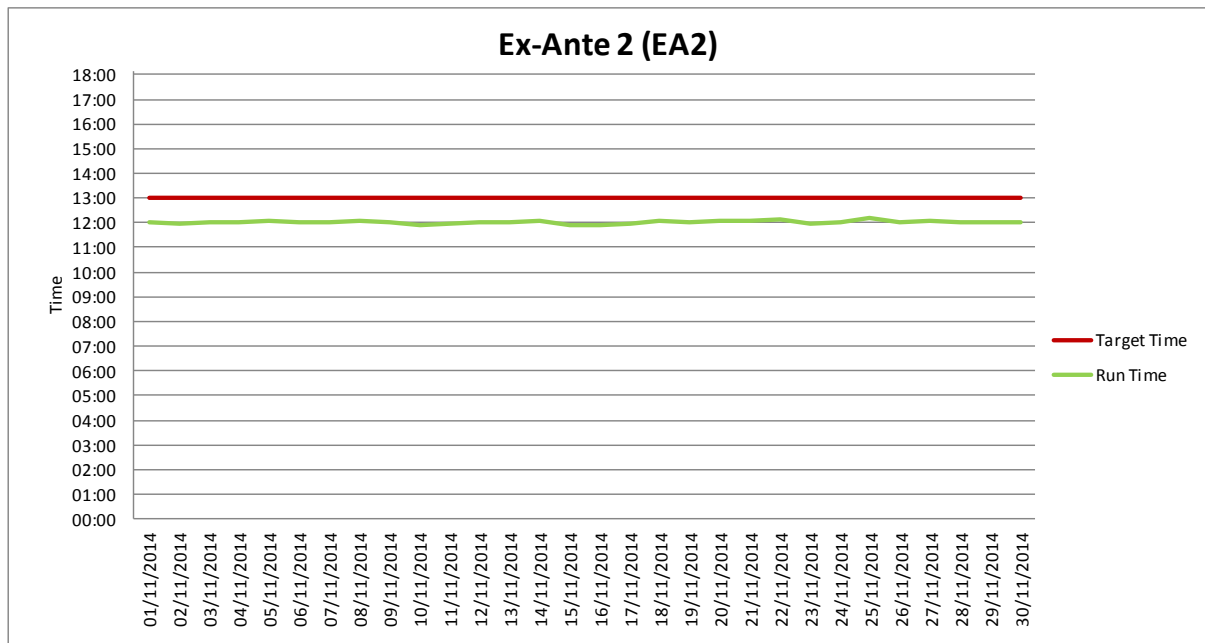
Figure 18 – Ex-Ante 2
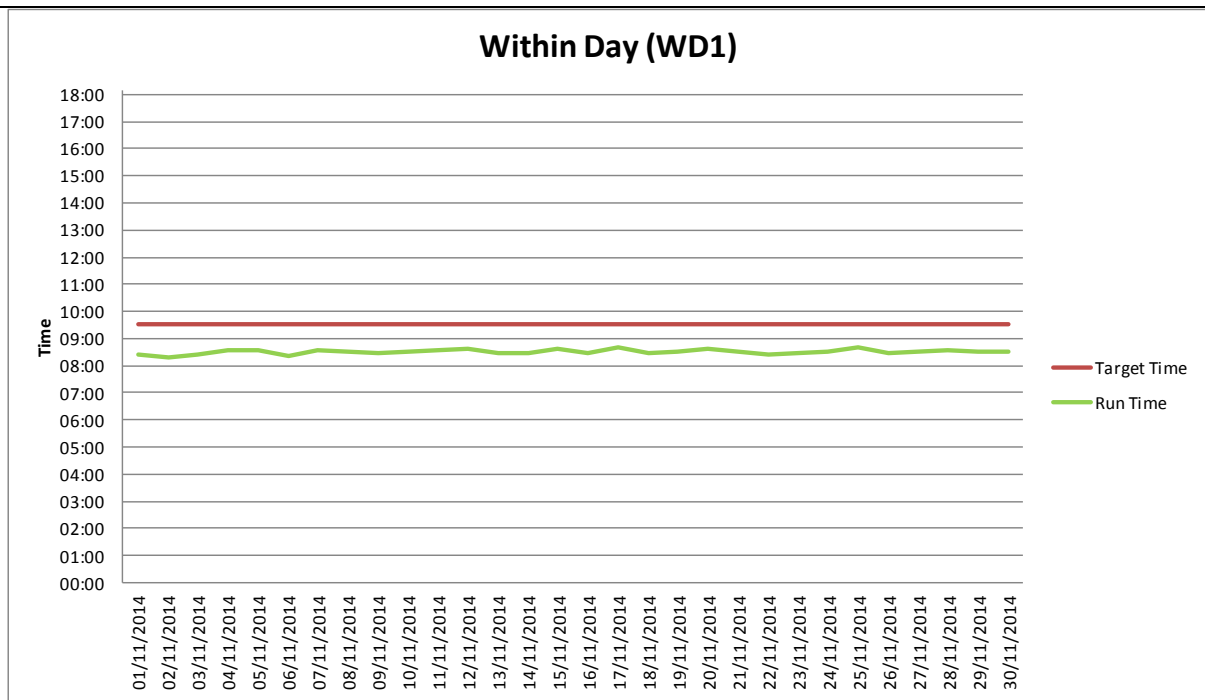
Within Day (WD1)

Figure 19 – Within Day 1

Ex-Post Indicative (EP1)
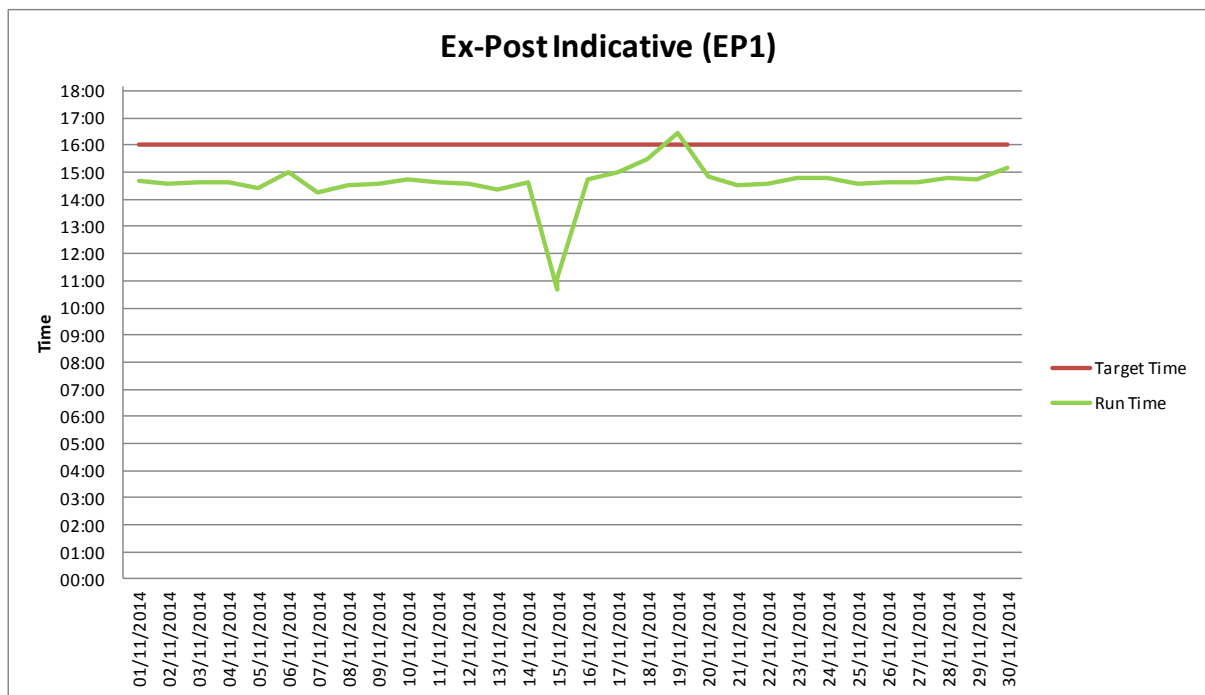
Figure 20 - Ex-Post Indicative
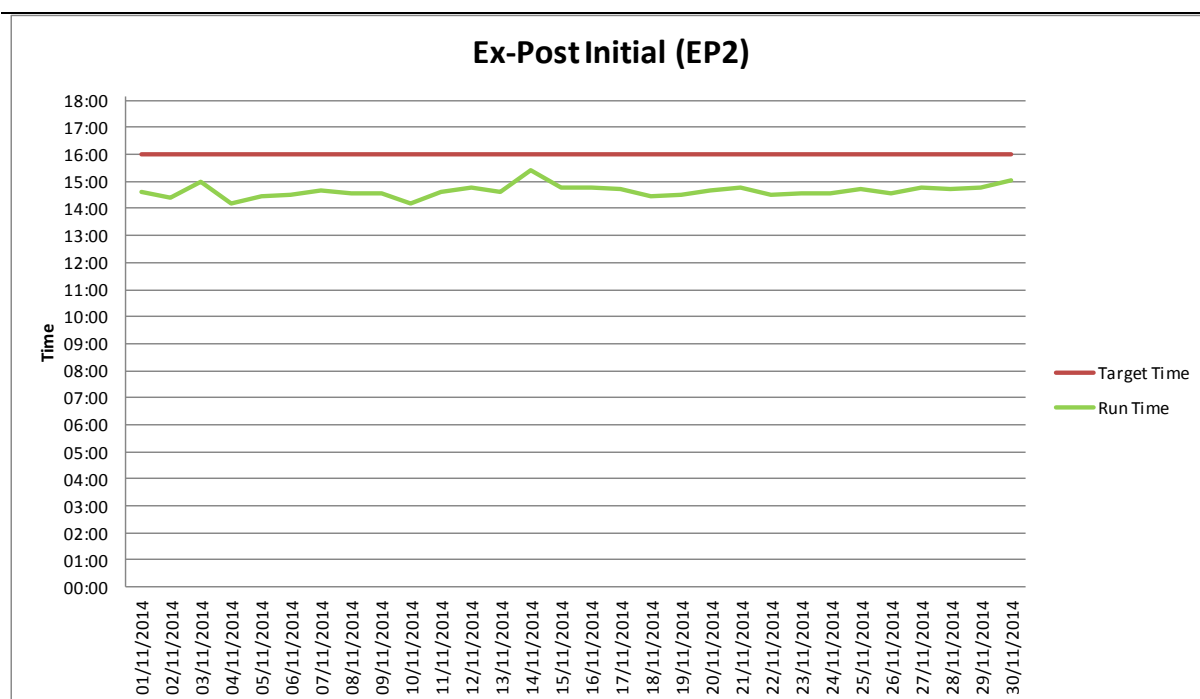
Figure 21 - Ex-Post Initial

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 November 2014, there were 12 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 November 2014

The publication timings for Settlement runs are provided below.
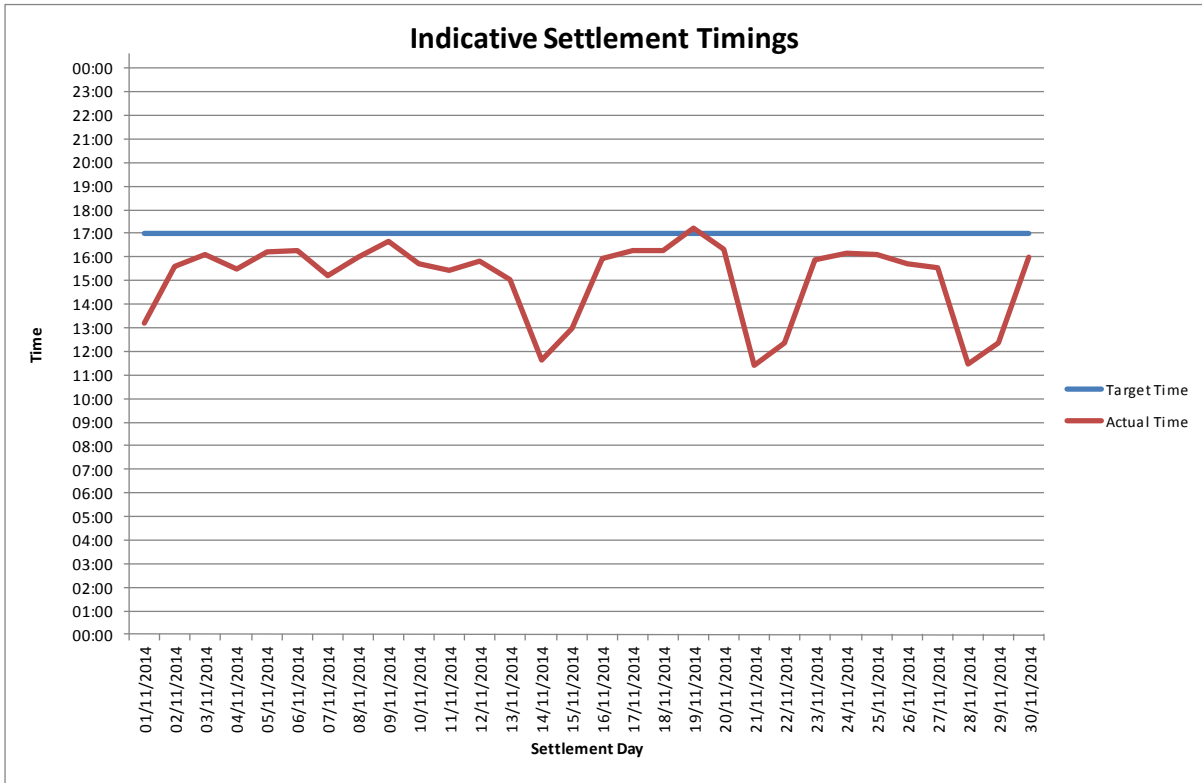
Figure 22 - Indicative Settlement Postings
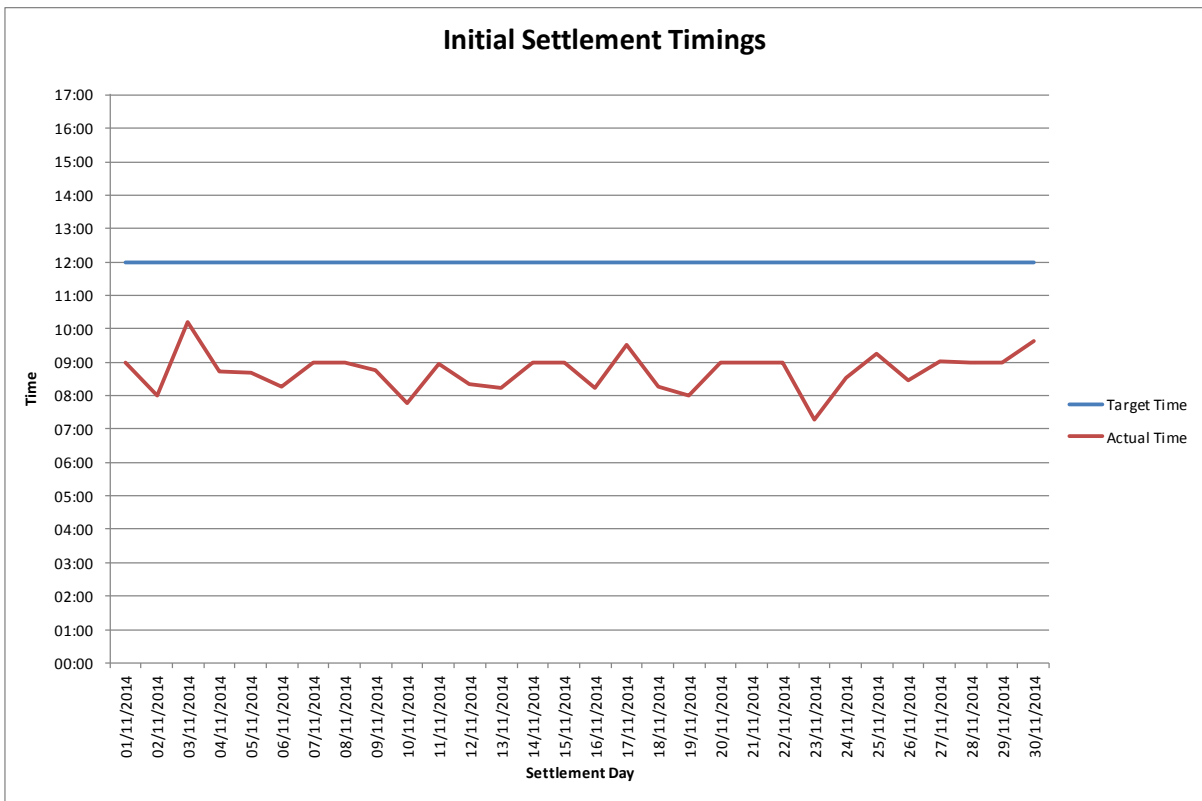
Figure 23 - Initial Settlement Postings

Further details of any delays noted above are provided in <u>Appendix A</u>

6.5 Market System Releases

6.5.1 Release SEM R2.5.0 (Deployed: November 14th, 2014)

Approval for the proposed scope for this release was received from the Regulatory Authorities on May 1st, 2014. The High Level Impact Assessment (HLIA) was published to the industry on May 7th, 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 14th 2014.

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

We will aim to have this deployed by Mid December.

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 5th, 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 November 2014.

7.3 Communications or Systems Failures

There were a number of Market Interface System issues during November 2014;

On the 06/11/2014, it was reported that the AMP interface was having issues submitting data to the SONI SFTP site. Upon investigation, it was determined that the issue lay on the SONI SFTP site, and a restart of the SFTP site resolved the issue.

On the 10/11/2014, a Traded Exposure Event Failed. It was determined that the issue happened because, even though the EP2 run occurred as normal, at some point between the EP2 run and the Traded Exposure Calculation event running, EP2 was run in offline mode using MI data. The offline run caused the Traded Exposure event to fail. A call was raised with ABB, and a resolution script was provided for the fix.

On the 19/11/2014, the day ahead RCUC MIUN's did not match the AMP interface reference as expected. A call wasraised with ABB, and has been escalated to a defect after investigation.

On the 24/11/2014, Market Systems IS completed their scheduled morning checks and noticed an issue with the MF_TO_DS event. Upon investigation, the issue was traced back to a specific node of the MI application cluster. This specific node was isolated for investigation, and a call was raised with ABB. The system is still fully functioning and working as expected.

7.4 Denial of Service Attacks

There was no Denial of Service Attacks during November 2014.

7.5 Submission of Parameters to RAs for Approval

No parameters were submitted to the Regulatory Authorities during November 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
03/11/2014	CRM	Timing	Participant	Credit	G.A.E.L Force Power Limited (CP_400069) defaulted on a Letter of Credit which expired on the 31/10/2014.	G.A.E.L Force Power did not replace / extend their Letter of Credit at least 60 calendar days before expiry as stated in the trading and settlement code.	G.A.E.L Force Power Limited are in the process of putting a replacement letter of credit in place.	Major
03/11/2014	CRM	Timing	Participant	Operational	G.A.E.L Force Power Limited (CP_400069) defaulted on a CCIN issued on 03/11/2014	CCIN was not resolved within the T&SC timeframes	G.A.E.L Force Power Limited (CP_400069) renewed letter of credit on the 06/11/2014 resolving CCIN	Major
05/11/2014	Money In	Timing	Participant	Payment Default	Tynagh Energy Limited PT_400041 defaulted on Week 26 2014 M+4 Energy Invoice.	Payment Default	The payment was submitted at 12:28pm on 05.11.2014 and as a result a Default Notice was issued.	Major
12/11/2014	Money In	Timing	Participant	Payment Default	Firmus Energy's Week 40 2013 M+13 Invoices were drawn from their cash collateral account after the payment timeline of 12:00pm.	Authorisation to withdraw the payment was not submitted before the 12:00pm cut off.	Upon obtaining a SEMO Authorised Signatory, the payment was processed at 12:30pm.	Major
14/11/2014	Money In	Timing	Participant	Payment Default	PT_400051 Vayu Ltd late payment reviewed for invoice October 2014 Initial Capacity.	Payment Default	Late payment received for €434,854.42 @ 12.04pm. Default Notice was issued due to late payment.	Major
14/11/2014	Money In	Timing	Participant	Payment Default	Ecopower Supply Limited PT_400068 defaulted on October 2014 Initial Capacity Invoice for €35.80.	Payment Default	Participant PT_400068 advised that payment was made but would be late. Payment received the next day. Default Letter issued.	Major
14/11/2014	Money In	Timing	Participant	Payment Default	Fingleton White & Co Ltd PT_400102 defaulted on FMOC October 2014 Initial Invoice for €16.30	Payment Default	FMOC October 2014 Initial invoice amount not received. Participant emailed with no response. A Default Notice has been issued.	Major
14/11/2014	Money In	Timing	Participant	Payment Default	Contour Global Solutions (Northern Ireland) Ltd PT_500048 has defaulted on FMOC October 2014 Initial Invoice for €55.68.	Payment Default	FMOC October 2014 Initial payment not recieved. Default letter issued to participant.	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
16/11/2014	EP1	Timing	SONI MDP	File Submission	The Ex-Post Indicative (EP1) Market Schedule publication was delayed for Trading Day 15/11/2014.	SONI MDP was unable to submit D+1 metering due to network connection issues.	The D+1 meter files were submitted the next operational day, 15/11/2014, at 10:15 and the Ex-Post Indicative (EP1) Market Schedule was published at 11:08.	Minor
18/11/2014	EP2	Timing	SONI MDP	File Submission	A price event occurred in the LR Schedule for trade date 14/11/2014.	There was data missing in the SONI PEG file for trade date 14/11/2014	SONI issued a revised meter file at 15:07. The LR schedule was ran again and the price event was removed.	Minor
18/11/2014	EP1	Timing	SONI MDP	File Submission	Ex-Post Indicative (EP1) for Trading Day 17/11/2014 was delayed.	SONI MDP was unable to submit D+1 metering due to network connectivity issues.	The D+1 meter files were submitted on the 18/11/2014 at 14:05.	Minor
20/11/2014	EP1	Timing	SONI MDP	File Submission	The Ex-Post Indicative (EP1) Market Schedule for Trade Date 19/11/2014 was delayed.	The SONI Meter Data Provider was unable to submit SONI D+1 meter file's due to network connection issues.	The SONI D+1 meter files were submitted 20/11/2014 at 14:20 and the Ex-Post Indicative (EP1) run was published.	Minor
25/11/2014	SE1	Timing	EirGrid TSO	File Submission	No CLAFs were submitted for new registrations GU_401700 & GU_4016901	CLAFs were not submitted on time for Indicative settlement for the 25-27th Nov 2014	TSO submitted CLAFs on 28/11/2014.	Minor

Table 17 - Code Breaches – Data Providers

SEMO - Pricing and Scheduling

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
04/11/2014	EA1	n/a	SEMO	Operational	Ex-Ante One (EA1) trading day 05/11/2014 was published with a peak SMP of €617.92 MWh. The MIP solver had not been ran for comparison.	Operational Error.	A market message was issued informing participants that the Ex-Ante1(EA1) market schedule was ran with the the LR slover and a peak SMP of greater than €500 MWh was published.	Minor
05/11/2014	WD1	Quality	SEMO	System	Within Day (WD1) MOYLE MIUNs for Trading Day 05/11/2014 were revised and set to zero.	The MIUN Calculator produced incorrect MIUNs for MOYLE.	Zero MOYLE MIUNs were published after the 09:30 deadline at 10:30.	Minor
15/11/2014	WD1	Quality	SEMO	System	Within Day (WD1) EWIC MIUNs for Trading Day 15/11/2014 were revised and set to zero.	The MIUN Calculator produced incorrect MIUNs for EWIC.	Zero EWIC MIUNs were published at 09:27.	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
20/11/2014	SE1	Timing	SEMO	Operational	Indicative Energy and VMOC Statements and Participant Information Reports for Settlement Day 19/11/2014 were published ater the 17:00 deadline.	Ex-Post Indicative (EP1) was delayed which resulted in Indicative Settlement for the 19/11/2014 also being delayed.	Indicative Energy and VMOC Statements and Participant Information Reports for Settlement Day 19/11/2014 were published at 17:20 on Thursday, 20/11/2014	Minor

Table 19 - Code Breaches – Settlements

SEMO - Funds Transfer

There were no issues to report in November 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 November 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 November 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 22 - Code Breaches – Other

9 Appendix B: List of Queries by Type

Data Queries

Summary Title	Description	ID	Logged On	Date sent to MP
Dispatch Instructions	Incorrect Dispatch Instructions (DIs) were sent to the SEM for GU_400270 (Moneypoint Unit 1) on 20/11/2014. The DESY effective at 23:27 on the 20/11/2014 should not have been sent to SEM All the other Dis for the 20/11/2014 are correct.	Eirgrid	2014-11-24	2014-11-24

Table 23 - Data Queries

Settlement Queries

Summary Title	Description	ID	Logged On	Date sent to MP
TLAF	PT_500031 has received a resettlement invoice for 13,674.33 for week 26, 2014. The M+4 PIRs don't appear to have changed from nitial so I don't see how there is this volume of resettlement. Our calculation is showing no change from the initial invoice.	Moyle	2014-11-11	2014-11-17
Availability	An incorrect "MAX_AVAIL_MW" Availability Declaration of 70MW was sent to the SEM for GU_400762 (Great Island Unit 4) for the following "EFF_TIMESTAMP";04/11/2014 18:0005/11/2014 00:0006/11/2014 00:00GU_400762 (Great Island Unit 4) should be fully unavailable ("MAX_AVAIL_MW" set to 0MW) between 18:00 on the 04/11/2014 and 11:19 on the 06/11/2014 (when it correctly declares "MAX_AVAIL_MW" to 70MW).	TSO_EirGrid	2014-11-14	2014-11-17
Availability	An incorrect "MIN_GEN_MW" Availability Declaration of 0MW was sent to the SEM for DSU_401610 (Activation Energy Unit 2) for the following "EFF_TIMESTAMP";05/11/2014 11:48The following "MIN_GEN_MW" Availability Declarations should have been sent to the SEM for DSU_401610 (Activation Energy Unit 2) on the 05/11/2014;	TSO_EirGrid	2014-11-14	2014-11-17
MGEU	Querying MGEU_IA_ROIEWIC_I_ROIEWIC values in PIR for settlement date 6/11/2014 for trading period 04:30-05:00. The values in the Error report in AMP are different to the PIR for this settlement date. Can you please confirm what values are applied to generator the MG EU value for this period?	IC admin	2014-11-20	2014-11-27

Availability	Incorrect Availability Declarations were sent to the SEM for GU_400362 (Furlough Hill Unit 3) for the 06/11/2014. See tables below; Incorrect Availability Declarations sent D+3	Eirgrid	2014-11-20	2014-11-27
Metered Generation	Incorrect meter data was sent to the SEM for GU_400840 (Lisheen Windfarm Phase 1) on the 06/11/2014. The following incorrect "MEASURED_QUANTITY" was sent to the SEM on D+3 with the "START_TIME" of 11:00 and "END_TIME" 11:29; 13.768.The following "MEASURED_QUANTITY" is now available; 13.848.The rest of the meter data for the 06/11/2014 is correct.	Eirgrid	2014-11-20	2014-11-21
Metered Generation	Incorrect meter data was sent to the SEM for GU_400370 (West Offaly Unit 4) on the 05/11/2014. The following incorrect "MEASURED_QUANTITY" was sent to the SEM on D+3 with the "START_TIME" of 14:00 and "END_TIME" 14:29; 45.46.The following "MEASURED_QUANTITY" is now available; 64.855.The rest of the meter data for the 05/11/2014 is correct.	Eirgrid	2014-11-20	2014-11-21
Metered Generation	Incorrect Meter data for GU_501270 for 07/10/2014 to 11/10/2014	Gortmullan Energy Limited (PT_500077)	2014-11-21	2014-12-02
Metered Generation	Incorrect Meter data for GU_501270 for 12/10/2014 to 18/10/2014	Gortmullan Energy Limited (PT_500077)	2014-11-21	2014-12-02
Metered Generation	Incorrect Meter data for GU_501270 for 19/10/2014 to 25/10/2014	Gortmullan Energy Limited (PT_500077)	2014-11-21	2014-12-02
Dispatch instructions	Incorrect DIs were sent to the SEM on D+3 for GU_400910 (Boggeragh Windfarm Phase 1) on the 26/10/2014. A "LCLO" should have been sent with an "INSTR_TIMESTAMP" of 26/10/2014 09:00.	Eirgrid	2014-11-21	2014-11-28
Meter Generation	The meters were uncontactable for GU_401150 (Bawnmore Windfarm Phase 1), this resulted in SCADA being sent to the SEM for all day (00:00-23:59) on the 10/11/2014. Meter data in now available.	Eirgrid	2014-11-21	2014-11-26
Dispatch instructions	Incorrect Dispatch Instructions (DIs) were sent to the SEM for GU_401450 (Knockacummer Windfarm Phase 1) at 22:31 on the 12/11/2014. The following DIs should not have been sent to the SEM;	Eirgrid	2014-11-21	2014-11-24
Availability	Unit GU_401440 was not allocated an EA value for the period 13:30 to 18:00 on the 30th October 2014. The unit was unavailable due to Agannygal outage and should have been deemed available for market settlement. Forecast for the unit for the day will be forwarded by separate email. Could you review and advise.	ESBI_HIBWP - PT_400034	2014-11-25	2014-12-02

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
136678	Potential Defect - MSQ greater than Actual Availabilities	-	-	-	-	-

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		EP1Postings		EP2 Postings	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
01/11/2014	11:00	10:11:00	13:00	12:01	09:30	08:25	16:00	14:41	17:00	14:36
02/11/2014	11:00	10:07:00	13:00	11:59	09:30	08:18	16:00	14:34	17:00	14:23
03/11/2014	11:00	09:52:00	13:00	12:00	09:30	08:26	16:00	14:38	17:00	14:59
04/11/2014	11:00	10:06:00	13:00	12:01	09:30	08:35	16:00	14:39	17:00	14:12
05/11/2014	11:00	09:58:00	13:00	12:03	09:30	08:34	16:00	14:26	17:00	14:27
06/11/2014	11:00	10:03:00	13:00	12:01	09:30	08:22	16:00	15:00	17:00	14:30
07/11/2014	11:00	10:03:00	13:00	12:02	09:30	08:33	16:00	14:15	17:00	14:39
08/11/2014	11:00	10:11:00	13:00	12:03	09:30	08:32	16:00	14:30	17:00	14:34
09/11/2014	11:00	09:54:00	13:00	12:00	09:30	08:27	16:00	14:34	17:00	14:33
10/11/2014	11:00	10:00:00	13:00	11:55	09:30	08:31	16:00	14:43	17:00	14:11
11/11/2014	11:00	10:03:00	13:00	11:59	09:30	08:33	16:00	14:37	17:00	14:38
12/11/2014	11:00	09:59:00	13:00	12:02	09:30	08:36	16:00	14:36	17:00	14:45
13/11/2014	11:00	10:06:00	13:00	12:02	09:30	08:29	16:00	14:21	17:00	14:36
14/11/2014	11:00	10:02:00	13:00	12:03	09:30	08:27	16:00	14:38	17:00	15:25
15/11/2014	11:00	10:03:00	13:00	11:54	09:30	08:37	16:00	10:41	17:00	14:46
16/11/2014	11:00	10:02:00	13:00	11:55	09:30	08:28	16:00	11:07	17:00	14:47
17/11/2014	11:00	09:57:00	13:00	11:58	09:30	08:42	16:00	14:43	17:00	14:44
18/11/2014	11:00	10:03:00	13:00	12:03	09:30	08:28	16:00	15:00	17:00	14:27
19/11/2014	11:00	10:09:00	13:00	12:01	09:30	08:31	16:00	15:28	17:00	14:32
20/11/2014	11:00	10:06:00	13:00	12:03	09:30	08:38	16:00	16:28	17:00	14:39
21/11/2014	11:00	10:05:00	13:00	12:03	09:30	08:32	16:00	14:50	17:00	14:45
22/11/2014	11:00	10:20:00	13:00	12:07	09:30	08:25	16:00	14:32	17:00	14:30
23/11/2014	11:00	10:03:00	13:00	11:57	09:30	08:28	16:00	14:34	17:00	14:35
24/11/2014	11:00	09:52:00	13:00	12:01	09:30	08:32	16:00	14:49	17:00	14:33
25/11/2014	11:00	10:07:00	13:00	12:10	09:30	08:42	16:00	14:48	17:00	14:43
26/11/2014	11:00	10:02:00	13:00	12:02	09:30	08:29	16:00	14:34	17:00	14:35
27/11/2014	11:00	10:02:00	13:00	12:05	09:30	08:32	16:00	14:39	17:00	14:46
28/11/2014	11:00	10:02:00	13:00	12:01	09:30	08:33	16:00	14:37	17:00	14:44
29/11/2014	11:00	10:02:00	13:00	12:02	09:30	08:31	16:00	14:47	17:00	14:46
30/11/2014	11:00	10:01:00	13:00	12:02	09:30	08:32	16:00	14:43	17:00	15:02

Table 26 – MSP Runs

Settlement Runs

	INDICATIVE				INITIAL			
Trading Day	**Target Date**	**Actual Date**	**Target Time**	**Actual Time**	**Trading Day**	**Actual Date**	**Target Time**	**Actual Time**
01/11/2014	02/11/2014	02/11/2014	17:00	13:11	01/11/2014	07/11/2014	12:00	13:26
02/11/2014	03/11/2014	03/11/2014	17:00	15:36	02/11/2014	07/11/2014	12:00	07:59
03/11/2014	04/11/2014	04/11/2014	17:00	16:05	03/11/2014	10/11/2014	12:00	10:11
04/11/2014	05/11/2014	05/11/2014	17:00	15:28	04/11/2014	11/11/2014	12:00	08:43
05/11/2014	06/11/2014	06/11/2014	17:00	16:14	05/11/2014	12/11/2014	12:00	08:41
06/11/2014	07/11/2014	07/11/2014	17:00	16:15	06/11/2014	13/11/2014	12:00	08:17
07/11/2014	08/11/2014	08/11/2014	17:00	15:14	07/11/2014	14/11/2014	12:00	11:25
08/11/2014	09/11/2014	09/11/2014	17:00	15:58	08/11/2014	14/11/2014	12:00	12:22
09/11/2014	10/11/2014	10/11/2014	17:00	16:39	09/11/2014	14/11/2014	12:00	08:46
10/11/2014	11/11/2014	11/11/2014	17:00	15:44	10/11/2014	17/11/2014	12:00	07:47
11/11/2014	12/11/2014	12/11/2014	17:00	15:26	11/11/2014	18/11/2014	12:00	08:57
12/11/2014	13/11/2014	13/11/2014	17:00	15:50	12/11/2014	19/11/2014	12:00	08:21
13/11/2014	14/11/2014	14/11/2014	17:00	15:01	13/11/2014	20/11/2014	12:00	08:14
14/11/2014	15/11/2014	15/11/2014	17:00	11:37	14/11/2014	21/11/2014	12:00	11:52
15/11/2014	16/11/2014	16/11/2014	17:00	12:58	15/11/2014	21/11/2014	12:00	13:04
16/11/2014	17/11/2014	17/11/2014	17:00	15:56	16/11/2014	21/11/2014	12:00	08:13
17/11/2014	18/11/2014	18/11/2014	17:00	16:16	17/11/2014	24/11/2014	12:00	09:30
18/11/2014	19/11/2014	19/11/2014	17:00	16:16	18/11/2014	25/11/2014	12:00	08:15
19/11/2014	20/11/2014	20/11/2014	17:00	17:14	19/11/2014	26/11/2014	12:00	08:00
20/11/2014	21/11/2014	21/11/2014	17:00	16:18	20/11/2014	27/11/2014	12:00	08:59
21/11/2014	22/11/2014	22/11/2014	17:00	11:25	21/11/2014	28/11/2014	12:00	13:22
22/11/2014	23/11/2014	23/11/2014	17:00	12:21	22/11/2014	28/11/2014	12:00	14:31
23/11/2014	24/11/2014	24/11/2014	17:00	15:52	23/11/2014	28/11/2014	12:00	07:17
24/11/2014	25/11/2014	25/11/2014	17:00	16:08	24/11/2014	01/12/2014	12:00	08:31
25/11/2014	26/11/2014	26/11/2014	17:00	16:05	25/11/2014	02/12/2014	12:00	09:15
26/11/2014	27/11/2014	27/11/2014	17:00	15:43	26/11/2014	03/12/2014	12:00	08:27
27/11/2014	28/11/2014	28/11/2014	17:00	15:32	27/11/2014	04/12/2014	12:00	09:02
28/11/2014	29/11/2014	29/11/2014	17:00	11:27	28/11/2014	05/12/2014	12:00	12:34
29/11/2014	30/11/2014	30/11/2014	17:00	12:22	29/11/2014	05/12/2014	12:00	14:14
30/11/2014	01/12/2014	01/12/2014	17:00	16:00	30/11/2014	05/12/2014	12:00	09:38

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	€255,218.76	€4,663.19	-€497,010.43
02/10/2014	€741,941.62	-€19,882.49	-€485,485.43
03/10/2014	€645,961.44	€10,871.94	-€504,078.89
04/10/2014	€485,051.92	-€7,434.77	-€448,528.17
05/10/2014	€828,638.88	€10,977.87	-€414,125.03
06/10/2014	€676,333.62	-€20,536.24	-€496,825.27
07/10/2014	€285,565.00	€7,652.10	-€515,909.62
08/10/2014	€313,745.13	-€36,024.01	-€520,694.36
09/10/2014	€296,920.57	-€14,582.31	-€525,428.89
10/10/2014	€445,959.21	-€26,317.26	-€517,313.97
11/10/2014	€368,184.59	€11,849.83	-€473,083.86
12/10/2014	€474,905.89	-€7,407.00	-€451,034.95
13/10/2014	€396,776.55	-€24,498.55	-€513,674.01
14/10/2014	€440,295.93	-€19,066.88	-€523,546.32
15/10/2014	€452,825.91	-€853.11	-€511,064.60
16/10/2014	€364,665.45	-€12,618.38	-€513,456.78
17/10/2014	€511,329.46	-€5,253.97	-€495,989.17
18/10/2014	€1,076,598.39	€23,841.90	-€428,037.24
19/10/2014	€525,822.16	-€2,840.01	-€416,208.56
20/10/2014	€566,846.26	-€13,121.95	-€490,614.73
21/10/2014	€718,297.80	€17,262.53	-€491,996.93
22/10/2014	€658,161.51	-€35,249.53	-€515,127.40
23/10/2014	€295,391.18	€2,462.07	-€513,013.48
24/10/2014	€530,067.10	-€8,503.06	-€505,991.61
25/10/2014	€926,502.85	€24,936.45	-€439,804.29
26/10/2014	€855,273.14	-€8,010.50	-€428,234.85
27/10/2014	€743,116.03	€6,690.55	-€444,796.70
28/10/2014	€557,378.46	-€61,012.80	-€519,037.78
29/10/2014	€810,167.40	-€6,314.82	-€530,046.54
30/10/2014	€687,785.71	-€3,395.44	-€513,730.14
31/10/2014	€518,502.39	-€17,778.71	-€506,014.82
01/11/2014	€532,736.73	-€6,912.86	-€457,086.94
02/11/2014	€296,834.37	-€12,990.39	-€443,511.55
03/11/2014	€571,700.58	-€4,244.85	-€532,442.41
04/11/2014	€668,179.69	-€16,550.06	-€528,960.67
05/11/2014	€560,777.75	-€18,613.60	-€550,138.29
06/11/2014	€702,427.81	-€14,424.86	-€537,063.83
07/11/2014	€406,054.74	-€11,250.48	-€531,305.30
08/11/2014	€425,609.18	-€18,592.20	-€500,732.00
09/11/2014	€369,453.34	-€6,024.57	-€481,392.83

10/11/2014	€544,057.59	-€12,756.86	-€540,675.17
11/11/2014	€311,395.15	-€44,629.39	-€565,550.06
12/11/2014	€608,346.19	-€28,281.20	-€554,600.49
13/11/2014	€391,217.64	-€17,901.27	-€553,923.16
14/11/2014	€354,949.01	-€1,320.38	-€534,716.18
15/11/2014	€532,255.29	€3,019.64	-€499,765.88
16/11/2014	€363,299.62	€7,373.68	-€482,898.42
17/11/2014	€541,390.52	-€24,556.35	-€545,895.52
18/11/2014	€412,793.91	€4,362.82	-€543,481.42
19/11/2014	€548,350.13	-€12,653.01	-€548,548.06
20/11/2014	€595,351.17	-€26,506.42	-€571,397.50
21/11/2014	€442,227.99	-€34,277.81	-€542,644.18
22/11/2014	€433,022.70	-€15,880.02	-€504,134.67
23/11/2014	€620,825.87	-€9,757.73	-€492,515.83
24/11/2014	€440,851.48	-€3,275.68	-€568,242.69
25/11/2014	€242,085.72	-€17,224.01	-€582,837.38
26/11/2014	€269,465.88	-€6,672.97	-€590,843.52
27/11/2014	€492,842.85	-€17,221.50	-€571,833.74
28/11/2014	€584,027.37	-€24,958.57	-€548,216.58
29/11/2014	€531,058.87	-€17,684.09	-€518,324.65
30/11/2014	€501,959.41	€228.22	-€497,681.99

Table 28 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges
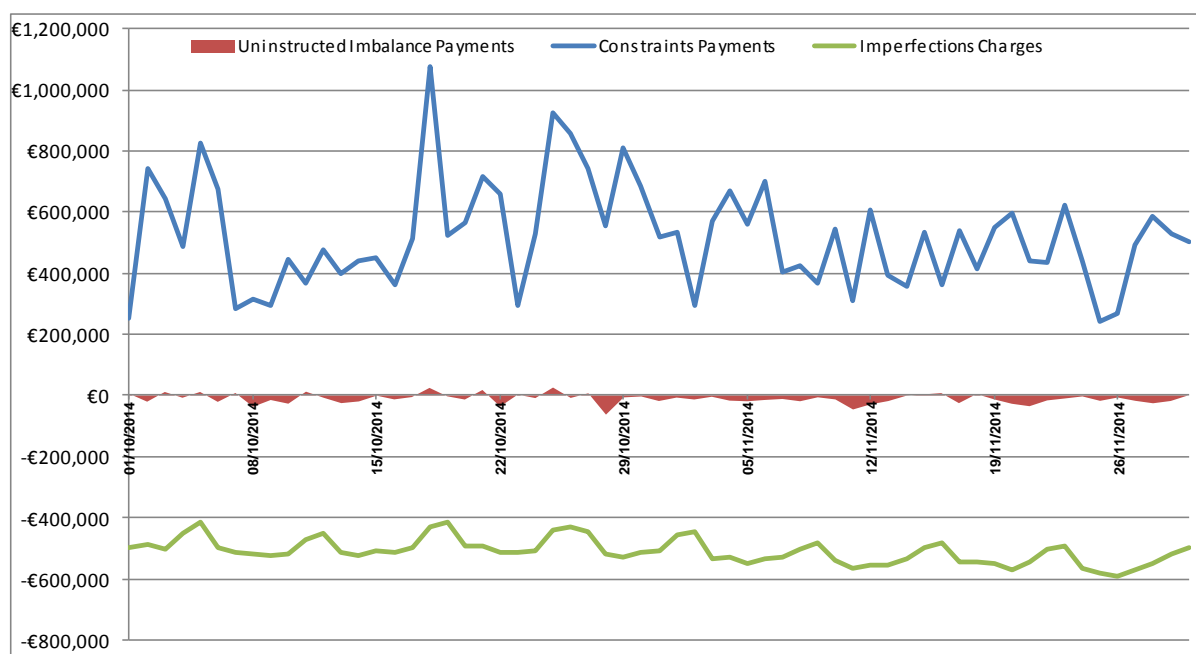
Figure 24 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

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

Table 29 - Make Whole Payments
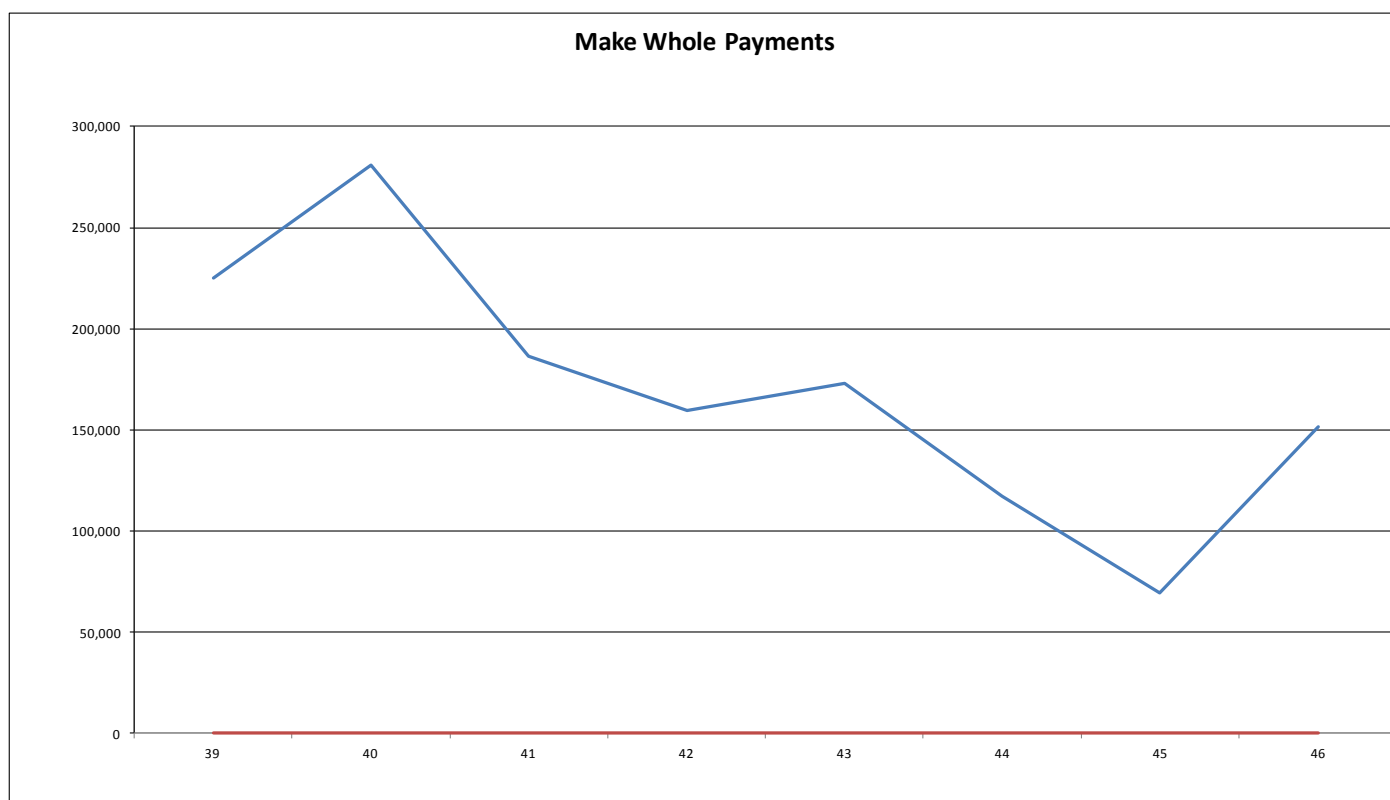
Figure 25 - Make Whole Payments

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

Table 25 - Testing Charges
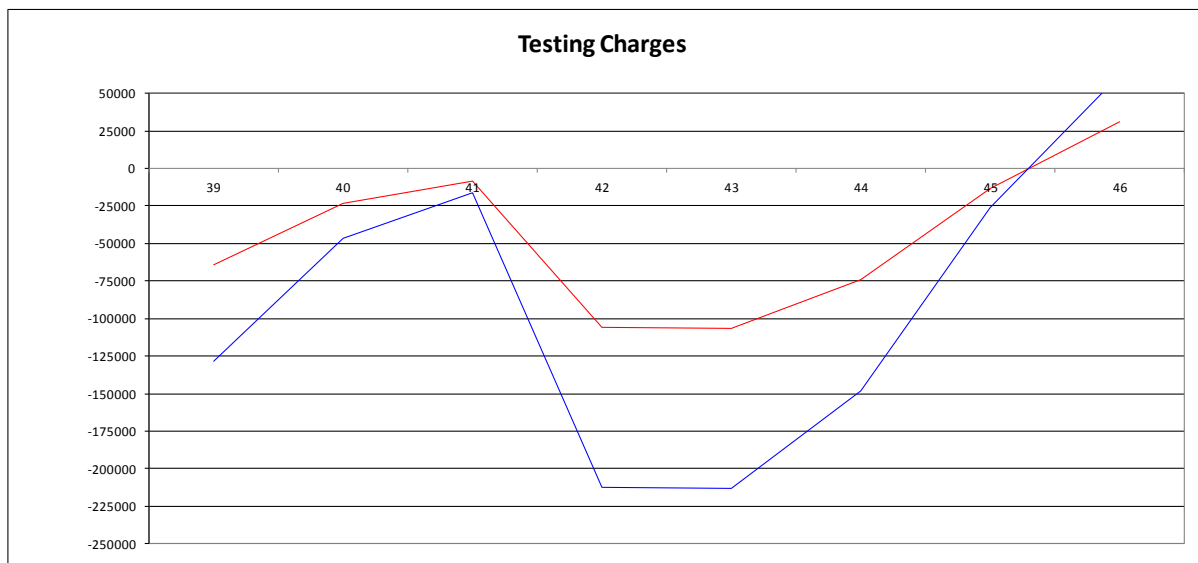
Figure 26 - Testing Charges

13 Appendix F: Default Commercial Offer Data Used

The table below lists for each unit the number of times in operations during November 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_401610	30			30
PT_400090	DSU_401620	32			32
PT_400116	DSU_401400	30			30
PT_400090	DSU_401610			2	2
PT_400101	DSU_401300			7	7
PT_400106	DSU_401330	45			45
PT_400090	DSU_401270	32			32
PT_400133	DSU_401530			30	30
PT_400124	DSU_401490	30			30
PT_400024	GU_400120	30			30
PT_400024	GU_400121	30			30
PT_400026	GU_400140	30			30
PT_400030	GU_400180	49			49
PT_400030	GU_400181	42			42
PT_400030	GU_400182	49			49
PT_400030	GU_400183	49			49
PT_400030	GU_400200	40			40
PT_400030	GU_400201	40			40
PT_400030	GU_400202	40			40
PT_400030	GU_400203	40			40
PT_400030	GU_400210	39			39
PT_400030	GU_400211	37			37
PT_400030	GU_400220	39			39
PT_400030	GU_400221	39			39
PT_400030	GU_400240	39			39
PT_400030	GU_400250	39			39
PT_400030	GU_400251	39			39
PT_400030	GU_400252	41			41
PT_400030	GU_400260	39			39
PT_400030	GU_400270	41			41
PT_400030	GU_400271	41			41
PT_400030	GU_400272	40			40
PT_400030	GU_400280	39			39
PT_400030	GU_400281	39			39
PT_400030	GU_400290	39			39
PT_400030	GU_400300	49			49
PT_400030	GU_400311	49			49
PT_400030	GU_400323	51			51
PT_400030	GU_400360	39			39
PT_400030	GU_400361	39			39
PT_400030	GU_400362	39			39
PT_400030	GU_400363	40			40
PT_400030	GU_400370	39			39
PT_400030	GU_400850	45			45
PT_400032	GU_400430	30			30
PT_400034	GU_400940	30			30

PT_400034	GU_401090	30			30	
PT_400034	GU_401440	30			30	
PT_400035	GU_400480	54			54	
PT_400037	GU_400500	32			32	
PT_400041	GU_400530	51			51	
PT_400044	GU_400540	53			53	
PT_400050	GU_401360	27			27	
PT_400054	GU_400620	30			30	
PT_400055	GU_400630	30			30	
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	30			30	
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	78			78	
PT_400077	GU_400950	30			30	
PT_400078	GU_401010	30			30	
PT_400078	GU_401011	30			30	
PT_500024	GU_500040	46			46	
PT_500024	GU_500041	30			30	
PT_500027	GU_500130	83			83	
PT_500027	GU_500131	83			83	
PT_500027	GU_500140	83			83	
PT_500040	GU_500280	30			30	
PT_500040	GU_500281	30			30	
PT_500040	GU_500282	30			30	
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	48			48	
PT_500050	GU_501040	30			30	
PT_500050	GU_501050	30			30	
PT_500050	GU_501150	30			30	
PT_500050	GU_501190	30			30	
PT_500053	GU_501130	30			30	
PT_500066	GU_501210	30			30	
PT_400021	GU_400021			30	30	
PT_400021	GU_400050			30	30	
PT_400021	GU_400060			30	30	
PT_400021	GU_400070			30	30	
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			30	30	
PT_400021	GU_401600			30	30	
PT_400021	GU_401640			30	30	
PT_400025	GU_400130			30	30	
PT_400030	GU_400310			30	30	
PT_400038	GU_400550			30	30	
PT_400041	GU_400530			1	1	
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_400050	GU_401290			30	30	
PT_400050	GU_401360			1	1	
PT_400062	GU_400730			30	30	
PT_400062	GU_400731			30	30	
PT_400062	GU_400840			30	30	
PT_400062	GU_401310			30	30	
PT_400062	GU_401550			30	30	
PT_400062	GU_401551			30	30	
PT_400062	GU_401560			30	30	
PT_400062	GU_401570			30	30	
PT_400062	GU_401580			30	30	
PT_400082	GU_401100			30	30	
PT_400087	GU_401230			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_500044	GU_500720			30	30	
PT_500047	GU_500790			30	30	
PT_500061	GU_501170			30	30	
PT_500062	GU_501180			30	30	
PT_500073	GU_501230			30	30	
PT_500074	GU_501250			30	30	
PT_400021	I_ROIEWIC	30			30	
PT_500021	I_NIMOYLE	45			45	
PT_500024	I_NIMOYLE	55			55	
PT_500075	I_NIMOYLE	74			74	
PT_500069	I_NIMOYLE	88			88	
PT_500058	I_NIMOYLE	31			31	
PT_500031	I_NIMOYLE	30			30	
PT_400096	I_ROIEWIC	88			88	
PT_500037	I_NIMOYLE	30			30	
PT_400113	I_ROIEWIC	32			32	
PT_400115	I_ROIEWIC	30			30	

PT_400136	I_ROIEWIC	49			49
PT_500070	I_NIMOYLE	63			63
PT_400108	I_ROIEWIC	66			66
PT_400030	I_ROIEWIC	55			55
PT_400099	I_ROIEWIC	30			30
	Total	**4222**	**0**	**1451**	**5673**
	Percentage	**74.42%**	**0.00%**	**25.58%**	**100%**

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	£305,733.65	£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
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	£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
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
	ROI	£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	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
	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
Nov-14	NI	£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
	ROI	£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

Table 31 - Total Charges by Month

Market Operator Monthly Report

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	€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**
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	NI	€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**
	ROI	€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**
Nov-14	NI	€82,250,495.91	€18,220,219.93	€584,729.92	€104,687.01	€6,507.05	€125,335.38	€9,519.24	€1,313.25	€0.00	€0.00	€0.00	**€101,302,807.69**
	ROI	€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**

Table 32 - 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

Table 33 – 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

Table 34 - 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
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
December 2013	02/12/2013 03/12/2013	02/12/2013	02/12/2013 21/12/2013	-	19/12/2013

Market Operator Monthly Report

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
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	
May 2014	-	-	-	-	26/05/2014
June 2014	17/06/2014	-	18/06/2014 29/06/2014	-	25/06/2014 26/06/2014
July 2014	-	-	-	02/07/2014 03/07/2014 11/07/2014	-
August 2014	-	13/08/2014 14/08/2014 22/08/2014	14/08/2014	27/08/2014	11/08/2014 13/08/2014
September 2014	-	03/09/2014	16/09/2014 24/09/2014	01/09/2014	-
October 2014	10/10/2014	03/10/2014 15/10/2014 28/10/2014	06/10/2014 13/10/2014 29/10/2014	06/10/2014 13/10/2014 27/10/2014	19/10/2014
November 2014	-	02/11/2014 11/11/2014 15/11/2014 25/11/2014	20/11/2014 24/11/2014 26/11/2014	12/11/2014 20/11/2014 26/11/2014	-

Table 35 - MIP Algorithms

Market Operator Monthly Report

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
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
26/05/2014	26/05/2014	WD1	€578.28	€301.71	MIP
16/06/2014	17/06/2014	EA1	€562.05	€534.28	MIP
19/06/2014	18/06/2014	EP1	€551.50	€526.61	MIP
30/06/2014	29/06/2014	EP1	€1,000	€956.83	MIP
25/06/2014	25/06/2014	WD1	€930.72	€57.32	MIP
26/06/2014	26/06/2014	WD1	€1,000	€69.50	MIP
02/07/2014	28/06/2014	EP2	€1,000	€338.00	MIP
03/07/2014	29/06/2014	EP2	€1,000	€955.38	MIP
11/07/2014	07/07/2014	EP2	€1,000	€288.48	MIP
11/08/2014	11/08/2014	WD1	€1,000	€68.49	MIP
12/08/2014	13/08/2014	EA2	€1,000	€56.21	MIP
13/08/2014	13/08/2014	WD1	€1,000	€114.89	MIP
13/08/2014	14/08/2014	EA2	€1,000	€377.59	MIP
15/08/2014	14/08/2014	EP1	€1,000	€113.79	MIP
21/08/2014	22/08/2014	EA2	€1,000	€114.35	MIP
31/08/2014	27/08/2014	EP2	-€100	€52.30	MIP
02/09/2014	03/09/2014	EA2	€1,000	€330.00	MIP
17/09/2014	16/09/2014	EP1	€1,000	€188.70	MIP
25/09/2014	24/09/2014	EP1	€1,000	€87.77	MIP
05/09/2014	01/09/2014	EP2	€1,000	€492.00	MIP
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
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

Table 36 - MIP Vs LR Peak Price Comparison