

# **Market Operator Monthly Report**

# September 2015

# **Table of Contents**

1.	EXECUTIVE SUMMARY	4
2.	MONTHLY STATISTICS	5
	CODE BREACHES	
	JOINING AND TERMINATING PARTIES AND UNITS SUSPENSION OF PARTICIPANTS	
•	FINANCIAL STATISTICS	
3.		
	TOTAL CHARGES FOR EACH CURRENCY	
	TOTAL BALANCING COSTS	-
	TOTAL CURRENCY COSTS	
	CUMULATIVE IMPERFECTIONS COSTS VS BUDGET	
	FINANCIAL CHANGES BETWEEN INITIAL SETTLEMENT AND SUBSEQUENT RERUNS	
	3.1.2 Capacity Market	
4.	HELPDESK CALL STATISTICS	
	DISPUTES AND QUERIES	
5.	-	
	5.1.2 Data Queries 5.1.3 Settlement Queries	
_		
6.	CENTRAL SYSTEMS	
	6.1 PROPORTION OF DEFAULT DATA USED	
	6.2 PROPORTION OF ESTIMATED METER DATA USED IN INITIAL SETTLEMENT AND RESETTLEMENT 6.3 LIST OF SYSTEM ERRORS AND RE-RUNS	
	6.3.1 Re-Pricing and Resettlement Runs	
	6.3.2 System Errors	
	6.4 OPERATIONAL TIMINGS	
	6.4.1 MSP Postings August 2015	
	6.4.2 MSP Algorithms 6.4.3 Settlement Postings September 2015	
	6.5.1 Release SEM R2.6.0 (Proposed Deployment: May 15 <sup>th</sup> 2015)	
	6.5.2 Release SEM R2.7.0 (To be deployed 2 <sup>nd</sup> October 2015)	
7.	OCCASIONAL COMPONENTS	
	7.1 DISASTER RECOVERY/BUSINESS CONTINUITY TESTS	
	7.1 DISASTER RECOVERY/BUSINESS CONTINUITY TESTS	
	7.4 DENIAL OF SERVICE ATTACKS	
	7.5 SUBMISSION OF PARAMETERS TO RAS FOR APPROVAL	33
8.	APPENDIX A: DETAIL OF CODE BREACHES	.34
	MARKET PARTICIPANT	34
	DATA PROVIDER	-
	SEMO - PRICING AND SCHEDULING	-
	SEMO – SETTLEMENTS	
	SEMO - FUNDS TRANSFER	
	SEMO – OTHER	
9.	APPENDIX B: LIST OF QUERIES BY TYPE	.36
10.	APPENDIX C: LIST OF ALL SYSTEM ERRORS AND FAILURES	.37
11.	APPENDIX D: DETAILS OF OPERATIONAL TIMINGS	.38
	MARKET SCHEDULE AND PRICE RUNS	

## Market Operator Monthly Report

12.	APPENDIX E: IMPERFECTIONS CHARGE	40
13.	APPENDIX F: DEFAULT COMMERCIAL OFFER DATA USED	51
14.	APPENDIX G: TOTAL CHARGES AND PAYMENTS DATA	54
15.	APPENDIX H: FULL BALANCING COSTS	56
•	TRADING MARKET	.56
(	CAPACITY MARKET	.57
16.	APPENDIX I: MSP ALGORITHMS	58

## 1. Executive Summary

This Single Electricity Market Operator's (SEMO) report covers the month of operation of September 2015 and is published in accordance with the Single Electricity Market (SEM) Committee decision and Clause 2.144 of the Trading and Settlement Code.

During the month of September 2015, Settlements had no late publications as per the Trading and Settlement code.

205 general queries were received in September 2015. During the same period 208 general queries were resolved.

There were 12 defaults by Participants during September 2015. The largest of these was an Energy Initial invoice for €502.54 which was remedied the same day.

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

# 2. Monthly Statistics

## Code Breaches

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

Code Breaches						
	Area Major Minor					
Data Providers		-	1			
Market Participants	Pricing & Scheduling	-	-			
	Settlement	-	-			
	Funds Transfer		-			
	Credit Risk Management					
SEMO Pricing & Scheduling		1	1			
Settlement		-	-			
	Funds Transfer	-	-			
	Credit Risk Management	-	-			
	Other	-	-			
Total		14	2			

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 no financial implication to Participants. This includes late posting of pricing and settlement runs.

#### Joining and Terminating Parties and Units

No new Parties joined the Market in September 2015.

There were no terminating parties in September 2015.

There were five new units effective in the Market in September 2015.

- PT\_400167/ PT\_400167\_I\_RIEWIC Shell Energy Europe Ltd
- PT\_500087/ PT\_500087\_I\_NIMOYLE Shell Energy Europe Ltd
- PT\_500078/DSU\_501330 Powerhouse Generation Limited
- PT\_500079/SU\_500080 Powerhouse Generation Limited
- PT\_500085/ PT\_500085\_I\_NIMOYLE Axpo Trading AG

There were no units which de-registered from the Market in September 2015.

#### 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

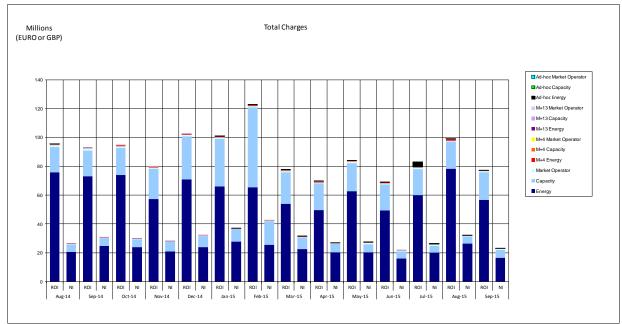


Figure 1 - Total Charges for Each Currency

Market	September 2015		
	ROI	NI	
Energy	€56,880,935	£16,638,373	
Capacity	€19,007,006	£5,599,037	
Market Operator	€785,990	£750,313	
M+4 Energy	€310,027	£28,073	
M+4 Capacity	€107,852	£9,406	
M+4 Market Operator	€1,797	£194	
M+13 Energy	€36,597	£6,674	
M+13 Capacity	€9,588	£1,950	
M+13 Market Operator	€443	£89	
Ad-hoc Energy	€15,420	£1,840	
Ad-hoc Capacity	€0	£0	
Ad-hoc Market Operator	€0	£0	
Total	€77,155,656	£23,035,949	

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 <u>Appendix G</u>.

#### **Total Payments for Each Currency**

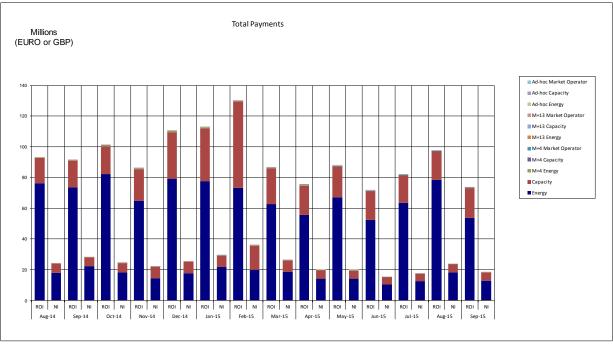


Figure 2 - Total Payments for Each Currency

Market	September 2015		
	ROI	NI	
Energy	€53,901,821	£12,814,818	
Capacity	€19,234,943	£5,453,050	
M+4 Energy	€48,776	£13,099	
M+4 Capacity	€306,960	£28,119	
M+4 Market Operator	€78,980	£30,434	
M+13 Energy	€1,723	-£195	
M+13 Capacity	€36,597	£6,674	
M+13 Market Operator	€9,594	£1,962	
Ad-hoc Energy	€440	£89	
Ad-hoc Capacity	€0	£0	
Ad-hoc Market Operator	€0	£0	
Total	€73,619,835	€18,348,050	

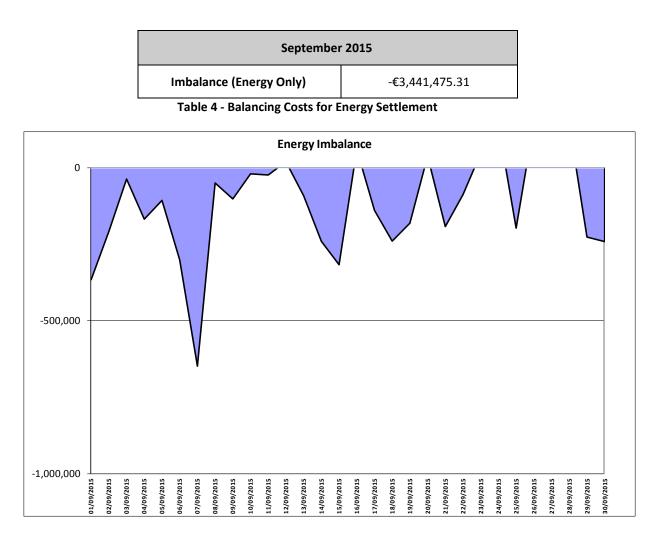
Table 3 - Total Payments for Each Currency

## **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:



#### 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
04/09/2015	34	-€1,485,816.61	€198,073.82
11/09/2015	35	-€1,756,683.94	€205,483.44
18/09/2015	36	-€371,938.24	€142,256.22
25/09/2015	37	-€1,910,118.52	€235,332.60

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:

September 2015				
Capacity Charges	-€41,234,658.27			
Capacity Payments	€41,234,393.18			
Balancing Costs	-€265.90			
VAT	-€3,353.53			

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

Historical figures, the current financial year full Balancing Costs for both Trading and Capacity are provided in <u>Appendix H</u>. 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
29/08/2015	04/09/2015	34	-£9,302.22	-£29,695.75	-£38,997.97
05/09/2015	11/09/2015	35	£21,927.36	£0.00	£21,927.36
12/09/2015	18/09/2015	36	£11,461.00	£0.00	£11,461.00
19/09/2015	25/09/2015	37	-£22,816.81	£1,478.24	-£21,338.57

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 £21,927.36 and a cost of £38,997.97. 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
09/10/2015	Sep 2015	£29,051.71

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	Total Uninstructed	Total Make Whole	
Payments	Imbalance	Payments	Total Imperfections
€159,826,737.06	-€2,258,116.57	€5,625,681.24	-€169,103,907.98

Table 9 – Cumulative Imperfections Costs Vs Budget

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

This is demonstrated in the figure below.

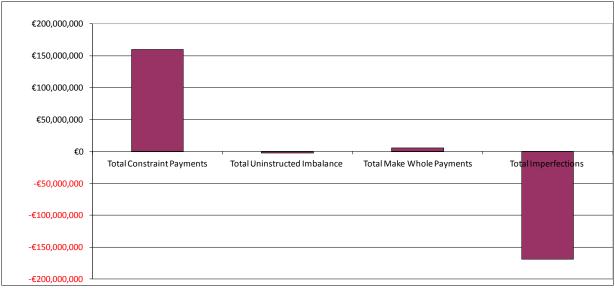


Figure 4 - Cumulative Imperfections Costs Vs Budget

The daily and weekly data that comprised these values is shown in <u>Appendix E</u>.

## Financial Changes between Initial Settlement and Subsequent Reruns

The following graphs provide a breakdown of resettlement amounts for the M+4 resettlement period of May 2015 and M+13 resettlement period of August 2014 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 <u>to</u> Participants (Payments).

The reverse is true for Figure 7 & 10

#### M+4 Resettlement

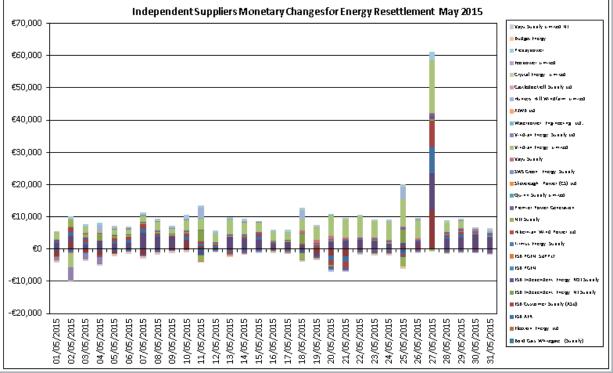
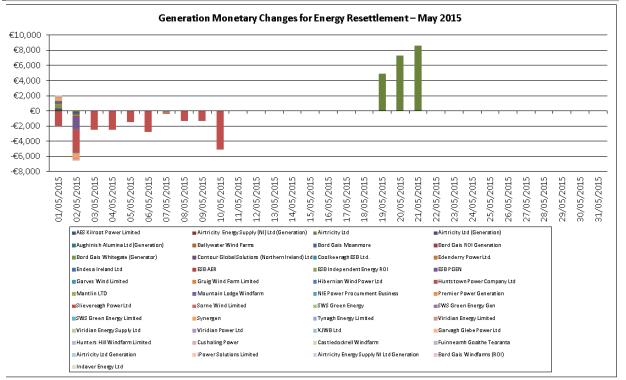
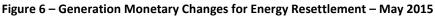
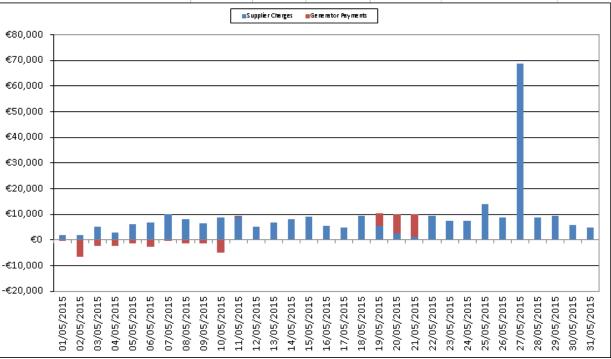


Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement – May 2015

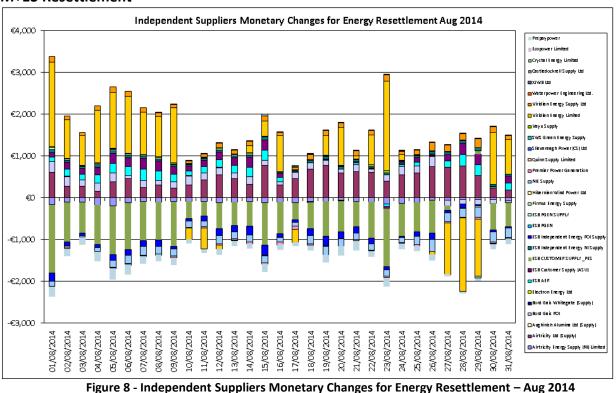
The above variances relates purely to rounding for Participants between Initial and M+4 Resettlement.







#### Figure 7 – Total Monetary Changes for Energy Resettlement – May 2015



#### M+13 Resettlement

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

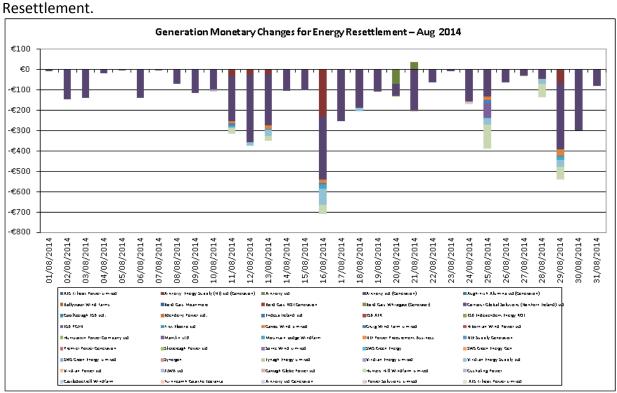


Figure 9 - Generation Monetary Changes for Energy Resettlement – Aug 2014

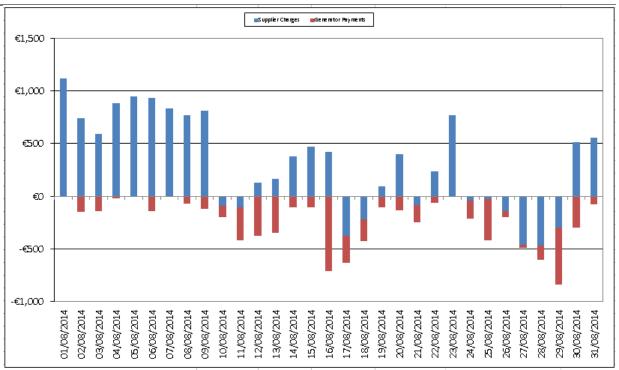


Figure 10 - Total Monetary Changes for Energy Resettlement – Aug 2014

## 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 <u>to</u> 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.

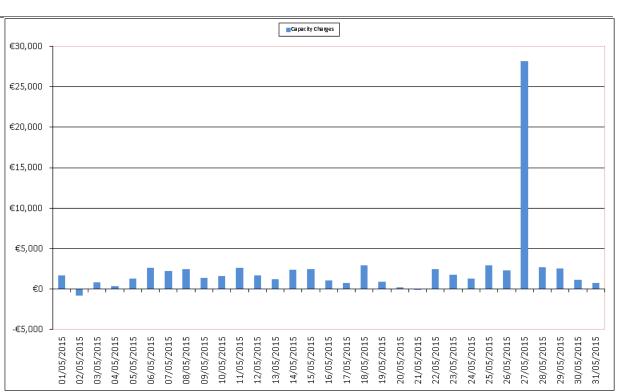


Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement – May 2015

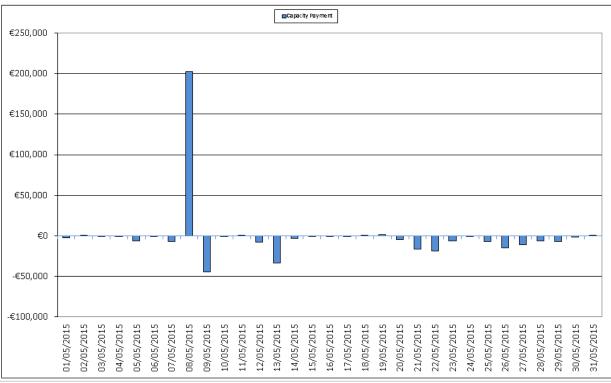


Figure 12 - All Generation Monetary Change for Capacity Resettlement – May 2015

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

# Market Operator Monthly Report

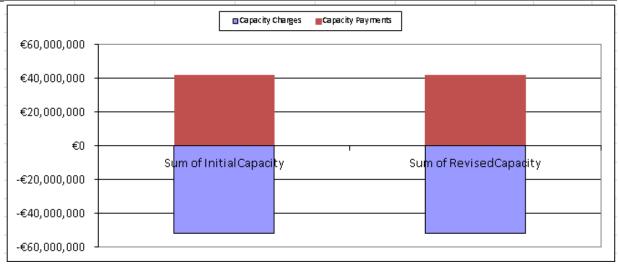
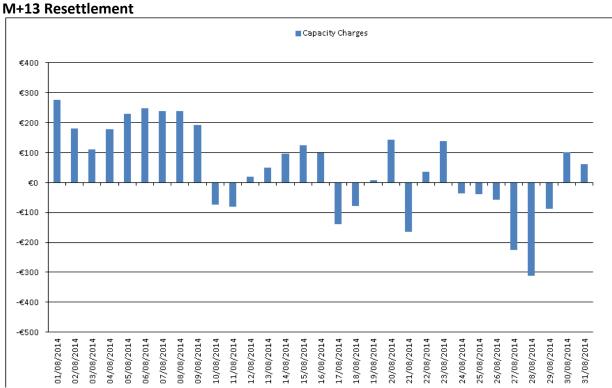
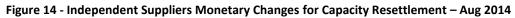


Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement May 2015

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.





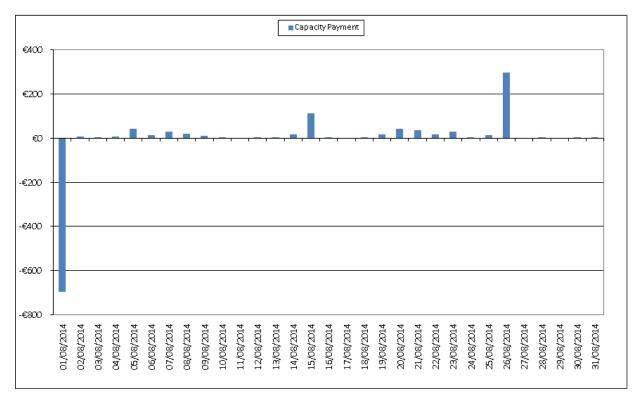


Figure 15 – All Generation Monetary Change for Capacity Resettlement – Aug 2014

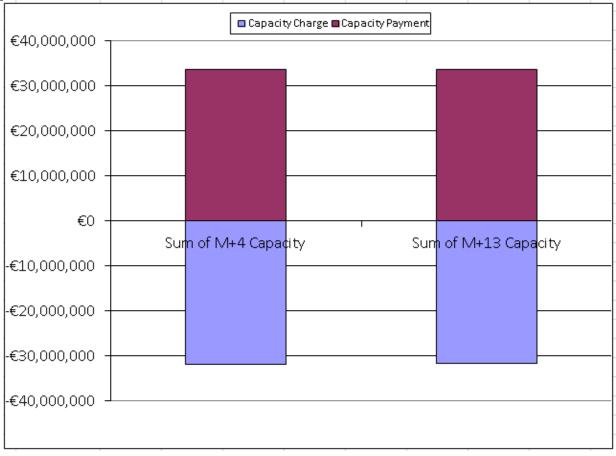


Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – Aug 2014

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 September 2015.

# Market Helpdesk Report: 01/09/15 to 30/09/15

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	202	184	18	205	0.90	202
Important	3	2	1	3	1.01	2
Urgent	0	0	0	0	0.00	0
Settlement	6	4	2	5	3.03	5
Credit	0	0	0	0	0.00	0
Dispute	0	0	0	1	15.70	1
Data	4	4	0	4	1.93	4
Total/Average	215	194	21	218	4.51	214

#### Table 10 – Helpdesk Statistics

Definitions:

- *Resolved within the Period* refers to queries raised and resolved within the calendar month of September2015.
- *Resolved in the Period* refers to queries resolved within September2015, 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 September2015.
- *Not Resolved* refers to queries raised but not resolved within September 2015.
- 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 slightly by 0.02 working days in September 2015 to 0.90 from 0.93 working days in August 2015. 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 September 2015 that took over 20 working days to resolve.

Data and Settlement Queries generally continue to be responded to within the timelines required by the Code, i.e. one calendar month. No Formal Query timeline extensions were required during August 2015 with regard to formal Settlement Queries.

## 5. Disputes and Queries

#### 5.1.1 Disputes

There was no Dispute raised during the month of September 2015.

#### 5.1.2 Data Queries

There were two formal Data Queries raised during the month of September 2015. Of the two, one data query was upheld. Both queries have been resolved.

Торіс	Number Of Queries
Availabilities and Metered Generation	1

Table 10 - Upheld Data Queries by topic

- One query relating to Availabilities and Metered Generation was raised. This query was upheld and was deemed to be of Low Materiality; therefore it will be corrected within M+4 re-settlement.
- One query relating to Dispatch Quantities was raised. This query was not upheld and therefore no re-settlement is required.

#### 5.1.3 Settlement Queries

There were seven formal Settlement Queries raised in September 2015. Of the seven, four were upheld and all have been resolved.

Торіс	Number Of Queries
Metered Generation	2
Combined Loss Adjustment Factors	1
Settlement values for Under Generation	1

#### Table 12 - Upheld Settlement Queries by topic

- Two queries relating to Metered Generation were raised; both queries were upheld and were deemed to be of Low Materiality. Both queries will be corrected within M+4 re-settlement.
- One query relating to Dispatch Instructions was raised, this query was not upheld.
- One query relating to Dispatch Quantities was raised, this query was not upheld.
- One query relating to Metered Demand was raised, this query was not upheld.
- One query relating to settlement values for Under Generation was raised and this was deemed to be of Low Materiality. This will be corrected within M+4 re-settlement.
- One query relating to settlement values for Combined Loss Factors was raised and this was deemed to be of Low Materiality. This will be corrected within M+4 re-settlement.

Unresolved Queries

There are no unresolved data queries and one settlement queries as at the 8<sup>th</sup> September 2015.

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

## 6. Central Systems

#### 6.1 Proportion of Default Data Used

On review of the Commercial Offer Data used in the MSP runs, 68.99% of data used was submitted by Participants through the normal Bid-Offer process. 31.01% of the data used was based on Standing Commercial Offer Data. 0.0% 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 <u>Appendix F</u>.

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

This is not calculable presently.

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

#### 6.3.1 Re-Pricing and Resettlement Runs

There were no Re-Price runs carried out in September 2015.

There were seven Resettlement runs carried out in September 2015.

#### 6.3.2 System Errors

There were two Settlement defects and one Market Application defect found in September 2015.

SET-SEMO154	Incorrect Cross Boarder VAT charge assigned to Aggregate CC-IUENPEX_Z		
SET-SEMO155	Issue with Segment Import Dependencies		
ABB2015- 142198	EA1 Schedule failing at DSI Stage		

Table 12 – System Errors

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

#### 6.4 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 September 2015.

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

#### 6.4.1 MSP Postings September 2015

Table 13 - Operational Timings

Process	On Time	< 1 hr late	> 1 hr late	Not done
Gate Close	100%	0%	0%	0%
Post EA1	99%	0%	1%	0%
Post EA2	99%	0%	0%	1%
Post WD1	100%	0%	0%	0%
Post EP1	100%	0%	0%	0%
Post EP2	100%	0%	0%	0%

Table 14 - Operational Timings (% on time)

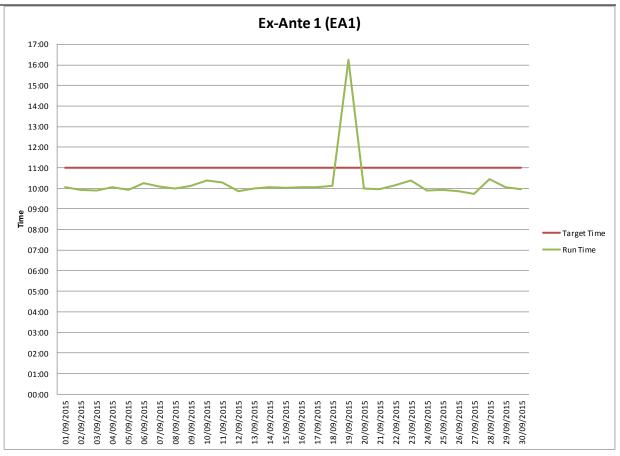


Figure 17 – Ex-Ante 1

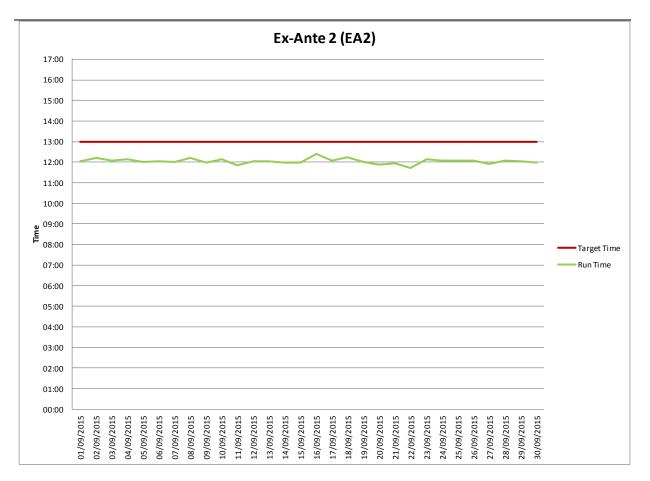


Figure 18 – Ex-Ante 2

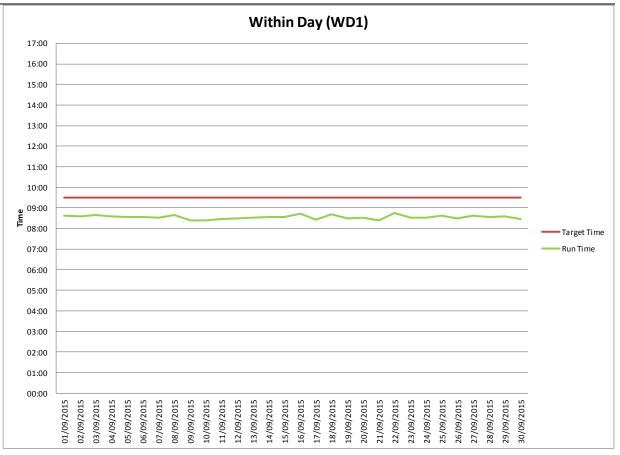


Figure 19 – Within Day 1

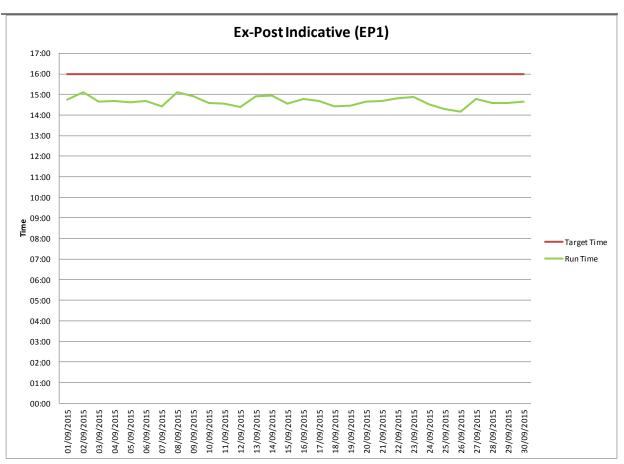


Figure 20 - Ex-Post Indicative

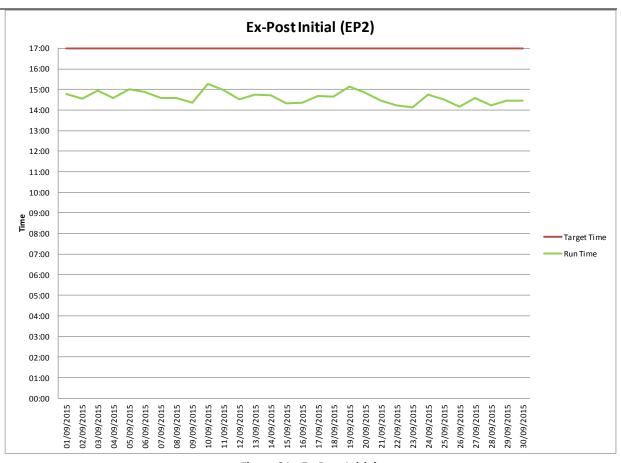


Figure 21 - Ex-Post Initial

Details of the operational timings of the Market System and Price (MSP) runs and Gate Closure are provided in <u>Appendix D</u>.

## 6.4.2 MSP Algorithms

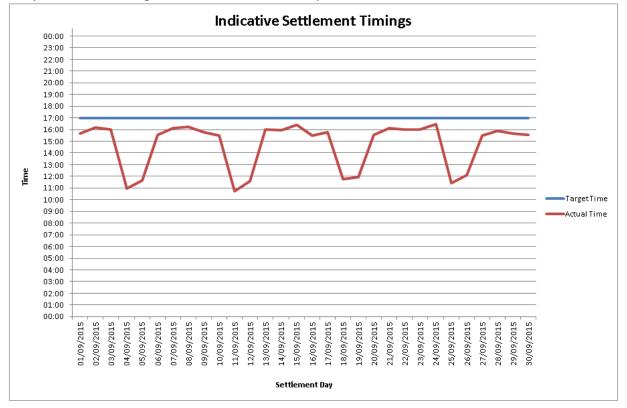
The Market Operator has two different certified solvers used to determine Unit Commitment. These solvers use the Lagrangian Relaxation (LR) and Mixed Integer Programming (MIP) methodologies.

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 <u>here</u>.

In September 2015, there were two instances of publishing with the MIP solver.

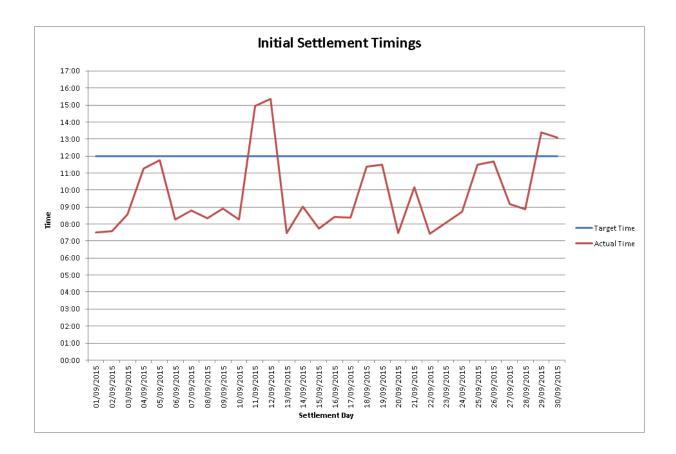
A detail of historical runs and dates where the MIP algorithm has been used for published results is provided in <u>Appendix I</u>.

#### 6.4.3 Settlement Postings September 2015



The publication timings for Settlement runs are provided below.

**Figure 22 - Indicative Settlement Postings** 



#### Figure 23 - Initial Settlement Postings

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

## 6.5.1 Release SEM R2.6.0 (Proposed Deployment: May 15<sup>th</sup> 2015)

SEM R2.6.0 went live on Friday May 15th with no issues

# 6.5.2 Release SEM R2.7.0 (To be deployed 2<sup>nd</sup> October 2015)

SEM 2.7.0 release will contain the following:

- Data collection and reporting under REMIT, the EU Regulation on wholesale energy market integrity and transparency;
- Mod\_09\_14 (Amendment to Make Whole Payments for Interconnector Units) which was approved at Extraordinary Mods Meeting 60; and
- A number of technical changes to ensure the Central Market Systems remain aligned with supported third-party products.

## 7. Occasional Components

#### 7.1 Disaster Recovery/Business Continuity Tests

There were no scheduled Business Continuity tests performed during September 2015.

#### 7.3 Communications or Systems Failures

There was 1 system issue during September 2015:

On September 18<sup>th</sup>, it was reported that the DSI element in the EA1 workflow was failing. After initial investigation, this was logged with the 3<sup>rd</sup> party vendor ABB. A fix was identified by the vendor, installed into Market Systems Test environment and signed off / verified to fix the issue. The fix was then promoted to production and the EA1 run could be completed for the specific date. During this time, the CMS was fully available for all other functionality.

#### 7.4 Denial of Service Attacks

There was no Denial of Service Attacks during September 2015.

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

There was no submission required in September 2015.

# 8. Appendix A: Detail of Code Breaches

#### Market Participant

03/09/2015	Money In	Timing	Participant	Payment Default	Fuinneamh Goaithe Teoranta PT_400118 defaulted on a April 2015 M+4 Capacity invoice	Participant Error	A default letter was issued.	Major
03/09/2015	Money In	Timing	Participant	Payment Default	Panda Power Ltd PT_400161 defaulted on a Week 17 2015 M+4 Energy Invoice	Participant Error	A default Letter was issued.	Major
09/09/2015	Money In	Timing	Participant	Payment Default	Panda Power Ltd PT_400161 defaulted on a Week 18 2015 M+4 Energy Invoice.	Participant Error	A default letter was issued	Major
11/09/2015	Money In	Timing	Participant	Payment Default	Powerhouse Generation Limited PT_400144 defaulted on an August 2015 FMOC invoice.	Participant Error	A default letter was issued	Major
11/09/2015	Money In	Timing	Participant	Payment Default	Powerhouse Generation Limited PT_400145 defaulted on an August 2015 FMOC invoice.	Participant Error	A default letter was issued	Major
11/09/2015	Money In	Timing	Participant	Payment Default	Quinn Windfarm Limited PT_400049 defaulted on a August 2015 FMOC invoice.	Participant Error	A default letter was issued	Major
11/09/2015	Money In	Timing	Participant	Payment Default	Contour Global Solutions (Northern Ireland) Ltd PT_500048 defaulted on a August FMOC invoice	Participant Error	A default letter was issued	Major
14/09/2015	Money In	Timing	Participant	Payment Default	Aughrim Power Supply Limited PT_400119 defaulted on a August 2015 Initial capacity invoice.	Participant Error	A default letter was issued.	Major
16/09/2015	Money In	Timing	Participant	Payment Default	Indaver Energy Ltd PT_400088 defaulted on an Week 19 2015 M+4 & Week 32 2014 M+13 Energy Invoices	Participant Error	A default letter was isssued	Major
16/09/2015	Money In	Timing	Participant	Payment Default	Indaver Energy Ltd PT_400087 defaulted on a Week 32 2014 M+13 & Week 31 2013 AdHoc Energy Invoices.	Particpant Error	A default letter was issued	Major
23/09/2015	Money In	Timing	Participant	Payment Default	Snugborough Windfarm RoI Limited PT_500029 defaulted on a Week 33 2013 AdHoc Energy invoice.	Participant Error	A default letter was issued	Major
30/09/2015	Money In	Timing	Participant	Payment Default	Empower Generation Ltd PT_500073 defaulted on a May 2015 M+4 Capacity invoice.	Participant Error	A default letter was issued	Major
30/09/2015	Money In	Timing	Participant	Payment Default	Electricity Exchange Ltd PT_400116 defaulted on a May 2015 M+4 capcity invoice.	Participant Error	A deault letter was issued	Major

#### Table 15 - Code Breaches – Market Participants

#### Data Provider

09/09/2015	EP1	Timing	EirGrid		The Eirgrid SO_REDECLARED_ENERGY_LIMIT data feed for the Ex Post Indicative			Minor
			TSO	Submission	(EP1) Pricing Run Trade Date 08/09/2015 was not received by 13:55 gate window closure	not send the data feed due to an error.	opened and Eirgrid IT submitted the feed successfully to the SEM systems.	

#### Table 16 - Code Breaches – Data Providers

#### SEMO - Pricing and Scheduling

	-		-				
18/09/2015	EA1	Timing	SEMO System	The ExAnte (EA1) market schedule publication, for trade date 18/09/2015, was delayed beyond the deadline of 11:00am.	A system issue resulted in the non-generation of the ExAnte (EA1) workflow. This was raised to the system vendor to investigate the issue and provide an resolution.	A fix was delployed within the market system, resulting in the generation and publication of the ExAnte (EA1) market schedule at 16:12.	Major
30/09/2015	EA1	Timing	SEMO System	A revision was required for Ex-Ante (EA1) EWIC MIUNs for Trade Date 01/06/2015.	The MIUN calculator produced an error and a revised file was required.	Revised EWIC MIUNs were published by 11:38	Minor

#### Table 17 - Code Breaches – Pricing and Scheduling

#### Market Operator Monthly Report

## SEMO – Settlements

There were no issues to report in September2015

#### SEMO - Funds Transfer

There were no issues to report in September2015

#### SEMO - Credit Management

There were no issues to report in September2015

#### SEMO – Other

There were no issues to report in September2015

# 9. Appendix B: List of Queries by Type

Summary Title	Description	ID	Logged On	Date sent to MP	Туре
Dispatch Quantities	For settlement date 31/08/2015 they submitted a nomination profile of zero for GU_501350. In the indicative PIR data the DQ WERE 13mw for each interval in the day. Believe to be incorrect as the Nomination Profile showed the unit not to be running	PY_000035 (Power Ni)	2015-09-02	1900-01-00	Data
Dispatch Instructions	Unit GU_400323 (Poolbeg). Unit desync on 19th Aug 01:16, sync issued on 27th Aug at 14:12 to 234mw. Next instruction issued at 16:12 126mw. Checking the indicative data the dispatch quantity did not reflect the 14:12	PY_000030 (ESB PGEN)	2015-09-01	2015-09-03	Settlement
Meter Generation	There were issues with the meter for GU_400281 (Lee Unit 2) on the 10/07/2015, this caused incorrect meter data to be sent to the SEM.	Eirgrid	2015-09-07	2015-09-10	Settlement
Meter Generation	There were issues with the meter on site for Ballybane 1&2 (GU_400650 & GU_401790) on the 21/08/2015. As a result, this caused incorrect D+3 meter Generation values to be sent to the SEM for these units	Eirgrid	2015-09-07	2015-09-10	Settlement
PUGDOG	PUGDOG values not applied correctly in settlements for GU_401280 when the unit switched from APTG to VPTG. This impacted 14/04/2015 - 22/07/2015.	PT_400050 / GU_401280	2015-09-11	2015-09-14	Settlement
Dispatch Quantities	Our PPTG unit GU_501250 under PT_500034 is currently under test. For settlement date 13/09/2015 the Dispatch Quantity for the Indicative settlement exceeds the Maximum Export Capacity of the generator unit. The Maximum Export Capacity is 17.6 MW but the indicative DQ from 15:30-24:00 is greater than this, 18 at most intervals, which should not be possible. I can see in the Dispatch Instructions report we were dispatched to 18 but this seems incorrect. This leads to a larger UNIMPEX value due to te difference between the incorrect DQ	PT_500034	2015-09-15	2016-09-14	Settlement
CLAFs	GU_400630 is a DSO connected windfarm but as this is a price effecting generator Eirgrid are the export Meter Data Provider. The 2014/2015 Distributon Loss Factor Values applied to the unit from 01/10/2014 onwards are incorrect. Incorrect Values: Day 0.9659 and Night 0.9659. Correct values Day 0.9989 and Night 0.9959	PY_000046	2015-09-16	2015-09-22	Settlement
Availability and Metered Generation	Due to IT issues EirGrid were unable to provide correct D+3 METER, DI and ACTA files to the SEM on Sunday the 27/09/2015. The IT issues are now resolved.The following contingency files were sent to the SEM on Sunday the 27/09/2015;- ACTA D+3 (data for the 24/09/2015)- DI D+3 (data for the 24/09/2015)- METER D+3	EirGrid	2015-09-28	2015-09-29	Data
Meter Demand	There is a variance for M4 Data on 18/05/2015 between the PIR (MD) data and the correpsonding data provided by T&D. The variance seems to affect each half hourly period from 13:00 onwards. This relates to Participant 500030/Supplir Unit 500060.	PY_000042	2015-09-28	2015-10-01	Settlement

Table 18 - Formal 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
SET-SEMO154	Incorrect Cross Boarder VAT charge assigned to Aggregate CC-IUENPEX_Z	-	-	Ν	Ν	Resolved
SET-SEMO155	Issue with Segment Import Dependencies	-	-	N	N	Resolved
ABB2015- 142198	EA1 Schedule failing at DSI Stage	-	-	Ν	Ν	Resolved

Table 19 - List of System Errors and Failures

# **11.** Appendix D: Details of Operational Timings

#### Market Schedule and Price Runs

	EA1 Postings	-	EA2 Postings		WD1 Postings		EP1Postings		EP2 Postings	
Operational Day	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
01/09/2015	11:00	10:03	13:00	12:03	09:30	08:37	16:00	14:45	17:00	14:47
02/09/2015	11:00	09:55	13:00	12:12	09:30	08:35	16:00	15:06	17:00	14:34
03/09/2015	11:00	09:54	13:00	12:04	09:30	08:40	16:00	14:38	17:00	14:56
04/09/2015	11:00	10:03	13:00	12:09	09:30	08:36	16:00	14:40	17:00	14:36
05/09/2015	11:00	09:55	13:00	12:00	09:30	08:33	16:00	14:37	17:00	15:01
06/09/2015	11:00	10:16	13:00	12:02	09:30	08:34	16:00	14:41	17:00	14:52
07/09/2015	11:00	10:06	13:00	12:01	09:30	08:32	16:00	14:25	17:00	14:36
08/09/2015	11:00	10:00	13:00	12:12	09:30	08:40	16:00	15:06	17:00	14:36
09/09/2015	11:00	10:08	13:00	11:59	09:30	08:24	16:00	14:54	17:00	14:22
10/09/2015	11:00	10:23	13:00	12:09	09:30	08:24	16:00	14:35	17:00	15:16
11/09/2015	11:00	10:18	13:00	11:50	09:30	08:27	16:00	14:34	17:00	14:58
12/09/2015	11:00	09:51	13:00	12:03	09:30	08:29	16:00	14:24	17:00	14:31
13/09/2015	11:00	09:59	13:00	12:03	09:30	08:32	16:00	14:55	17:00	14:45
14/09/2015	11:00	10:04	13:00	11:59	09:30	08:33	16:00	14:57	17:00	14:42
15/09/2015	11:00	10:01	13:00	11:59	09:30	08:34	16:00	14:33	17:00	14:20
16/09/2015	11:00	10:04	13:00	12:24	09:30	08:44	16:00	14:47	17:00	14:21
17/09/2015	11:00	10:04	13:00	12:05	09:30	08:25	16:00	14:41	17:00	14:41
18/09/2015	11:00	10:07	13:00	12:15	09:30	08:41	16:00	14:25	17:00	14:38
19/09/2015	11:00	16:14	13:00	Cancelled	09:30	08:29	16:00	14:27	17:00	15:09
20/09/2015	11:00	10:00	13:00	11:52	09:30	08:32	16:00	14:38	17:00	14:50
21/09/2015	11:00	09:57	13:00	11:57	09:30	08:23	16:00	14:41	17:00	14:27
22/09/2015	11:00	10:10	13:00	11:44	09:30	08:45	16:00	14:49	17:00	14:13
23/09/2015	11:00	10:22	13:00	12:09	09:30	08:32	16:00	14:53	17:00	14:08
24/09/2015	11:00	09:53	13:00	12:04	09:30	08:31	16:00	14:31	17:00	14:44
25/09/2015	11:00	09:56	13:00	12:05	09:30	08:38	16:00	14:17	17:00	14:32
26/09/2015	11:00	09:52	13:00	12:04	09:30	08:29	16:00	14:10	17:00	14:09
27/09/2015	11:00	09:44	13:00	11:54	09:30	08:38	16:00	14:47	17:00	14:35
28/09/2015	11:00	10:26	13:00	12:04	09:30	08:33	16:00	14:35	17:00	14:14
29/09/2015	11:00	10:04	13:00	12:03	09:30	08:36	16:00	14:35	17:00	14:27
30/09/2015	11:00	09:57	13:00	11:59	09:30	08:28	16:00	14:38	17:00	14:28

Table 20 – MSP Runs

## Settlement Runs

		INDICATIVE	E		INITIAL			
Trading	Target	Actual	Target	Actual	Trading	Actual	Target	Actual
Day	Date	Date	Time	Time	Day	Date	Time	Time
01/09/2015	02/09/2015	03/09/2015	17:00	15:41	01/09/2015	08/09/2015	12:00	12:05
02/09/2015	03/09/2015	04/09/2015	17:00	16:12	02/09/2015	09/09/2015	12:00	09:28
03/09/2015	04/09/2015	05/09/2015	17:00	16:00	03/09/2015	10/09/2015	12:00	08:28
04/09/2015	05/09/2015	06/09/2015	17:00	10:58	04/09/2015	11/09/2015	12:00	08:37
05/09/2015	06/09/2015	07/09/2015	17:00	11:38	05/09/2015	11/09/2015	12:00	08:51
06/09/2015	07/09/2015	08/09/2015	17:00	15:32	06/09/2015	11/09/2015	12:00	08:19
07/09/2015	08/09/2015	09/09/2015	17:00	16:07	07/09/2015	14/09/2015	12:00	11:30
08/09/2015	09/09/2015	10/09/2015	17:00	16:13	08/09/2015	15/09/2015	12:00	11:39
09/09/2015	10/09/2015	11/09/2015	17:00	15:46	09/09/2015	16/09/2015	12:00	08:04
10/09/2015	11/09/2015	12/09/2015	17:00	15:31	10/09/2015	17/09/2015	12:00	08:07
11/09/2015	12/09/2015	13/09/2015	17:00	10:44	11/09/2015	18/09/2015	12:00	08:04
12/09/2015	13/09/2015	14/09/2015	17:00	11:34	12/09/2015	18/09/2015	12:00	07:52
13/09/2015	14/09/2015	15/09/2015	17:00	16:02	13/09/2015	18/09/2015	12:00	07:46
14/09/2015	15/09/2015	16/09/2015	17:00	15:57	14/09/2015	21/09/2015	12:00	12:36
15/09/2015	16/09/2015	17/09/2015	17:00	16:23	15/09/2015	22/09/2015	12:00	12:44
16/09/2015	17/09/2015	18/09/2015	17:00	15:31	16/09/2015	23/09/2015	12:00	08:18
17/09/2015	18/09/2015	19/09/2015	17:00	15:48	17/09/2015	24/09/2015	12:00	08:08
18/09/2015	19/09/2015	20/09/2015	17:00	11:46	18/09/2015	25/09/2015	12:00	08:18
19/09/2015	20/09/2015	21/09/2015	17:00	11:57	19/09/2015	25/09/2015	12:00	09:07
20/09/2015	21/09/2015	22/09/2015	17:00	15:33	20/09/2015	25/09/2015	12:00	08:42
21/09/2015	22/09/2015	23/09/2015	17:00	16:08	21/09/2015	28/09/2015	12:00	11:17
22/09/2015	23/09/2015	24/09/2015	17:00	15:59	22/09/2015	29/09/2015	12:00	11:46
23/09/2015	24/09/2015	25/09/2015	17:00	16:01	23/09/2015	30/09/2015	12:00	07:52
24/09/2015	25/09/2015	26/09/2015	17:00	16:27	24/09/2015	01/10/2015	12:00	09:05
25/09/2015	26/09/2015	27/09/2015	17:00	11:24	25/09/2015	02/10/2015	12:00	07:52
26/09/2015	27/09/2015	28/09/2015	17:00	12:05	26/09/2015	02/10/2015	12:00	08:28
27/09/2015	28/09/2015	29/09/2015	17:00	15:31	27/09/2015	02/10/2015	12:00	08:41
28/09/2015	29/09/2015	30/09/2015	17:00	15:53	28/09/2015	05/10/2015	12:00	11:56
29/09/2015	30/09/2015	01/10/2015	17:00	15:40	29/09/2015	06/10/2015	12:00	12:05
30/09/2015	01/10/2015	02/10/2015	17:00	15:32	30/09/2015	07/10/2015	12:00	08:33

Table 21 – 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	Constraint Payments	Uninstructed Imbalance Payments	Imperfections Charges
01/10/2014	€227,003.16	€4,663.19	-€497,010.43
02/10/2014	€735,796.33	-€19,882.49	-€485,485.43
03/10/2014	€614,655.29	€10,871.94	-€504,078.89
04/10/2014	€431,006.78	-€7,434.77	-€448,528.17
05/10/2014	€824,385.72	€10,977.87	-€414,125.03
06/10/2014	€656,891.36	-€20,536.24	-€496,825.27
07/10/2014	€271,569.15	€7,652.10	-€515,909.62
08/10/2014	€317,802.51	-€36,024.01	-€520,694.36
09/10/2014	€271,129.06	-€14,582.31	-€525,428.89
10/10/2014	€442,983.70	-€26,317.26	-€517,313.97
11/10/2014	€311,801.03	€11,849.83	-€473,083.86
12/10/2014	€401,470.02	-€7,407.00	-€451,034.95
13/10/2014	€353,395.99	-€24,498.55	-€513,674.01
14/10/2014	€358,013.74	-€19,066.88	-€523,546.32
15/10/2014	€428,117.82	-€853.11	-€511,064.60
16/10/2014	€310,763.65	-€12,618.38	-€513,456.78
17/10/2014	€483,353.64	-€5,253.97	-€495,989.17
18/10/2014	€1,079,153.36	€23,841.90	-€428,037.24
19/10/2014	€506,373.44	-€2,840.01	-€416,208.56
20/10/2014	€565,796.01	-€13,121.95	-€490,614.73
21/10/2014	€722,480.43	€17,262.53	-€491,996.93
22/10/2014	€622,659.96	-€35,249.53	-€515,127.40
23/10/2014	€299,585.53	€2,462.07	-€513,013.48
24/10/2014	€505,499.46	-€8,503.06	-€505,991.61
25/10/2014	€899,840.05	€24,936.45	-€439,804.29
26/10/2014	€867,189.29	-€8,010.50	-€428,234.85
27/10/2014	€739,332.30	€6,690.55	-€444,796.70
28/10/2014	€553,302.80	-€61,012.80	-€519,037.78
29/10/2014	€754,919.24	-€6,314.82	-€530,046.54
30/10/2014	€636,202.61	-€3,395.44	-€513,730.14
31/10/2014	€508,522.20	-€17,778.71	-€506,014.82
01/11/2014	€546,540.25	-€6,912.86	-€457,086.94
02/11/2014	€318,890.98	-€12,990.39	-€443,511.55
03/11/2014	€569,073.38	-€4,244.85	-€532,442.41
04/11/2014	€669,098.98	-€16,550.06	-€528,960.67
05/11/2014	€546,197.90	-€18,613.60	-€550,138.29
06/11/2014	€637,275.88	-€14,424.86	-€537,063.83
07/11/2014	€382,071.17	-€11,250.48	-€531,305.30
08/11/2014	€416,600.72	-€18,592.20	-€500,732.00
09/11/2014	€324,554.00	-€6,024.57	-€481,392.83
10/11/2014	€506,959.62	-€12,756.86	-€540,675.17
11/11/2014	€305,371.45	-€44,629.39	-€565,550.06

12/11/2014	€532,498.02	-€28,281.20	-€554,600.49
13/11/2014	€345,990.75	-€17,901.27	-€553,923.16
14/11/2014	€343,466.61	-€1,320.38	-€534,716.18
15/11/2014	€494,457.91	€3,019.64	-€499,765.88
16/11/2014	€360,376.17	€7,373.68	-€482,898.42
17/11/2014	€553,003.49	-€24,556.35	-€545,895.52
18/11/2014	€415,247.34	€4,362.82	-€543,481.42
19/11/2014	€534,047.47	-€12,653.01	-€548,548.06
20/11/2014	€548,216.05	-€26,506.42	-€571,397.50
21/11/2014	€351,743.55	-€34,277.81	-€542,644.18
22/11/2014	€402,367.39	-€15,880.02	-€504,134.67
23/11/2014	€543,674.52	-€9,757.73	-€492,515.83
24/11/2014	€436,153.86	-€3,275.68	-€568,242.69
25/11/2014	€252,433.54	-€17,224.01	-€582,837.38
26/11/2014	€268,639.50	-€6,672.97	-€590,843.52
27/11/2014	€477,133.30	-€17,221.50	-€571,833.74
28/11/2014	€514,059.40	-€24,958.57	-€548,216.58
29/11/2014	€466,095.46	-€17,684.09	-€518,324.65
30/11/2014	€426,493.00	€228.22	-€497,681.99
01/12/2014	€425,729.84	-€17,667.29	-€564,559.17
02/12/2014	€608,884.75	-€9,337.96	-€580,266.39
03/12/2014	€506,617.59	-€48,599.53	-€604,794.55
04/12/2014	€524,348.76	-€26,701.42	-€598,118.36
05/12/2014	€461,085.09	-€25,561.67	-€572,477.87
06/12/2014	€568,753.24	-€12,613.70	-€516,202.71
07/12/2014	€484,127.53	€2,302.13	-€486,982.31
08/12/2014	€885,938.85	-€37,551.38	-€584,787.94
09/12/2014	€718,257.00	-€19,795.27	-€567,508.60
10/12/2014	€694,745.69	-€28,671.71	-€573,652.69
11/12/2014	€523,434.14	-€5,545.19	-€588,404.70
12/12/2014	€674,997.85	-€30,954.05	-€590,328.30
13/12/2014	€574,892.66	-€14,185.39	-€545,225.54
14/12/2014	€628,744.88	-€7,460.18	-€494,683.75
15/12/2014	€586,494.13	-€52,410.95	-€589,165.45
16/12/2014	€596,239.45	-€17,823.19	-€593,950.92
17/12/2014	€709,290.15	-€19,551.47	-€567,440.23
18/12/2014	€896,816.00	€2,905.28	-€554,081.45
19/12/2014	€995,932.96	€4,662.09	-€543,943.87
20/12/2014	€505,276.32	€4,952.12	-€510,278.41
21/12/2014	€1,032,186.15	€3,856.82	-€470,790.42
22/12/2014	€783,718.05	€19,779.93	-€528,728.17
23/12/2014	€580,782.79	€13,315.83	-€531,858.69
24/12/2014	€522,323.53	-€1,231.24	-€497,446.95
25/12/2014	€365,691.72	€1,963.64	-€464,366.17
26/12/2014	€540,788.12	-€8,172.04	-€457,472.59
27/12/2014	€646,748.39	€14,909.59	-€472,798.28
28/12/2014	€607,407.31	€7,022.19	-€497,727.79
29/12/2014	€555,367.66	€7,365.97	-€524,246.05
30/12/2014	€640,363.39	€14,384.93	-€505,239.86
31/12/2014	€603,204.62	€25,349.47	-€482,895.60
01/01/2015	€1,183,313.74	€22,302.55	-€432,637.80
02/01/2015	€719,060.46	€7,180.94	-€488,863.06
03/01/2015	€347,426.55	€22,383.30	-€509,883.65
00/01/2010			

05/01/2015	€858,552.99	-€57,810.06	-€547,249.34
06/01/2015	€846,901.18	€24,062.40	-€565,026.70
07/01/2015	€754,789.55	€18,197.44	-€553,124.60
08/01/2015	€738,052.46	€5,912.21	-€560,161.59
09/01/2015	€799,401.56	€25,467.67	-€544,123.83
10/01/2015	€471,870.80	€23,541.24	-€489,886.95
11/01/2015	€804,037.00	€7,957.03	-€475,707.54
12/01/2015	€532,334.91	-€28,660.44	-€547,621.88
13/01/2015	€657,677.89	€13,214.17	-€585,068.72
14/01/2015	€769,303.38	-€3,725.21	-€591,675.05
15/01/2015	€571,780.65	€11,193.51	-€586,646.16
16/01/2015	€716,352.94	-€13,748.94	-€590,495.78
17/01/2015	€377,678.95	€8,181.35	-€550,070.38
18/01/2015	€166,250.30	-€3,020.40	-€514,226.93
19/01/2015	€698,080.04	-€37,908.42	-€609,509.53
20/01/2015	€437,319.37	-€40,386.17	-€614,164.65
21/01/2015	€667,403.57	-€48,191.01	-€614,449.45
22/01/2015	€542,321.93	-€24,334.20	-€614,473.92
23/01/2015	€461,543.80	-€1,291.99	-€571,701.09
24/01/2015	€375,088.02	€3,285.01	-€529,114.19
25/01/2015	€370,985.65	-€4,188.67	-€488,904.88
26/01/2015	€761,148.58	-€5,809.04	-€566,069.74
27/01/2015	€496,305.71	€3,197.27	-€578,227.32
28/01/2015	€679,942.31	-€5,819.24	-€567,278.15
29/01/2015	€842,221.29	-€19,380.22	-€582,068.03
30/01/2015	€498,670.69	-€9,939.77	-€568,791.17
31/01/2015	€621,711.25	€5,481.92	-€512,025.64
01/02/2015	€465,811.18	-€7,159.85	-€522,488.66
02/02/2015	€600,896.72	-€25,058.44	-€612,427.31
03/02/2015	€622,108.61	-€646.83	-€612,448.65
04/02/2015	€680,810.77	€3,948.07	-€619,315.92
05/02/2015	€524,358.46	-€557.07	-€614,409.37
06/02/2015	€507,125.10	-€3,973.79	-€600,953.78
07/02/2015	€552,603.96	-€3,844.92	-€533,253.15
08/02/2015	€513,181.80	-€8,706.01	-€526,790.04
09/02/2015	€721,677.70	-€75,869.33	-€603,738.54
10/02/2015	€612,792.69	-€54,689.56	-€615,533.69
11/02/2015	€397,523.20	-€49,206.80	-€612,372.90
12/02/2015	€584,234.54	-€9,961.83	-€589,104.96
13/02/2015	€581,694.45	-€18,426.02	-€571,753.77
14/02/2015	€519,304.93	-€11,018.35	-€524,311.37
15/02/2015	€402,543.48	€350.55	-€482,429.93
16/02/2015	€539,037.68	-€34,021.35	-€564,140.28
17/02/2015	€542,064.44	-€575.68	-€567,853.68
18/02/2015	€602,625.88	-€7,288.26	-€546,880.62
19/02/2015	€512,519.51	€18,470.83	-€556,672.04
20/02/2015	€592,720.94	-€10,749.31	-€567,934.87
21/02/2015	€632,840.91	€17,014.71	-€511,712.83
22/02/2015	€870,894.49	€1,282.86	-€484,230.97
23/02/2015	€674,860.17	-€5,480.97	-€557,984.41
24/02/2015	€512,106.06	-€7,870.22	-€569,013.81
25/02/2015	€642,952.47	-€31,481.05	-€567,195.52
26/02/2015	€488,203.62	-€68,355.71	-€541,080.48
27/02/2015	€702,055.03	-€08,355.71	-€551,568.91
27/02/2013	02,000.00	6270,330.30	0001,000.01

28/02/2015	€763,470.11	-€156,795.83	-€490,683.19
01/03/2015	€521,607.45	-€1,843.99	-€477,581.24
02/03/2015	€574,380.29	€2,997.71	-€557,667.72
03/03/2015	€465,527.51	-€2,048.31	-€573,855.61
04/03/2015	€672,189.01	€6,050.68	-€574,853.34
05/03/2015	€652,850.86	€16,461.89	-€552,313.54
06/03/2015	€1,016,583.70	€12,741.03	-€526,556.29
07/03/2015	€1,025,731.02	€13,689.73	-€474,408.71
08/03/2015	€522,444.74	-€3,358.29	-€467,929.55
09/03/2015	€788,584.21	€13,340.73	-€530,097.21
10/03/2015	€719,928.31	€40,709.75	-€553,987.99
11/03/2015	€585,235.02	€5 <i>,</i> 483.05	-€544,302.02
12/03/2015	€621,873.73	-€7,818.95	-€556,429.84
13/03/2015	€658,937.97	-€12,692.12	-€565,741.37
14/03/2015	€513,997.92	€7,537.57	-€517,626.10
15/03/2015	€311,076.74	-€262.33	-€488,699.49
16/03/2015	€490,729.57	€17,637.03	-€560,146.36
17/03/2015	€550,876.37	€8,938.80	-€511,875.67
18/03/2015	€692,759.79	-€4,300.73	-€570,055.70
19/03/2015	€453,060.58	-€5,904.10	-€570,613.33
20/03/2015	€462,873.92	-€11,030.72	-€552,391.25
21/03/2015	€365,859.05	-€10,426.20	-€500,588.32
22/03/2015	€495,861.85	-€3,545.94	-€464,195.55
23/03/2015	€294,666.60	€24,633.51	-€526,351.50
24/03/2015	€532,310.91	€7,538.93	-€541,752.72
25/03/2015	€608,060.75	-€12,063.88	-€555,691.03
26/03/2015	€683,010.24	€2,898.03	-€534,954.70
27/03/2015	€516,305.02	€9,377.91	-€548,088.10
28/03/2015	€907,722.70	€14,362.92	-€460,979.15
29/03/2015	€899,801.32	€13,302.90	-€428,717.12
30/03/2015	€640,827.85	-€22,435.70	-€531,755.11
31/03/2015	€859,838.48	-€27,058.43	-€528,117.64
01/04/2015	€353,637.82	-€12,755.18	-€547,054.68
02/04/2015	€192,564.04	€26,214.78	-€557,637.09
03/04/2015	€553,060.03	€10,436.03	-€500,000.76
04/04/2015	€188,464.90	-€5,482.97	-€488,079.61
05/04/2015	€376,683.46	€379.94	-€449,913.28
06/04/2015	€202,881.78	€2,293.71	-€448,845.81
07/04/2015	€308,271.01	€18,476.58	-€502,814.72
08/04/2015	€302,925.86	€13,910.21	-€508,761.17
09/04/2015	€388,531.87	-€28,047.02	-€507,515.49
10/04/2015	€335,602.84	€3,276.78	-€492,195.74
11/04/2015	€409,832.29	€5,238.81	-€442,683.63
12/04/2015	€190,518.56	-€12,820.94	-€448,514.54
13/04/2015	€447,662.36	-€23,674.74	-€508,077.79
14/04/2015	€251,250.57	-€10,941.74	-€507,702.32
15/04/2015	€474,602.23	-€25,636.21	-€530,083.82
16/04/2015	€403,876.45	-€24,892.87	-€525,533.02
17/04/2015	€374,249.83	-€13,527.90	-€511,462.70
18/04/2015	€597,380.44	€9,054.50	-€444,810.59
19/04/2015	€387,461.71	€17,416.77	-€440,742.77
20/04/2015	€442,459.81	-€12,755.47	-€508,182.03
21/04/2015	€493,310.34	-€5,008.63	-€510,643.59
22/04/2015	€557,304.39	€2,298.79	-€506,655.91

23/04/2015	€409,459.95	-€8,601.93	-€509,587.22
24/04/2015	€506,069.75	-€1,035.74	-€507,855.55
25/04/2015	€334,715.22	€13,997.02	-€453,162.94
26/04/2015	€479,230.14	€5,427.75	-€444,641.14
27/04/2015	€405,033.18	-€2,812.88	-€504,278.12
28/04/2015	€384,277.88	€2,065.56	-€518,165.93
29/04/2015	€604,102.38	-€3,220.00	-€519,247.75
30/04/2015	€556,531.80	-€9,801.76	-€524,181.83
01/05/2015	€481,056.45	€14,256.54	-€506,269.58
02/05/2015	€459,045.41	€969.91	-€460,134.78
03/05/2015	€385,827.96	€3,504.75	-€437,509.01
04/05/2015	€328,172.19	€1,749.49	-€433,467.59
05/05/2015	€490,272.15	-€14,555.23	-€507,273.77
06/05/2015	€298,647.42	€4,735.81	-€506,162.49
07/05/2015	€261,995.15	€12,217.90	-€529,138.93
08/05/2015	€519,824.39	-€46,342.80	-€529,331.82
09/05/2015	€398,072.55	€2,899.03	-€470,310.55
10/05/2015	€712,118.71	-€1,357.23	-€416,297.12
11/05/2015	€846,733.77	€4,545.48	-€465,910.40
12/05/2015	€210,609.57	-€3,956.63	-€491,547.73
13/05/2015	€457,670.09	-€1,496.75	-€510,924.30
14/05/2015	€232,238.95	-€8,374.10	-€500,940.75
15/05/2015	€446,672.92	-€38,149.99	-€500,906.52
16/05/2015	€584,364.58	€3,138.79	-€300,500.52
17/05/2015	€509,347.00	€8,657.31	-€422,799.73
18/05/2015	€510,890.21	-€3,158.96	-€483,590.87
19/05/2015	€438,287.72	-€12,950.64	-€485,990.79
20/05/2015	€320,302.80	-€12,950.04	-€487,500.75
21/05/2015	€368,276.73	€8,879.24	-€513,657.93
22/05/2015		-€15,259.46	-€502,528.10
	€228,566.54		
23/05/2015	€354,957.10	-€19,310.70	-€456,898.21
24/05/2015	€552,078.42	€8,110.94	-€419,257.50
25/05/2015	€180,744.22	-€33,577.18	-€490,878.14
26/05/2015	€284,412.73	-€3,046.42	-€499,993.65
27/05/2015	€365,880.58	-€23,900.75	-€499,128.31
28/05/2015	€311,952.87	€7,341.90	-€488,790.58
29/05/2015	€528,545.53	€6,357.53	-€482,950.81
30/05/2015	€563,213.22	-€2,268.16	-€446,780.31
31/05/2015	€498,594.49	€1,093.74	-€399,769.50
01/06/2015	€903,037.05	-€372.60	-€430,963.73
02/06/2015	€225,558.98	-€9,102.27	-€481,644.89
03/06/2015	€163,230.43	€15,407.21	-€506,857.57
04/06/2015	€258,492.55	-€1,419.41	-€502,536.80
05/06/2015	€561,484.29	-€4,219.30	-€466,612.95
06/06/2015	€476,969.41	-€4,158.39	-€420,172.46
07/06/2015	€221,952.59	-€12,964.68	-€428,162.71
08/06/2015	€417,820.22	-€8,108.21	-€490,599.26
09/06/2015	€99,349.26	-€20,427.00	-€502,037.06
10/06/2015	€362,947.70	-€8,565.70	-€497,822.35
11/06/2015	€368,034.49	-€8,598.44	-€496,067.65
12/06/2015	€344,759.44	-€2,316.77	-€490,098.72
13/06/2015	€293,330.88	€9,421.81	-€432,822.16
14/06/2015	€243,977.92	€4,826.00	-€416,471.54
15/06/2015	€146,788.10	-€16,508.90	-€489,169.93

16/06/2015	€355,793.59	€8,987.44	-€491,232.75
17/06/2015	€350,471.59	€819.68	-€487,101.21
18/06/2015	€526,343.78	-€5,323.88	-€477,763.32
19/06/2015	€241,052.93	€7,739.33	-€486,582.07
20/06/2015	€397,112.32	-€4,839.02	-€433,410.02
21/06/2015	€383,030.12	€10,111.36	-€401,553.37
22/06/2015	€311,691.23	-€13,245.52	-€478,363.90
23/06/2015	€201,144.41	-€4,762.89	-€498,388.85
24/06/2015	€308,129.06	€4,185.85	-€501,724.92
25/06/2015	€467,910.15	€1,370.27	-€491,764.74
26/06/2015	€611,400.32	€5,841.53	-€473,888.59
27/06/2015	€567,227.30	€4,476.00	-€425,354.30
28/06/2015	€383,903.78	€5,553.99	-€394,717.39
29/06/2015	€524,586.93	-€9,068.11	-€472,168.43
30/06/2015	€230,790.65	€20,373.51	-€481,923.33
01/07/2015	€211,388.80	-€20,146.09	-€510,326.45
02/07/2015	€339,805.38	€889.95	-€496,404.89
03/07/2015	€325,431.49	-€3,650.04	-€468,381.26
04/07/2015	€443,596.50	-€17,205.37	-€416,941.95
05/07/2015	€73,501.54	€11,552.57	-€416,906.61
06/07/2015	€352,681.32	-€2,050.12	-€471,180.34
07/07/2015	€448,168.25	-€10,962.23	-€474,938.89
08/07/2015	€379,486.52	€3,189.07	-€473,290.48
09/07/2015	€208,276.81	-€11,951.60	-€492,201.22
10/07/2015	€299,675.21	-€623.08	-€466,671.41
11/07/2015	€287,017.04	€9,741.89	-€412,913.18
12/07/2015	€320,596.70	€4,162.99	-€412,913.18
13/07/2015			
	€519,992.38 €124.256.12	-€2,325.68	-€463,482.63
14/07/2015	€134,256.13 €259,314.93	-€20,002.97 -€19,184.61	-€481,013.97 -€486,278.97
15/07/2015			· · · · · · · · · · · · · · · · · · ·
16/07/2015	€484,087.19	-€2,749.84	-€471,316.81
17/07/2015	€695,851.98	€6,697.92	-€438,904.75
18/07/2015	€168,216.10	-€6,493.15	-€413,889.48
19/07/2015	€207,034.48	€19,571.53	-€410,064.13
20/07/2015	€467,803.18	-€1,436.06	-€456,540.63
21/07/2015	€200,767.21	-€1,704.54	-€482,416.59
22/07/2015	€342,605.34	-€7,223.70	-€481,851.45
23/07/2015	€136,249.23	-€3,552.45	-€482,732.48
24/07/2015	€192,104.33	-€4,457.57	-€474,900.40
25/07/2015	€278,390.39	-€2,466.13	-€427,488.34
26/07/2015	€328,451.20	€5,898.94	-€396,016.62
27/07/2015	€551,809.44	€7,891.24	-€463,308.21
28/07/2015	€483,135.01	-€19,097.17	-€466,890.40
29/07/2015	€296,168.81	€2,006.11	-€466,804.69
30/07/2015	€126,495.13	-€2,156.66	-€483,664.70
31/07/2015	€224,653.33	-€77.43	-€462,031.29
01/08/2015	€490,441.17	-€7,456.25	-€420,696.84
02/08/2015	€788,800.78	-€829.41	-€389,063.38
03/08/2015	€953,062.07	€9,474.22	-€395,296.33
04/08/2015	€193,415.10	-€7,620.28	-€443,036.32
05/08/2015	€606,845.84	€4,986.04	-€481,650.52
06/08/2015	€88,182.48	-€6,318.96	-€483,541.76
07/08/2015	€248,470.53	-€2,690.38	-€477,257.43
08/08/2015	€423,193.78	-€7,958.11	-€417,177.90

09/08/2015	€302,900.53	-€2,791.64	-€404,070.92
10/08/2015	€55,658.59	€3,217.73	-€466,858.34
11/08/2015	€331,509.19	-€7,625.32	-€494,735.23
12/08/2015	€52,083.69	-€24,637.97	-€497,827.84
13/08/2015	€199,147.86	-€1,372.00	-€494,513.30
14/08/2015	€338,953.92	€26,369.65	-€480,188.50
15/08/2015	€326,475.49	-€13,725.28	-€437,291.28
16/08/2015	€349,075.44	€4,050.47	-€423,824.78
17/08/2015	€331,092.39	-€18,684.75	-€492,508.72
18/08/2015	€452,458.98	-€13,463.69	-€502,438.57
19/08/2015	€254,252.28	-€4,645.57	-€497,513.21
20/08/2015	€243,058.58	-€7,456.50	-€487,239.62
21/08/2015	€401,054.66	-€16,372.37	-€478,735.84
22/08/2015	€28,488.71	€349.50	-€449,916.34
23/08/2015	€311,603.54	-€23,984.35	-€428,987.11
24/08/2015	€390,127.25	-€12,373.83	-€474,575.29
25/08/2015	€165,318.33	-€669.01	-€493,844.04
26/08/2015	€208,590.36	-€6,626.99	-€494,604.90
27/08/2015	€404,622.90	€11,709.12	-€482,937.48
28/08/2015	€195,088.67	€5,261.50	-€471,903.87
29/08/2015	€164,998.45	-€14,180.67	-€438,449.17
30/08/2015	€368,373.41	-€10,275.96	-€432,463.91
31/08/2015	€139,232.30	-€9,138.38	-€490,331.19
01/09/2015	€52,263.23	€3,743.27	-€493,842.61
02/09/2015	€138,741.53	-€1,212.39	-€498,604.61
03/09/2015	€311,802.23	-€ <b>7</b> 66.70	-€494,139.91
04/09/2015	€249,470.97	€992.05	-€486,605.95
05/09/2015	€341,676.70	-€4,856.97	-€440,741.04
06/09/2015	€574,500.87	€6,439.92	-€441,090.13
07/09/2015	€472,721.29	-€4,208.66	-€509,501.85
08/09/2015	€438,772.45	-€10,235.54	-€493,119.89
09/09/2015	€279,179.38	€1,332.68	-€492,075.80
10/09/2015	€357,152.73	€6,741.16	-€487,136.20
11/09/2015	€390,005.69	-€22,026.06	-€485,057.60
12/09/2015	€493,488.58	-€13,574.55	-€434,246.71
13/09/2015	€211,545.26	-€15,574.55	-€437,322.46
14/09/2015	€255,855.77	€15,877.59	-€501,416.69
15/09/2015	-€7,381.19	€10,090.81	-€510,470.13
16/09/2015	€300,999.16	€4,323.99	-€516,671.33
17/09/2015	€327,888.09	-€5,728.47	-€516,724.98
18/09/2015	€220,798.54	-€22,749.88	-€507,460.35
19/09/2015	€260,127.11	€687.51	-€465,815.20
20/09/2015	€165,071.39	-€18,823.98	-€433,594.76
21/09/2015	€360,819.72	-€20,500.49	-€502,123.64
22/09/2015	€268,259.43	-€38,637.30	-€506,610.26
23/09/2015	€212,014.68 €01,172,72	-€21,480.22	-€508,570.62
24/09/2015	€91,172.72 €272.851.41	-€8,531.43	-€498,904.31
25/09/2015	€372,851.41	€4,740.91	-€514,193.88
26/09/2015	€395,714.44	€2,918.08	-€457,534.29
27/09/2015	€198,785.76	-€22,925.44	-€425,978.19
28/09/2015	€224,572.57	€2,613.84	-€481,668.34
29/09/2015	€483,610.20	-€19,439.61	-€509,869.12
30/09/2015	€323,465.41	-€20,865.00 hinstructed Imbalance Payments,	-€518,067.26

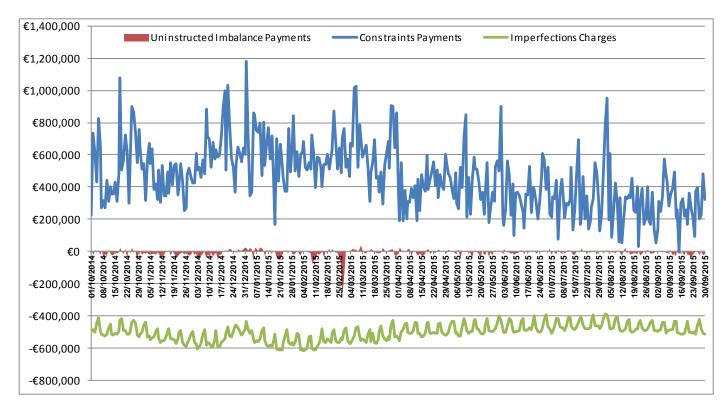


Figure 24 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

Week No	Make Whole Payments
38	€202,188.33
39	€225,015.64
40	€280,671.13
41	€186,568.53
42	€159,900.73
43	€172,804.93
44	€117,287.97
45	€69,322.58
46	€151,346.18
47	€116,593.30
48	€89,395.20
49	€75,360.41
50	€169,324.41
51	€121,591.48
52	€55,670.15
1	€80,155.98
2	€72,635.72
3	€117,670.85
4	€162,664.95
5	€78,694.34
6	€58,735.16
7	€160,187.55
8	€132,758.27
9	€44,275.22
10	€38,818.26

11	€92,533.35
12	€117,780.87
13	€92,533.35
14	€117,780.87
15	€148,719.02
16	€83,282.89
17	126855.95
18	38218.98
19	15114.03
20	172476.22
21	€111,559.70
22	€135,469.70
23	€236,977.70
24	€127,221.90
25	€236,977.70
26	€127,221.90
27	€25,408.91
28	€107,131.31
29	€50,813.07
30	€75,404.96
31	€36,982.64
32	€90,947.26
33	€184,843.50
34	€135,976.50
35	€124,379.47
36	€103,701.70
37	€123,546.93

Table 23 - Make Whole Payments

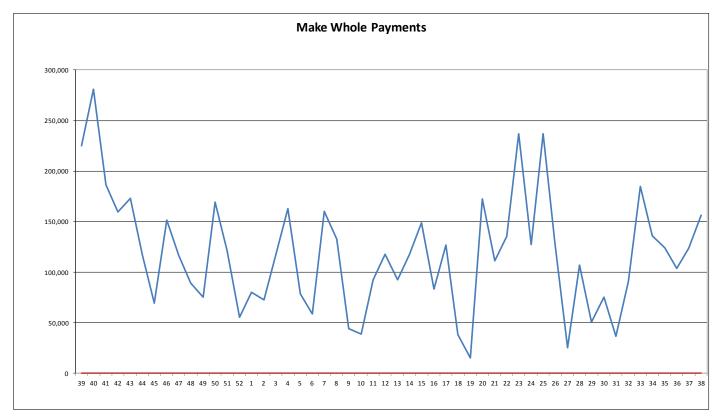


Figure 25 - Make Whole Payments

Week No	Testing Charges			
39	-€64,349.25			
40	-€23,212.88			
41	-€8,173.18			
42	-€106,220.13			
43	-€106,488.24			
44	-€74,217.72			
45	-€13,149.01			
46	€31,147.27			
47	-€34,993.39			
48	-€8,926.09			
49	-€31,711.41			
50	-€91,587.25			
51	-€43,797.04			
52	€0.00			
1	-€69,863.70			
2	€0			
3	€0			
4	€0			
5	-€116,570.26			
6	-€15,192.63			
7	-€9,394.34			
8	-€56,342.39			
9	-€76,534.54			
10	-€86,286.41			
11	-€75,941.02			
12	€0.00			
13	-€75,941.02			
14	€0.00			
15	€0.00			
16	€0.00			
17	€0.00			
18	€0.00			
19	€0.00			
20	€0.00			
21	€0.00			
22	€0.00			
23	-€39,276.80			
24	€0.00			
25	€0.00			
26	€0.00			
27	€0.00			
28	€0.00			
29	-€349.99			
30	-€8,090.56			
31	-€2,475.91			
32	-€6,695.09			
33	-€11,664.32			
34	-€42,522.64			
35	-€1,304.57			
36	-€28,822.81			
37	-€11,794.92			
Table 24	- Testing Charges			

Table 24 - Testing Charges

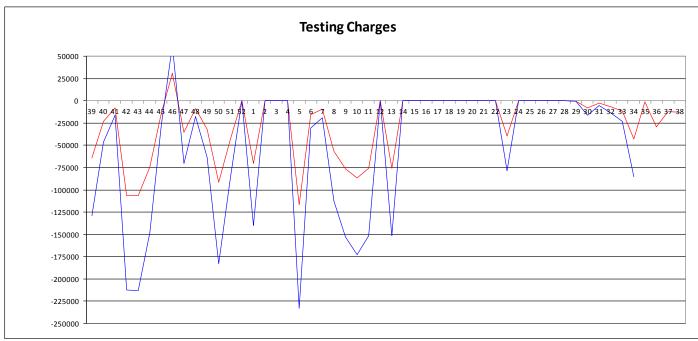


Figure 26 - Testing Charges

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

The table below lists for each unit the number of times in operations during September 2015 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_400138	DSU_401590	30			30
PT_500078	DSU_501330	21			21
PT_400116	DSU_401400	30			30
PT_400090	DSU_401270	30			30
PT_400106	DSU_401330	35			35
PT_400133	DSU_401530	6			6
PT_400124	DSU_401490	30			30
PT_400090	DSU_401620			30	30
PT_400144	DSU_401660			30	30
PT_400090	DSU_401610			30	30
PT_400111	DSU_401390			30	30
PT_400133	DSU_401530			25	25
PT_400024	GU_400120	30			30
PT_400024	GU_400121	30			30
PT_400026	GU_400140	31			31
PT_400030	GU_400180	39			39
PT_400030	GU_400181	40			40
PT_400030	GU_400182	41			41
PT_400030	GU_400183	40			40
PT_400030	GU_400200	39			39
PT_400030	GU_400201	39			39
PT_400030	GU_400202	38			38
PT_400030	GU_400203	39			39
PT_400030	GU_400210	37			37
PT_400030	GU_400211	38			38
PT_400030	GU_400220	37			37
PT_400030	GU_400221	38			38
PT_400030	GU_400240	38			38
PT_400030	GU_400250	38			38
PT_400030	GU_400251	38			38
PT_400030	GU_400252	38			38
PT_400030	GU_400260	39			39
PT_400030	GU_400270	38			38
PT_400030	GU_400271	39			39
PT_400030	GU_400272	41			41
PT_400030	GU_400280	38			38
PT_400030	GU_400281	37			37
PT_400030	GU_400290	38			38
PT_400030	GU_400300	40			40
PT_400030	GU_400311	41			41
PT_400030	GU_400323	40			40
PT_400030	GU_400360	37			37
PT_400030	GU_400361	37			37
PT_400030	GU_400362	37			37
PT_400030	GU_400363	38			38
PT_400030	GU_400370	37			37

PT 400030	GU 400850	41		41
PT_400032	GU_400430	30		30
PT 400032	GU 400940	30		30
PT_400034	GU 401090	30		30
PT_400034	GU 401440	30		
PT_400034 PT_400035	GU 400480	50		30
PT_400035 PT_400037	GU 400480	30		50
PT_400037 PT_400041		52		30
_	GU_400530			52
PT_400044	GU_400540	50		50
PT_400054	GU_400620	30		30
PT_400055	GU_400630	30		30
PT_400064	GU_400750	32		32
PT_400064	GU_400751	32		32
PT_400064	GU_400752	32		32
PT_400064	GU_400753	32		32
PT_400064	GU_400762	32		32
PT_400064	GU_400770	32		32
PT_400064	GU_400771	32		32
PT_400064	GU_400780	32		32
PT_400064	GU_400781	32		32
PT_400075	GU_400930	62		62
PT_400077	GU_400950	30		30
PT_400078	GU_401010	30		30
PT_400078	GU_401011	30		30
PT_500024	GU_500040	33		33
PT_500024	GU_500041	31		31
PT_500027	GU_500130	81		81
PT_500027	GU_500131	81		81
PT_500027	GU_500140	81		81
PT_500034	GU_501350	30		30
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_500043	GU_500904	48		48
PT_500048	GU 501040	30		
PT_500050	GU_501040	30		30
PT_500050 PT_500050	GU_501050 GU_501150	30		30
PT_500050 PT_500050	GU_501150 GU 501190	30		30
				30
PT_500053	GU_501130	30		30
PT_500066	GU_501210	30		30
PT_500073	GU_501230	1		1
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 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 400050	GU 401280			30	30
PT_400050	GU_401290			30	30
PT 400050	GU 401360			30	30
PT 400050	GU 401790			30	30
PT_400030 PT_400062	GU 400730			30	
PT_400062	GU 400731			30	30
PT_400062	GU 400840				30
_	—			30	30
PT_400082	GU_401100			30	30
PT_400087	GU_401230			30	30
PT_400148	GU_401690			30	30
PT_400150	GU_401700			30	30
PT_400151	GU_401770			30	30
PT_400151	GU_401780			30	30
PT_400152	GU_401710			30	30
PT_400152	GU_401720			30	30
PT_400152	GU_401730			30	30
PT_400152	GU_401740			30	30
PT_400152	GU_401750			30	30
PT_400152	GU_401760			30	30
PT_500021	GU_500010			30	30
PT_500021	GU_500740			30	30
PT_500021	GU_501160			30	30
PT_500024	GU_500040			1	1
PT_500032	GU_500211			30	30
PT_500032	GU_501120			30	30
PT_500032	GU_501280			30	30
PT_500032	GU_501290			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			29	29
 PT_500074	 GU_501250			30	30
 PT_400021	I_ROIEWIC	30			30
 PT_500083	I_NIMOYLE	61			61
PT_500021	I_NIMOYLE	30			30
PT 500075		29			29
PT_500024	I_NIMOYLE	30			30
PT_400163	I_ROIEWIC	78			78
PT_500069		89			89
PT_500031		30			30
PT_500058		28			28
	Total	4021	0	1807	5828
	Percentage	68.99%	0.00%	31.01%	100.00%
	-	25 – Default Con			100.00 /0

Table 25 – Default Commercial Data Used

#### 14. Appendix G: Total Charges and Payments Data

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

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

Market		Energy	Capacity	Market Operator	M+4 Energy	M+4 Capacity	M+4 Market Operator	M+13 Energy	M+13 Capacity	M+13 Market Operator	Ad-hoc Energy	Ad-hoc Capacity	Ad-hoc Market Operator	Total
Nov-13	ROI	£94,237,410.27	£26,111,830.04	£1,768,924.89	£1,095,479.88	£186,255.41	£10,667.03	£1,203,541.15	£58,436.00	£1,881.53	£2,162,845.35	£0.00	£0.00	126,837,271.55
1404-15	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	£75,858,678.54	£17,424,467.63	£1,576,396.05	£255,748.90	£41,217.98	£1,835.23	£112,980.92	£0.00	£1,327.55	£123,147.19	£0.00	£0.00	73,064,976.28
	NI	£20, 792, 697. 59	£5,164,101.59	£404,571.34	£73,223.02	£16,729.14	£695.03	£40,446.87	£0.00	£491.99	£10.52	£0.00	£0.00	22,440,085.62
Sep-14	ROI	£73,166,499.86	£17,774,079.00	£1,638,145.68	£285,506.09	£62,431.70	£3,367.28	£92,320.83	£30,020.38	£728.19	£0.00	£0.00	£0.00	93,053,099.01
	NI	£24,828,028.32	£5, 414, 449. 74	£421,681.34	£62,719.19	£15,276.27	£566.66	£41,391.12	£13,194.54	£660.78	£0.00	£0.00	£0.00	30,797,967.96
Oct-14	ROI	£24,219,443.57	£5,293,829.01	£290,759.61	£125,095.27	£15,188.14	£796.75	£32,076.91	£6,465.54	£355.27	£0.00	£0.00	£0.00	29,984,010.07
	NI	£73,931,567.89	£18,999,271.36	£1,111,306.76	£521,095.61	£105,483.15	£5,765.50	£89,815.40	£9,518.03	£802.55	£0.00	£0.00	£0.00	94,774,626.25
Nov-14	ROI	£57,386,075.03	£21,066,561.05	£829, 482. 91	£519,431.32	£147,151.65	£6,123.28	£79,434.93	£23,622.83	£721.00	£0.00	£0.00	£0.00	80,058,604.00
	NI	£21,159,632.98	£6,853,966.46	£220,983.06	£50,691.24	£27,250.12	£653.21	£26, 795.35	£6,589.23	£253.47	£0.00	£0.00	£0.00	28,346,815.12
Dec-14	ROI	£70,930,088.87	£29,867,271.70	£888,221.25	£635,976.36	£143,088.63	£7,086.94	£116,364.21	£26,279.71	£995.87	£0.00	£0.00	£0.00	102,615,373.54
	NI	£24,123,259.48	£7,725,422.06	£238,369.94	£58, 794. 95	£14,543.55	£696.33	£34,690.50	£7,234.36	£296.35	£0.00	£0.00	£0.00	32,203,307.52
Jan-15	ROI	£66,217,285.22	£32,948,586.09	£1,048,029.61	£438,657.65	£106,047.92	£3,853.63	£150,902.14	£27,588.16	£819.15	£0.00	£2,703.81	£0.00	100,944,473.38
	NI	£27,989,159.87	£8,572,662.67	£280,425.53	£42,989.83	£9,581.57	£365.00	£37,526.70	£7,104.61	£229.56	£0.00	£1,338.36	£0.00	36,941,383.70
Feb-15	ROI	£65,650,453.03	£55,349,682.44	£856,456.83	£281,934.15	£56,929.88	£1,558.86	£451,006.63	£29,817.73	£839.90	£68,857.79	£0.00	£0.00	122,747,537.24
	NI	£25,773,047.64	£16,395,217.13	£213,118.58	£112,874.22	£37,025.56	£783.98	£25,242.43	£5,150.11	£140.40	£0.00	£0.00	£0.00	42,562,600.05
Mar-15	ROI	£53,956,274.88	£21,836,040.18	£861,676.05	£453,661.43	£115,779.65	£2,416.32	£355,096.34	£39,172.70	£877.23	£111,462.50	£0.00	£0.00	77,732,457.28
	NI	£22,615,725.41	£8,408,410.93	£207,225.41	£147,466.81	£46,471.14	£825.82	£39,513.02	£6,098.32	£183.02	£282.78	£0.00	£0.00	31,472,202.66
Apr-15	ROI NI	£49,671,449.35	£18,463,469.38	£767,415.15	£442,875.61	£132,859.46	£2,617.91	£174,481.42	£24,018.61	£806.67	£34,066.85	£0.00	£0.00	69,714,060.41
	ROI	£20, 444, 248. 38	£5,917,010.08	£191,002.36	£178,167.11	£60,451.34	£1,059.11	£38,565.73	£8,077.48	£245.07	£24,964.25	£0.00	£0.00	26,863,790.91
May-15	NI	£62,682,234.81	£19,502,808.85	£978,929.74	£496,789.41	£113,309.65	£2,668.35	£257,691.56 £28,297.30	£37,913.64	£947.65 £255.12	£105,628.08 £458.23	£0.00 £0.00	£0.00 £0.00	84,178,921.74
		£20,656,049.28	£5,471,708.22	£941,978.73	£284,714.17	£81,721.34	£1,530.01		£5,740.95					27,472,453.35
Jun-15	ROI NI	£49,441,454.53	£18,011,748.07	£768,412.90	£525,988.89	£125,343.18	£3,068.91	£83,564.13	£14,743.93	£639.06	£24,047.90	£0.00	£0.00	68,999,011.50
	ROI	£16,086,817.66 £60,081,065.67	£4,881,262.27 £18,106,345.49	£731,152.70 £938,580.42	£190,327.69 £392,863.94	£56,176.06 £100,250.95	£1,108.32 £2,281.34	£14,086.52 £70,409.41	£3,263.83 £14,571.40	£136.37 £801.22	£4.82 £3,383,812.96	£0.00 £0.00	£0.00 £0.00	21,964,336.24 83,090,982.80
Jul-15	NI													
	ROI	£20,399,899.80 £78,361,586.44	£4,559,620.30 £18,780,406.68	£901,179.27 £706,070.38	£122,425.31 £980,269.55	£34,196.36 £57,624.58	£798.99 £1,113.70	£13,983.16 £78,106.89	£3,041.83 £15,466.63	£170.87 £704.85	£560,424.72 £100,608.41	£0.00 £0.00	£0.00 £0.00	26,595,740.61 99,081,958.11
Aug-15	NI	£ 78, 361, 586, 44 £26, 593, 706, 25		£705,070.38 £717,392.01	£980,269.55 £96,278.24	£37,624.58 £20,145.75	£1,113.70 £293.79	£11,711.41	£15,466.63 £2,659.00	£109.44	£100,608.41 £1,579.59	£0.00	£0.00	32,247,752.73
	ROI	£26,593,706.25 £56,880,935.07	£4,803,877.25 £19,007,006.26	£717,392.01 £785,990.22	£96,278.24 £310,026.85	£20,145.75 £107,852.47	£293.79 £1,796.61	£11,711.41 £36,597.16	£2,659.00 £9,587.72	£443.17	£1,579.59 £15,420.42	£0.00	£0.00 £0.00	
Sep-15	NI						£1,796.61 £194.47	£36,597.16 £6,674.12						77,155,655.95
	INI	£16,638,373.40	£5,599,036.84	£750,313.33	£28,072.71	£9,405.58			£1,949.58	£89.21	£1,839.74	£0.00	£0.00	23,035,948.98

Table 26 - Total Charges by Month

Mark	et	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
1404-13	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
Det-13	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
Jan.14	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
FED-14	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
10191-174	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
Apr-14	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
	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
May-14	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
	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
Jun-14	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
	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
Jul-14	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
	ROI	€76,295,371.52	€16,503,906.00	€283,973.76	€42,797.07	€2,738.01	€125,676.42	€0.00	€1,327.83	€29.36	€0.00	€0.00	€93,255,819.97
Aug-14	NI	€17,954,420.41	€5,911,052.65	€74,371.07	€15,553.63	€863.74	€54,424.97	€0.00	€488.54	€7.43	€0.00		€24,011,182.44
	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		€91,448,591.18
Sep-14	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		€28,134,971.38
	ROI	€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		€101,302,807.69
Oct-14	NI	€18,391,944.98	€5,868,972.09	€82,257.95	€15,709.16	€1,031.70	€42,677.16	€6,422.11	€498.29	€0.00	€0.00	€0.00	€24,409,513.44
	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		€86,096,854.81
Nov-14	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
	ROI	€79,262,340.64	€30,252,803.13	€636,211.01	€143,171.30	€7,087.15	€116,495.94	€25,330.11	€995.97	€0.00	€0.00	€0.00	€110,444,435.25
Dec-14	NI	€17,625,339.05	€7,511,303.13	€58,743.90	€14,475.87	€679.17	€34,724.44	€7,982.34	€296.61	€0.00	€0.00	€0.00	€25,253,544.51
	ROI	€77,706,417.44	€34,394,754.66	€438,764.21	€107,475.98	€4,105.28	€98,914.59	€27,079.30	€830.89	€14,240.78	€3,537.75	€0.00	€112,796,120.88
Jan-15	NI	€21,735,748.95	€7,476,289.80	€38,275.71	€8,505.48	€324.11	€25,331.16	€7,456.18	€248.46	€0.00	€691.42	€0.00	€29,292,871.27
	ROI	€73,470,092.53	€55,924,536.86	€296,450.78	€68,641.91	€1,587.00	€108,844.27	€30,840.66	€843.06	€0.00	€0.00	€0.00	€129,901,837.07
Feb-15	NI	€19,828,437.97	€15,954,828.70	€108,022.71	€28,545.69	€367.07	€16,957.65	€4,432.19	€141.23	€0.00	€0.00	€0.00	€35,941,733.21
	ROI	€62,833,350.60	€23,162,278.12	€454,954.34	€115,622.74	€2,409.00	€95,140.99	€35,705.38	€876.34	€33.87	€0.00	€0.00	€86,700,371.38
Mar-15	NI	€18,497,389.79	€7,572,263.19	€147,525.82	€46,556,55	€825.97	€19,215.14	€8,635.89	€182.86	€726.16	€0.00	€0.00	€26,293,321.37
	ROI	£55,596,682.04	£19,228,984.53	£447,913.03	£132,018.11	£2,588.47	£93,342.92	£23,125.23	£794.27	£27,655.34	£0.00	£0.00	€75,553,103.94
Apr-15	NI	£14,229,748.35	£5,312,669.68	£178,040.01	£60,667.89	£1,059.24	£28,971.47	£8,624.89	£241.56	£20,785.23	£0.00	£0.00	€19,840,808.32
	ROI	£67,111,651.41	£19,797,771.76	£51,325.57	£496,344.48	£113,479.16	£2,634.87	£257,691.56	£32,517.87	£947.37	£0.00	£0.00	€87,864,364.0
May-15	NI	£14,205,268.80	£5,300,854.82	£14,374.56	£284,573.32	£81,498,12	-£1,531.15	£28,297.30	£9,511.56	£255.00	£0.00	£0.00	€19,923,102.3
	ROI	€52,399,988.22	€18,449,916.98	€50,329.66	€524,214.44	€125,353.28	€2,989.03	€83,564.13	€15,091.05	€633.94	€0.00	€0.00	€71,652,080.73
Jun-15	NI	€10,536,540.86	€4,561,917.57	€13,069.46	€190,224.00	€56,986.34	€2,565.05 -€1,109.52	€14,086.52	€13,091.03	€635.54	€0.00	€0.00	€15,375,049.11
	ROI	€63,619,222.88	€4,581,517.57	€50,900.02	€368,804.77	€98,198.30	€2,207.87	€70,409.41	€14,587.16	€136.55	€0.00	€0.00	€82,020,520.53
Jul-15	NI	€12,711,689.30	€4,703,936.76	€13,498.87	€121,756.24	€35,884.73	-799.78	€13,983.16	€3,045.41	€170.96	€0.00	€0.00	€17,603,165.65
	ROI	€78,593,341.57	€4,703,336.78	€1,941.74	€806,815.82	€62,841.79	€1,062.49	€78,106.89	€15,446.53	€170.96	€0.00	€0.00	€97,536,988.3
Aug-15	NI	€18,174,076.35	€5,392,403.96	€13,263.37	€191,650.14	€15,985.64	€1,062.45 -€294.74	€11,711.41	€13,448.33	€109.50	€0.00	€0.00	€23,801,548.80
	ROI	, ,				,			,	€109.50 €440.27			
Sep-15	NI	€53,901,821.24 €12,814,817.71	€19,234,943.47 €5,453,049.86	€48,776.08 €13,099.19	€306,959.54 €28,119.15	€78,980.31 €30,434.20	€1,722.88 -€195.13	€36,597.16 €6,674.12	€9,593.94 €1,961.83	€440.27	€0.00	€0.00 €0.00	€73,619,834.8 €18,348,050.1

Table 27 - Total Payments by Month

#### **15. Appendix H: Full Balancing Costs**

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

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

#### Trading Market

Date Of Invoice	Week No	SEM Balancing Costs	VAT Balancing Costs	
03/10/2014	38	-€115,563.34	-€ 12,716.83	
10/10/2014	39	€103,327.94	€49,084.94	
17/10/2014	40	-€315,014.02	-€ 48,688.42	
24/10/2014	41	€234,738.53	€13,856.57	
31/10/2014	42	€833,278.35	-€228,026.23	
07/11/2014	43	€1,209,277.49	€172,019.41	
14/11/2014	44	-€89,236.37	-€18,016.46	
21/11/2014	45	-€726,843.59	-€105,801.85	
28/11/2014	46	-€504,700.82	-€60,211.13	
05/12/2014	47	-€783,945.26	-€105,665.85	
12/12/2014	48	-€481,481.35	-€72,270.22	
19/12/2014	49	€485,102.80	€53,433.64	
31/12/2014	50	€980,523.50	€ 148,117.94	
06/01/2015	51	€1,093,199.99	-€115,434.63	
09/01/2015	52	€1,320,639.28	-€ 84,567.47	
16/01/2015	1	€1,142,575.16	-€178,714.26	
23/01/2015	2	€496,291.68	-€87,488.46	
30/01/2015	3	-€871,479.91	€86,389.82	
06/02/2015	4	€371,162.79	-€86,251.15	
13/02/2015	5	-€198,874.86	€21,560.90	
20/02/2015	6	-€341,073.88	€60,600.73	
27/02/2015	7	€9,930.09	-€86,398.49	
03/03/2015	8	€345,725.42	-€150,752.30	
10/03/2015	9	€1,239,682.13	-€129,512.35	
17/03/2015	10	€718,089.57	-€101,950.03	
24/03/2015	11	-€432,482.35	€14,085.31	
31/03/2015	12	€449,126.81	-€64,651.98	
07/04/2015	13	€89,053.88	-€38,664.98	
14/04/2015	14	-€1,012,471.70	€128,936.18	
21/04/2015	15	-€839,084.24	€128,786.90	
01/05/2015	16	-€299,738.05	€144,199.78	
08/05/2015	17	-€100,756.77	€94,697.22	
15/05/2015	18	-€766,173.39	€143,672.76	
22/05/2015	19	€127,012.27	€24,101.25	
29/05/2015	20	-€726,994.34	€139,338.43	
05/06/2015	21	-€581,933.86 €93,736.74		
12/06/2015	22	€52,638.56	€34,490.35	
19/06/2015	23	-€130,069.47	€150,507.27	
26/06/2015	24	-€41,136.73	€180,820.70	
03/07/2015	25	€146,348.99	€155,182.53	

Date Of Invoice	Week No	SEM Balancing Costs	VAT Balancing Costs
10/07/2015	26	-€804,612.35	-€337,082.05
17/07/2015	27	-€1,160,398.93	€145,979.53
24/07/2015	28	-€624,454.00	€143,384.39
31/07/2015	29	-€1,392,308.77	€183,753.05
07/08/2015	30	-€671,249.86	€93,842.84
14/08/2015	31	€203,990.07	€52,391.21
21/08/2015	32	-€1,689,320.99	€200,605.60
28/08/2015	33	-€1,328,918.96	€198,118.33
4/09/2015	34	-€1,485,816.61	€198,073.82
11/09/2015	35	-€1,756,683.94	€205,483.44
18/09/2015	36	-€371,938.24	€142,256.22
25/09/2015	37	-€1,910,118.52	€235,332.60

Table 28 – 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.

Invoice Month	SEM Balancing Costs	VAT Balancing Costs
October 2014	-€361.28	-€ 968.24
November 2014	-€348.12	-€0.03
December 2014	-€393.11	€0.00
January 2015	<b>-€</b> 416.65	€0.04
February 2015	-€364.18	€0.02
March 2015	-€382.43	-€0.03
April 2015	-€265.40	-€0.08
May 2015	-€291.90	€801.20
June 2015	-€232.42	€5324.64
July 2015	-€246.76	-€2,177.31
August 2015	-€277.15	-£50,152.42
September 2015	-€265.90	-€3,353.53

#### Capacity Market

 Table 29 - 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 <u>here</u>.

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

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>October 2014</u>	<u>10/10/2014</u>	<u>03/10/2014</u> <u>15/10/2014</u> <u>28/10/2014</u>	<u>06/10/2014</u> <u>13/10/2014</u> 29/10/2014	<u>06/10/2014</u> <u>13/10/2014</u> <u>27/10/2014</u>	<u>19/10/2014</u>
November 2014	-	02/11/2014 11/11/2014 15/11/2014 25/11/2014	<u>20/11/2014</u> <u>24/11/2014</u> <u>26/11/2014</u>	<u>12/11/2014</u> <u>20/11/2014</u> <u>26/11/2014</u>	-
December 2014	<u>14/12/2014</u>	<u>04/12/2014</u> <u>14/12/2014</u> <u>25/12/2014</u>	<u>01/12/2014</u>	<u>04/12/2014</u>	-
January 2015	<u>06/01/2015</u>	<u>12/01/2015</u> <u>15/01/2015</u> <u>21/01/2015</u> <u>23/01/2015</u>	<u>03/01/2015</u>	<u>28/01/2015</u>	<u>16/01/2015</u>
February 2015	-	06/02/2015 07/02/2015 09/02/2015 13/02/2015 18/02/2015 23/02/2015	<u>24/02/2015</u>	<u>28/02/2015</u>	<u>05/02/2015</u> <u>10/02/2015</u>
<u>March 2015</u>	-	=	=	<u>15/03/2015</u>	<u>24/03/2015</u>
<u>April 2015</u>	-	-	<u>20/04/2015</u>	<u>20/04/2015</u>	<u>25/04/2015</u>

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>May 2015</u>	-	<u>13/05/2015</u>	<u>03/05/2015</u>	-	<u>-</u>
<u>June 2015</u>	=	<u>01/07/2015</u>	<u>22/06/2015</u>	<u>26/06/2015</u>	<u>11/06/2015</u>
<u>August 2015</u>	-	-	<u>23/07/2015</u>	-	-
<u>August 2015</u>	-	-	<u>11/08/2015</u>	<u>11/08/2015</u>	<u>07/08/2015</u> <u>31/08/2015</u>
September 2015	-	<u>18/09/2015</u>	-	<u>10/09/2015</u>	-

Table 30 - MIP Algorithms

				MIP Peak	
<b>Operational Date</b>	Trade Date	Run Type	LR Peak SMP	SMP	Published
02/10/2014	03/10/2014	EA2	€1000	€298.79	MIP
07/10/2014	06/10/2014	EP1	€1000	€287.16	MIP
10/10/2014	06/10/2014	EP2	€1000	€288.65	MIP
09/10/2014	10/10/2014	EA1	€1000	€338.11	MIP
14/10/2014	13/10/2014	EP1	€1000	€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	€1000	€255.85	MIP
30/10/2014	29/10/2014	EP1	€1000	€436.71	MIP
01/11/2014	02/11/2014	EA2	€1000	€215.23	MIP
10/11/2014	11/11/2014	EA2	€1000	€229.26	MIP
14/11/2014	15/11/2014	EA2	€1000	€369.02	MIP
24/11/2014	25/11/2014	EA2	€572.13	€424.16	MIP
21/11/2014	20/11/2014	EP1	€1000	€228.86	MIP
27/11/2014	26/11/2014	EP1	€1000	€380.87	MIP
25/11/2014	24/11/2014	EP1	€630.52	€560.63	MIP
16/11/2014	12/11/2014	EP2	€1000	€357.67	MIP
24/11/2014	20/11/2014	EP2	€1000	€228.14	MIP
30/11/2014	26/11/2014	EP2	€1,000	€455.21	MIP
01/12/2014	30/11/2014	EP1	€554.66	€841.81	MIP

04/12/2014	05/12/2014	E 4 2	61000	6271.00	MID
04/12/2014	05/12/2014	EA2 EP2	€1000	€271.08	MIP
04/12/2014	30/11/2014		€554.65	€439.23	MIP
14/12/2014	15/12/2014	EA1	€585.68 €585.68	€241.97	MIP
14/12/2014	15/12/2014	EA2		€242.87	MIP
25/12/2014	26/12/2014	EA2	€584.33	€71.42	MIP
03/01/2015	02/01/2015	EP1	€560.46	€244.25	MIP
06/01/2015	07/01/2015	EA1	€550.32	€230.74	MIP
12/01/2015	13/01/2015	EA2	€1000	€162.06	MIP
15/01/2015	16/01/2015	EA2	€1000	€210.05	MIP
16/01/2015	16/01/2015	WD1	€557.82	€176.01	MIP
21/01/2015	22/01/2015	EA2	€554.69	€183.59	MIP
23/01/2015	24/01/2015	EA2	€1000	€361.30	MIP
28/01/2015	24/01/2015	EP2	€1000	€358.00	MIP
05/02/2015	05/02/2015	WD1	€583.65	€461.14	MIP
06/02/2015	07/02/2015	EA2	€1000	€201.17	MIP
07/02/2015	08/02/2015	EA2	€1000	€238.69	MIP
09/02/2015	10/02/2015	EA2	€1000	€211.44	MIP
10/02/2015	10/02/2015	WD1	€1000	€206.00	MIP
13/02/2015	14/02/2015	EA2	€1000	€920.77	MIP
18/02/2015	19/02/2015	EA2	€1000	€475.15	MIP
23/02/2015	24/02/2015	EA2	€1000	€239.26	MIP
24/02/2015	23/02/2015	EP1	€1000	€206.00	MIP
28/02/2015	24/02/2015	EP2	€1000	€418.22	MIP
15/03/2015	11/03/2015	EP2	€1000	€740.26	MIP
24/03/2015	24/03/2015	WD1	€586.24	€195.68	MIP
21/04/2015	20/04/2015	EP1	€589.68	€79.45	MIP
25/04/2015	24/04/2015	WD1	€1,000	€162.18	MIP
24/04/2015	20/04/2015	EP2	€589.68	€80.11	MIP
12/05/2015	13/05/2015	EA2	€590.61	€221.99	MIP
04/05/2015	03/05/2015	EP1	€574.30	€313.07	MIP
11/06/2015	11/06/2015	WD1	€576.50	€206.00	MIP
23/06/2015	22/06/2015	EP1	€579.41	€76.14	MIP
30/06/2015	26/06/2015	EP2	€578.16	€285.24	MIP
30/06/2015	01/07/2015	EA2	€574.22	€110.58	MIP
23/07/2015	22/07/2015	EP1	€1,000	€86.14	MIP
07/08/2015	07/08/2015	WD1	€579.12	€71.44	MIP
12/08/2015	11/08/2015	EP1	€567.94	€76.52	MIP
15/08/2015	11/08/2015	EP2	€576.94	€76.52	MIP
31/08/2015	31/08/2015	WD1	€1,000	€66.29	MIP
14/09/2015	10/09/2015	EP2	-€100	€85.93	MIP
17/09/2015	18/09/2015	EA2	€1,000	€86.51	MIP

Table 31 - MIP Vs LR Peak Price Comparison