Market Operator Monthly Report

June 2016

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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 Jun 2016 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 June 2016, Settlements had no late publications as per the Trading and Settlement code.

169 general queries were received in June 2016. During the same period 178 general queries were resolved.

There were 4 defaults by Participants during June 2016. The largest of these was an Energy Initial invoice for €1,742.48 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

Trading and Settlement Code Breaches

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

Trading and Settlement Code Breaches		Major	Minor
Area		**Major**	**Minor**
Data Providers		-	-
Market Participants	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	4	-
	Credit Risk Management	-	-
SEMO	Pricing & Scheduling	-	3
	Settlement	-	-
	Funds Transfer	-	-
	Credit Risk Management	-	-
	Other	-	-
Total		**4**	**3**

Table 1 – Trading and Settlement Code Breaches

Further details of each of the Trading and Settlement 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

One party joined the Market in June 2016.
- Lantanier Limited

There were no terminating parties in June 2016.

There were five new units effective in the Market in June 2016.
- PT_400180/SU_400196 Flogas

There was one unit which was de-registered from the Market in June 2016.
-PT_400074 / SU_400144 Electron

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
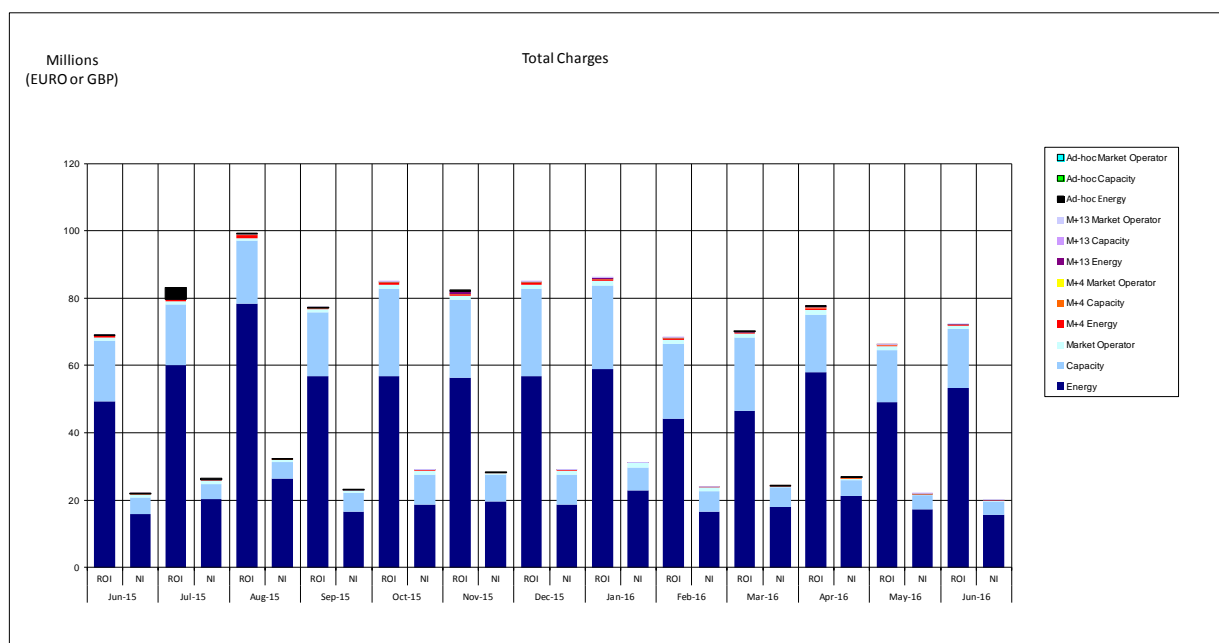
Figure 1 - Total Charges for Each Currency

Market	June 2016	
	ROI	**NI**
Energy	€53,375,208	£15,757,202
Capacity	€17,448,090	£3,944,264
Market Operator	€1,108,032	£257,444
M+4 Energy	€257,153	£76,340
M+4 Capacity	€0	£0
M+4 Market Operator	€3,632	£1,013
M+13 Energy	€69,412	£90,011
M+13 Capacity	€0	£0
M+13 Market Operator	€491	£515
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
Total	€72,262,018	£20,126,790

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
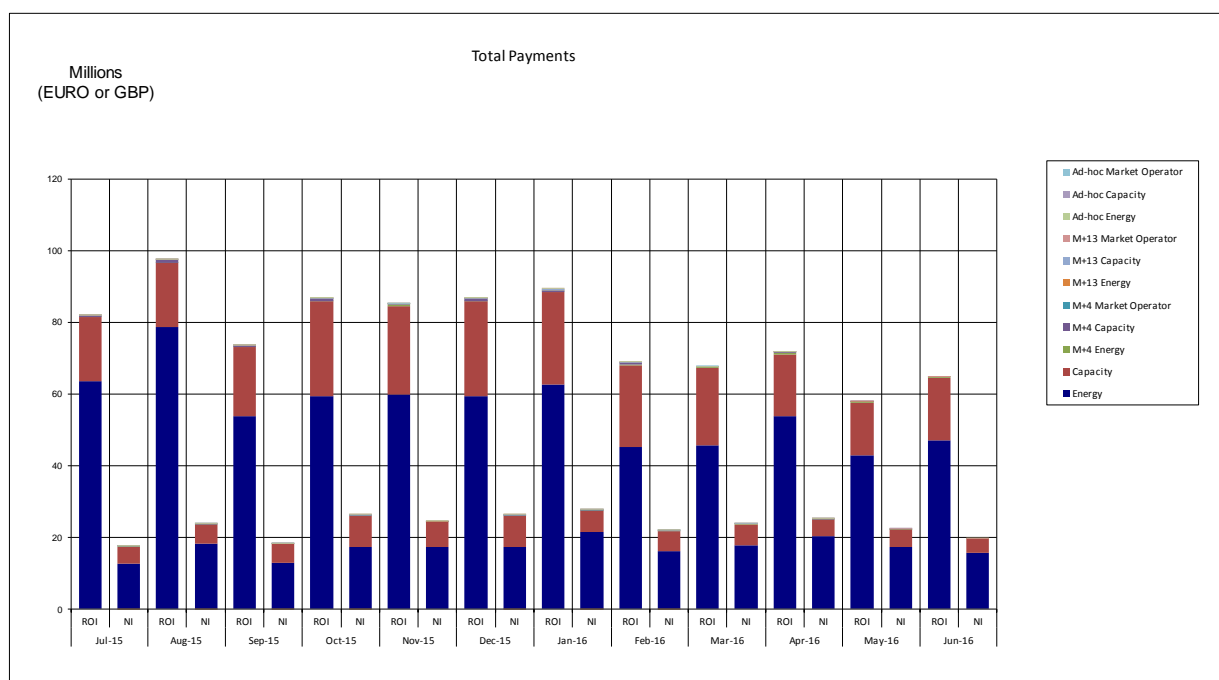
Figure 2 - Total Payments for Each Currency

Market	June 2016	
	ROI	**NI**
Energy	€46,971,784	£15,569,601
Capacity	€17,461,176	£3,966,742
M+4 Energy	€257,239	£76,360
M+4 Capacity	€0	£0
M+4 Market Operator	€3,632	£1,013
M+13 Energy	€70,131	£75,519
M+13 Capacity	€0	£0
M+13 Market Operator	€445	£505
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
Total	€64,764,407	£19,689,741

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:

June 2016	
Imbalance (Energy Only)	-€754,651.44

Table 4 - Balancing Costs for Energy Settlement
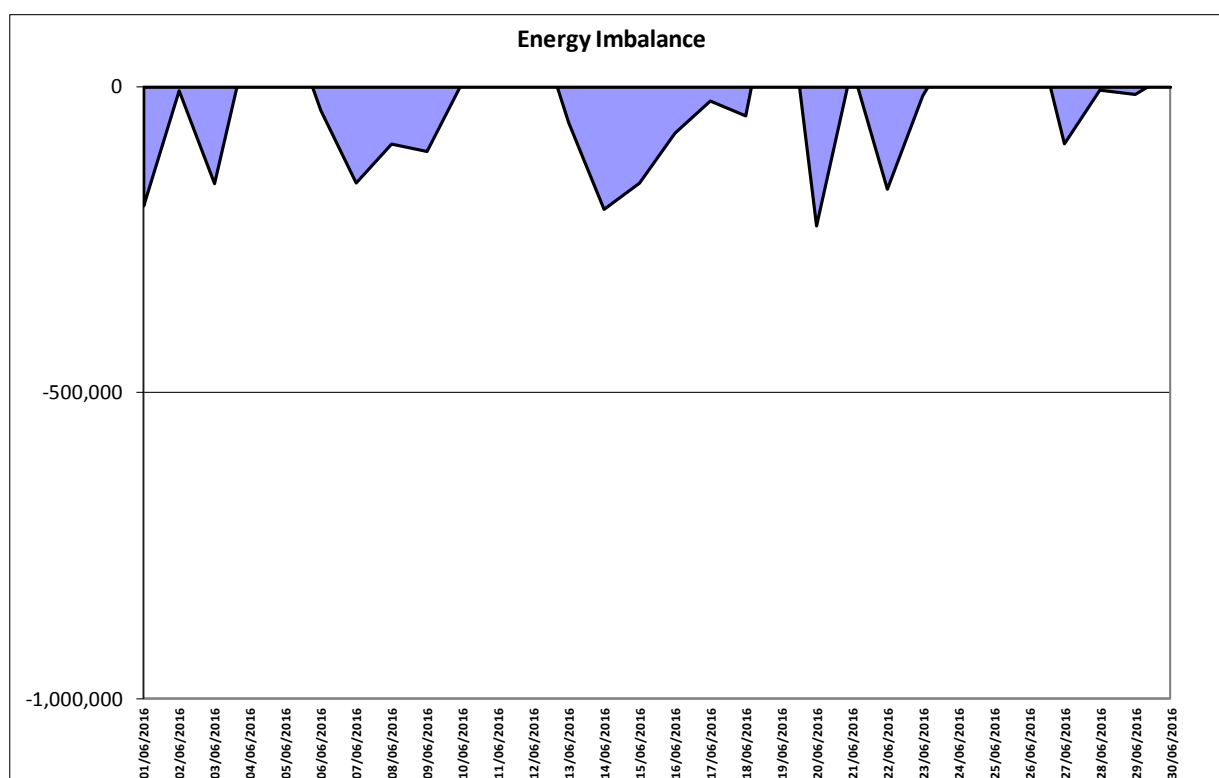

Figure 3 – Energy Imbalances

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
03/06/2016	21	-€1,224,851.34	-€0
10/06/2016	22	-€1,362,326.06	-€0
17/06/2016	23	-€334,215.24	-€0
24/06/2016	24	-€735,443.16	-€0

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 Trading and Settlement Code.

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

June 2016	
Capacity Charges	-€34,442,594.9
Capacity Payments	€34,442,343.2
Balancing Costs	-€251.6
VAT	€0

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:

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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 Trading and Settlement 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
28/05/2016	03/06/2016	21	-£43,742.89	£-	-£43,742.89
04/06/2016	10/06/2016	22	£54,966.87	£19,800.00	£74,766.87
11/06/2016	17/06/2016	23	-£9,027.06	£-	-£9,027.06
18/06/2016	24/06/2016	24	£34,441.30	-£4,225.00	£30,216.30

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 £74,766.87 and a cost of -£43,742.89. 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
11/07/2016	June 2016	£36,493.73

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 2015. 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
€118,345,858.07	-€2,534,246.11	€2,422,326.35	-€113,442,885.70

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.
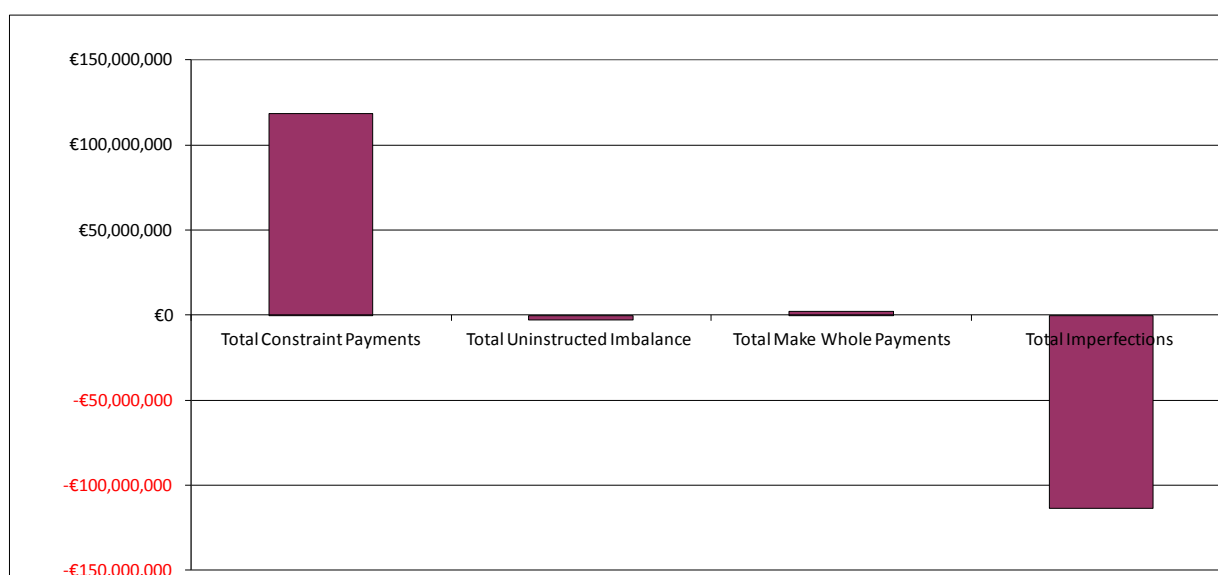
Figure 4 - Cumulative Imperfections Costs Vs Budget

The daily and weekly data that comprised these values is shown in 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 February 2016 and M+13 resettlement period of May 2015 for Energy and Capacity.

3.1.1 Energy Market

Note: - For Figure 6, 8, 9, net values are shown.
- Positive amounts indicate net additional payments by Participants (Charges).
- Negative amounts indicate net additional payment to be made to Participants (Payments).

The reverse is true for Figure 7 & 10

M+4 Resettlement
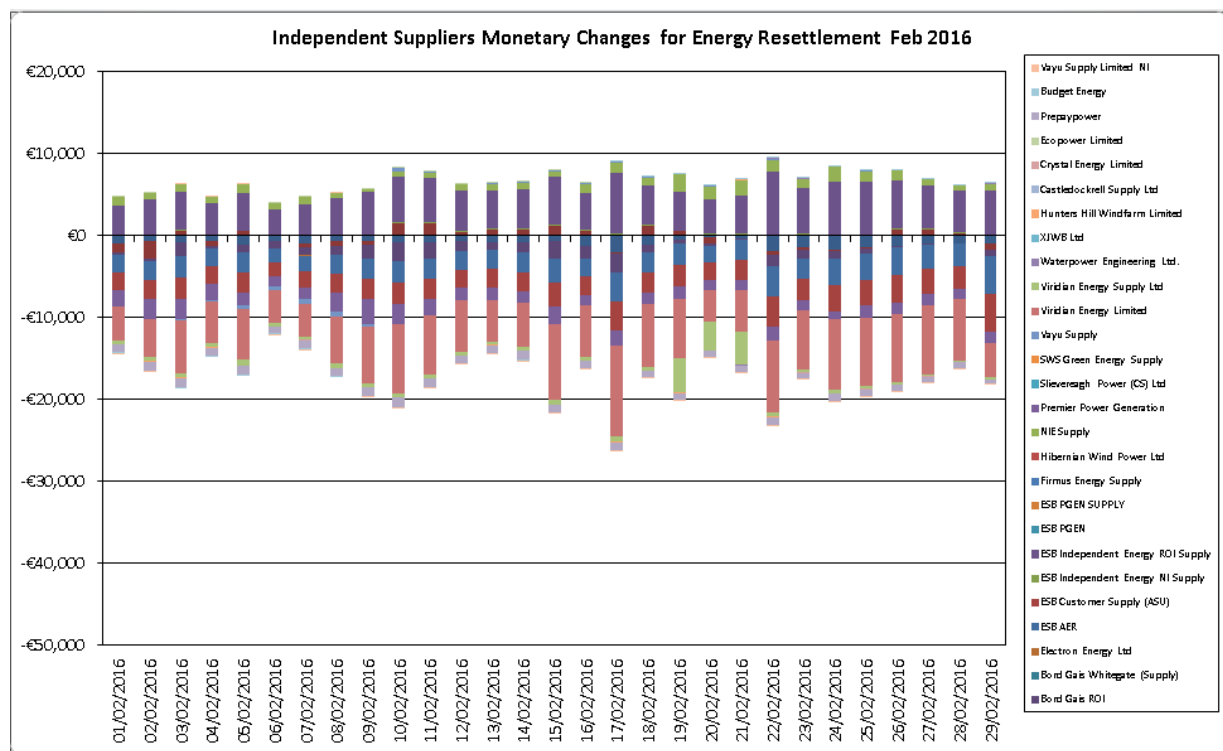
Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement – Feb 2016

The above variances relates purely to rounding for Participants between Initial and M+4 Resettlement.
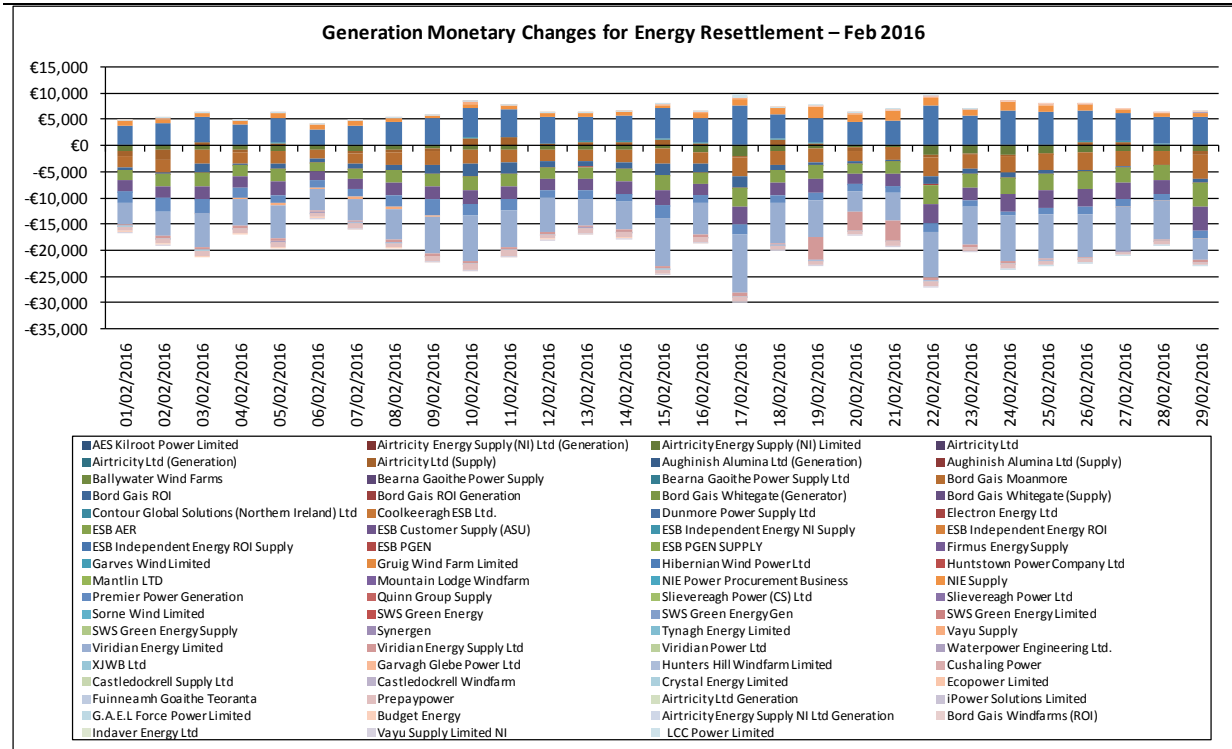
Figure 6 – Generation Monetary Changes for Energy Resettlement – Feb 2016
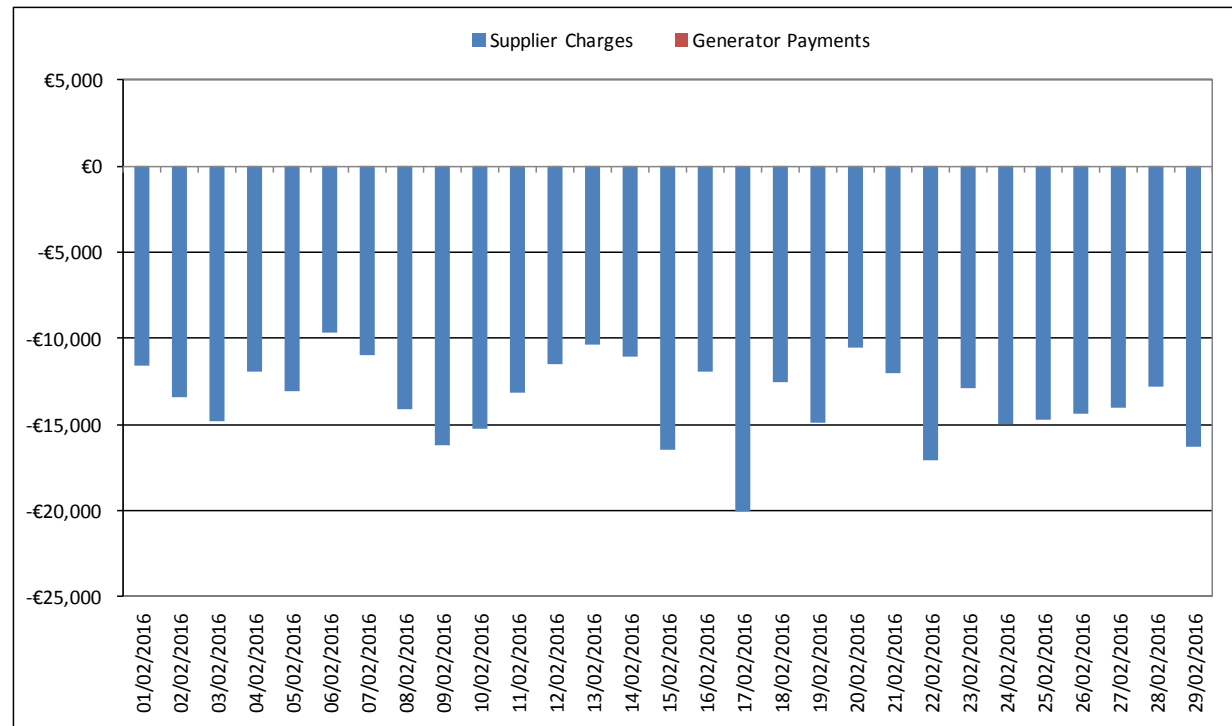
Figure 7 – Total Monetary Changes for Energy Resettlement – Feb 2016

M+13 Resettlement
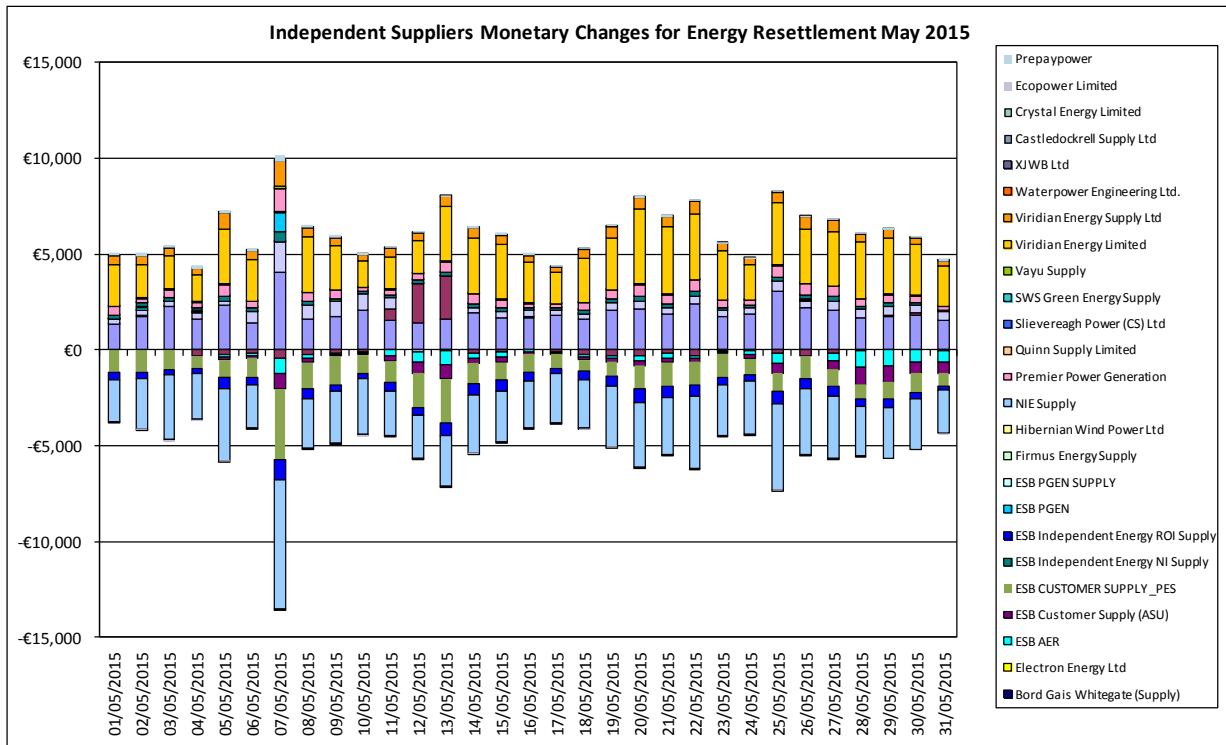
Figure 8 - Independent Suppliers Monetary Changes for Energy Resettlement – May 2015

The above variances relates purely to rounding for Participants between M+4 and M+13 Resettlement.
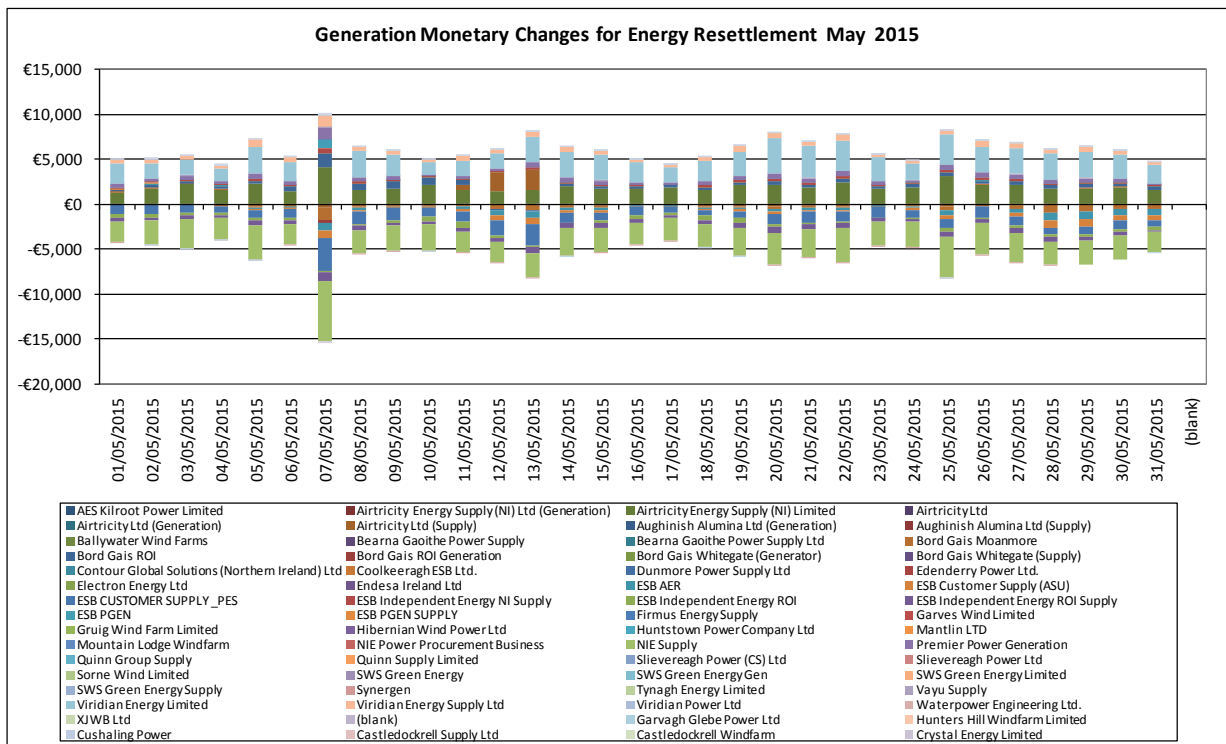
Figure 9 - Generation Monetary Changes for Energy Resettlement – May 2015
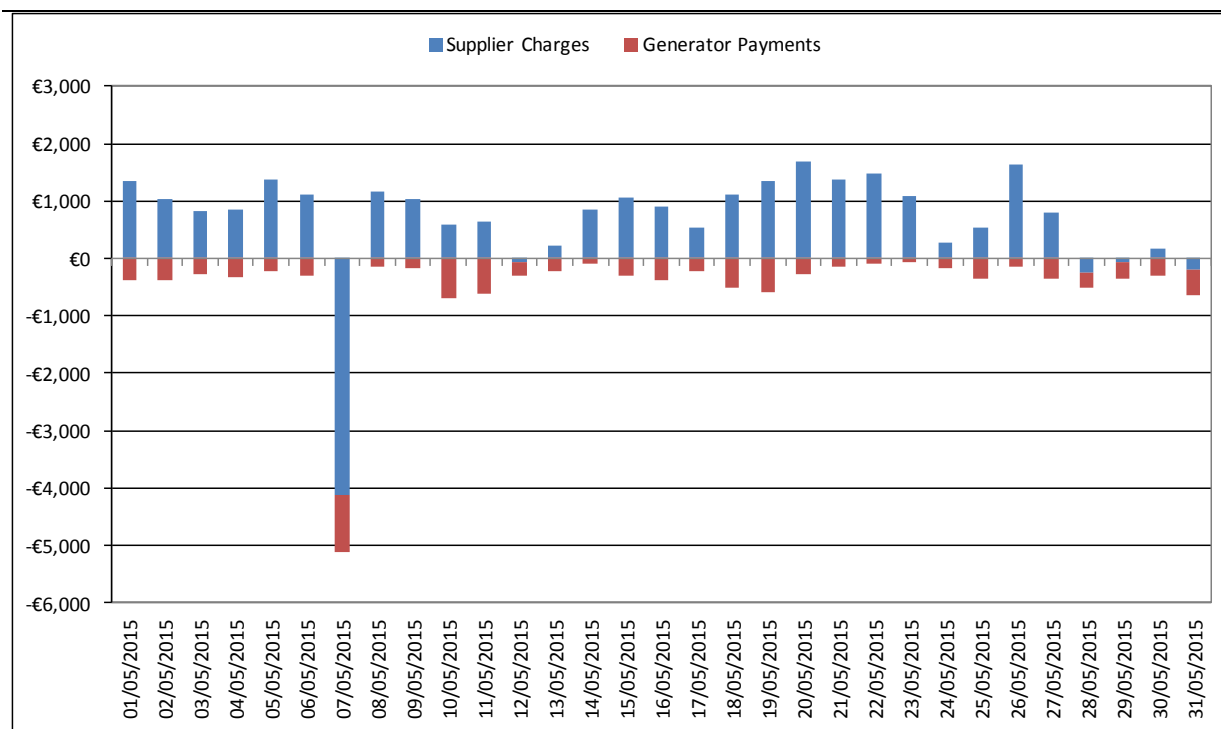
Figure 10 - Total Monetary Changes for Energy Resettlement – May 2015

3.1.2 Capacity Market

Note: - For Figure 12, 13 & 16 net values are shown.
- Positive amounts indicate net additional payments <u>by</u> 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.
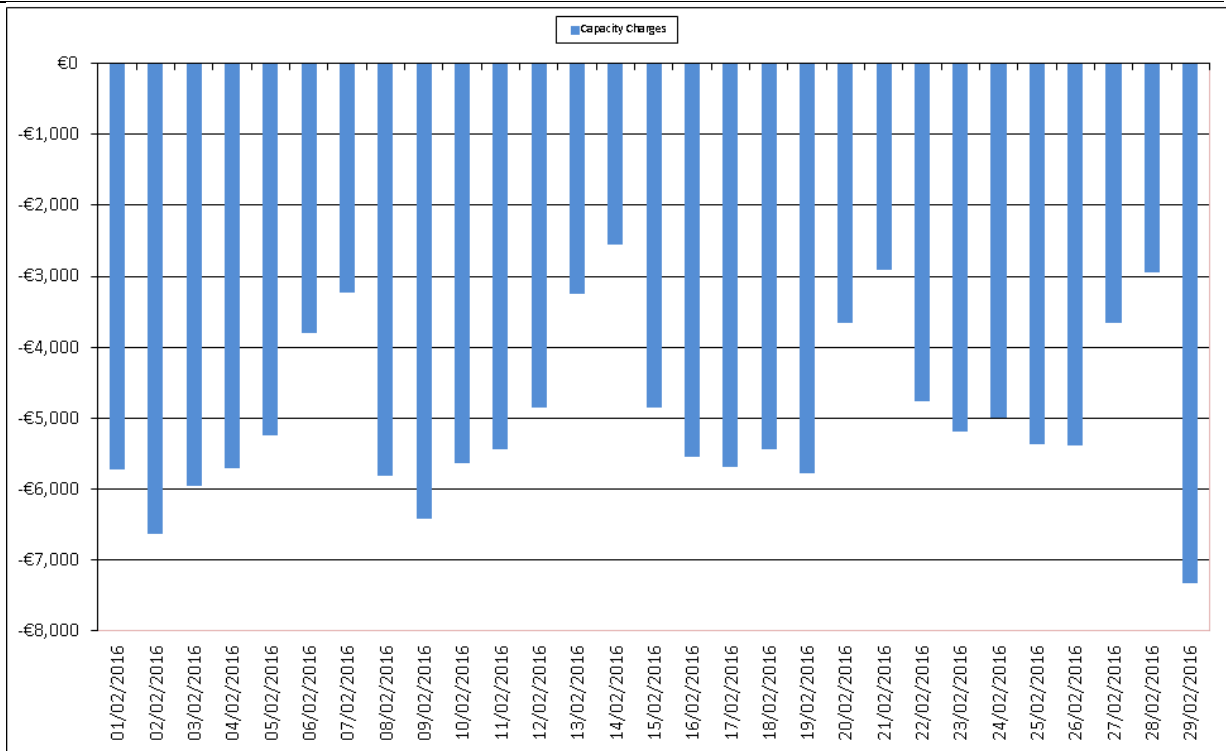
Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement – Feb 2016
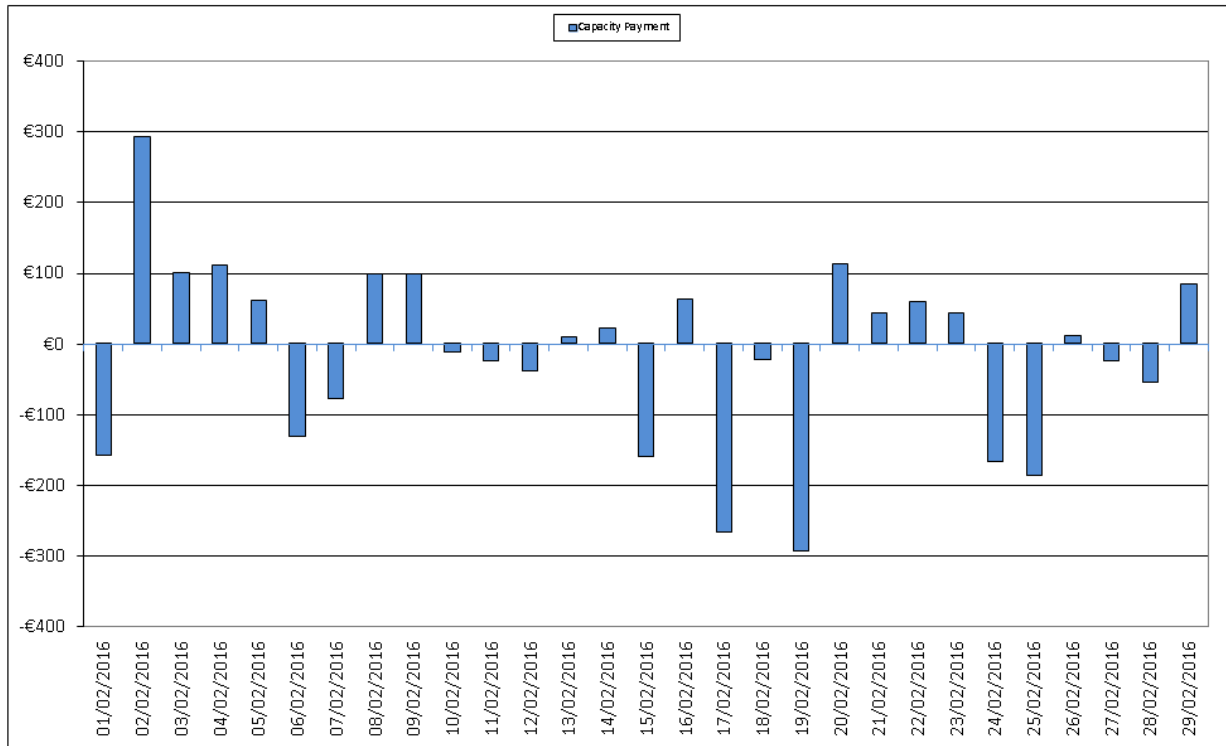
Figure 12 - All Generation Monetary Change for Capacity Resettlement – Feb 2016

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

Market Operator Monthly Report
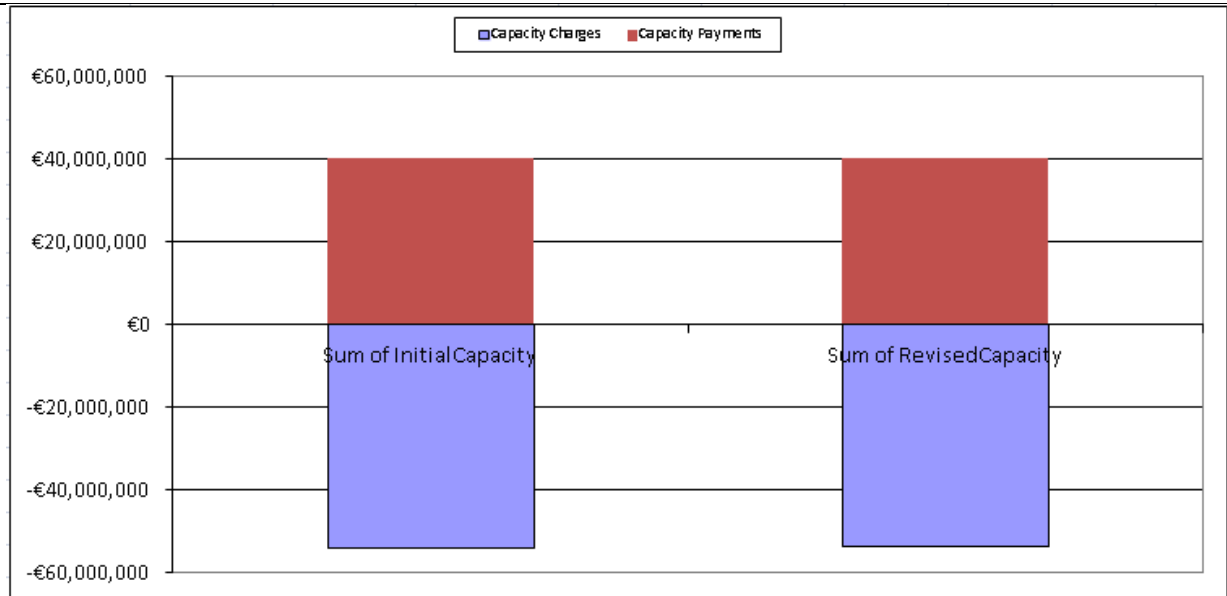
Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement Feb 2016

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
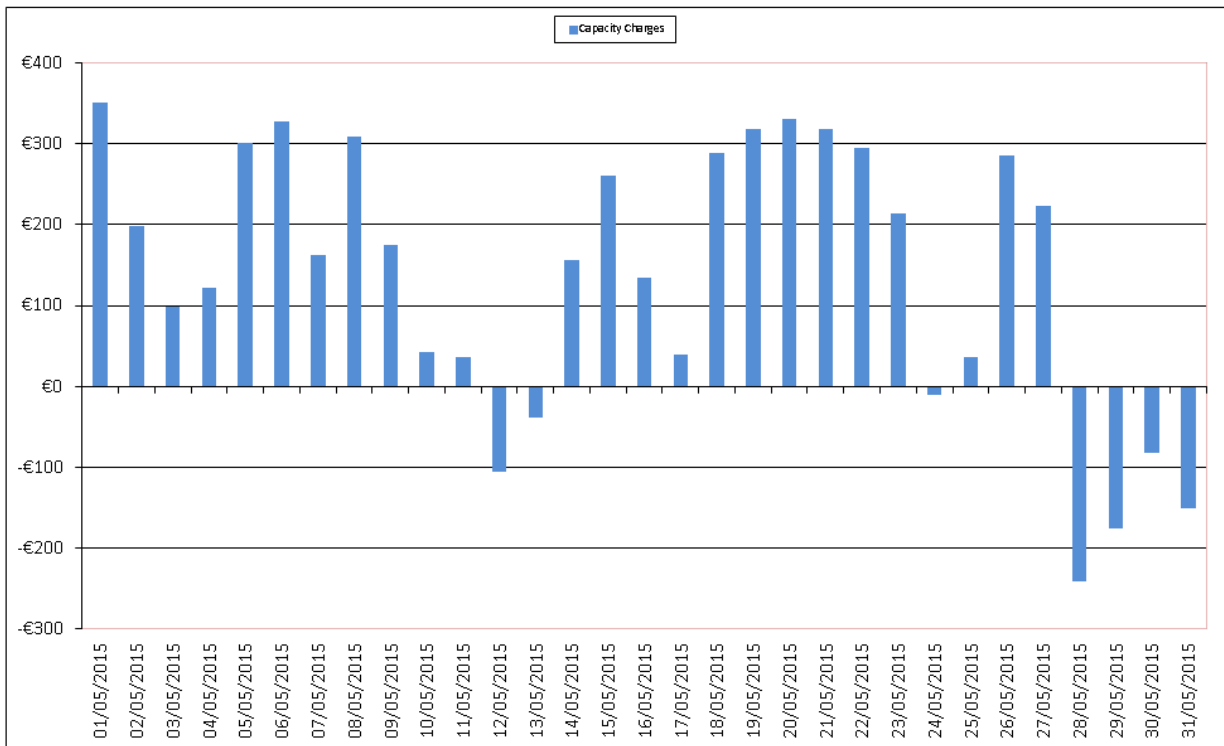
Figure 14 - Independent Suppliers Monetary Changes for Capacity Resettlement – May 2015
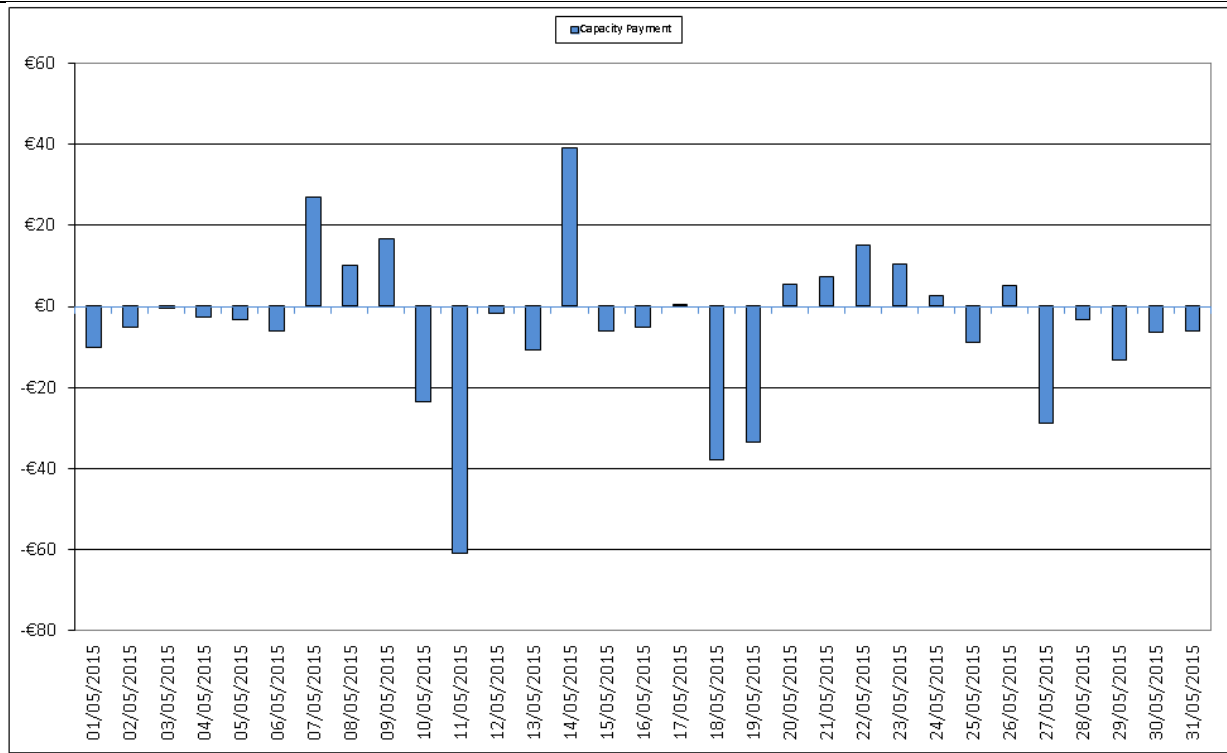
Figure 15 – All Generation Monetary Change for Capacity Resettlement – May 2015
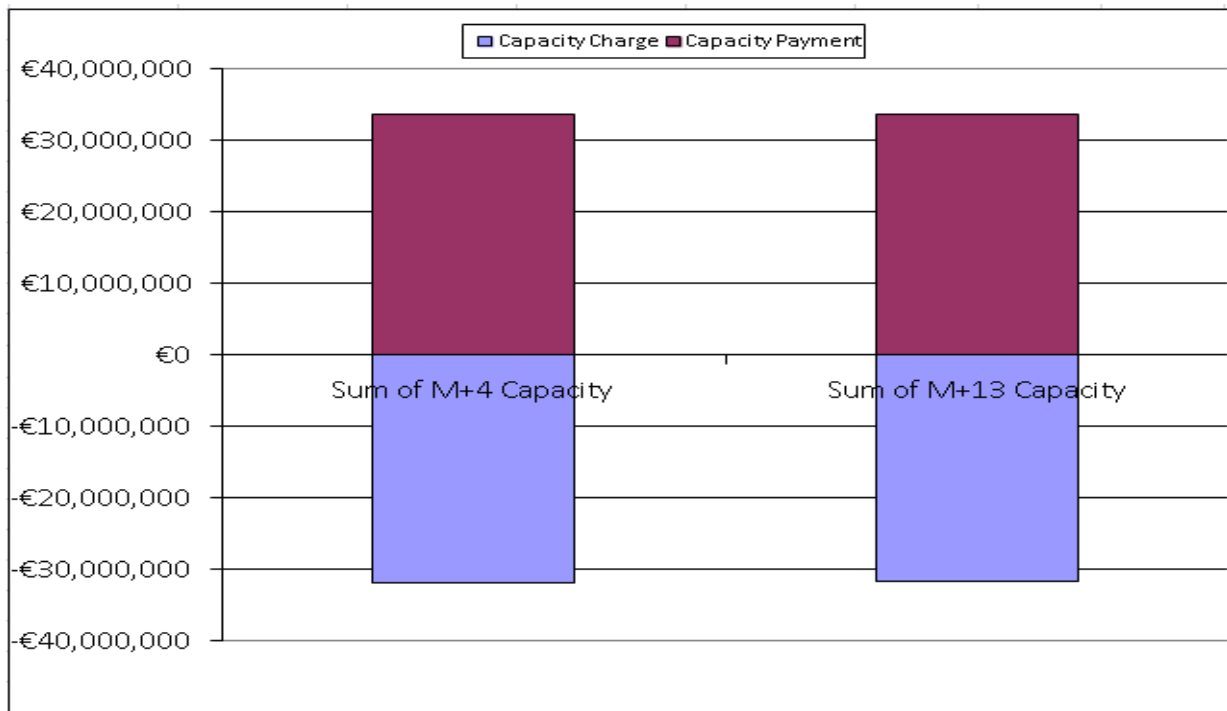
Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – May 2015

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 June 2016.

Market Helpdesk Report: 01/06/16 to 30/06/16

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	166	153	13	175	1.15	169
Important	1	1	0	1	2.05	0
Urgent	2	2	0	2	0.00	2
Settlement	4	4	0	4	2.68	4
Credit	0	0	0	0	0.00	0
Dispute	0	0	0	0	0.00	0
Data	3	3	0	3	1.84	3
Total/Average	**176**	**163**	**13**	**185**	**1.54**	**178**

Table 10 – Helpdesk Statistics

Definitions:
- Resolved within the Period refers to queries raised and resolved within the calendar month of June 2016.
- Resolved in the Period refers to queries resolved within June 2016, 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 June 2016.
- Not Resolved refers to queries raised but not resolved within June 2016.
- 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 a mandated service level under the Trading and Settlement Code.
- Disputes are where a dispute has been raised over the outcome of a data or settlement query.

The average resolution time for General Queries has increased by 0.17 working days from 0.97 in May 2016 to 1.14 working days in June 2016. 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 Trading and Settlement Code, i.e. one calendar month. No Formal Query timeline extensions were required during June 2016 with regard to formal Settlement Queries.

5.   Disputes and Queries

5.1.1 Disputes

No Disputes were raised during the month of June 2016.

5.1.2 Data Queries

There were three formal Data Query raised during the month of June 2016. Only two of these data query were upheld.

5.1.3 Settlement Queries

There was four formal Settlement Queries raised in June 2016. Three of these queries were upheld and have since been resolved.

Topic	Number Of Queries
Metered Generation	2
SO Trades	1

Table 11 - Upheld Settlement Queries by topic

- One query relating to incorrect SO Trades at Initial settlement was raised. This query was deemed to be of low materiality and will be corrected as part of an M+4 Resettlement.

- Two queries relating to incorrect Metered Generation at Initial settlement were raised. Both of these queries were deemed to be of low materiality and will be corrected as part of an M+4 Resettlement.

Unresolved Queries

There are no unresolved data queries or settlement queries as of the 13th July 2016.

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, 40.02% of data used was submitted by Participants through the normal Bid-Offer process. 59.98% 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 Appendix F.

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

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

6.3.1 Re-Pricing and Resettlement Runs

There were no Re-Price runs carried out in June 2016.

There were no Re-Settlement runs carried out in June 2016.

6.3.2 System Errors

There was one Market Application defect found in June 2016:

- Defect ID - 146173

Details are provided in Appendix C : List of All Systems 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 June 2016.

6.4.1 MSP Postings June 2016

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

Table 12 - Operational Timings

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

Table 13 - Operational Timings (% on time)
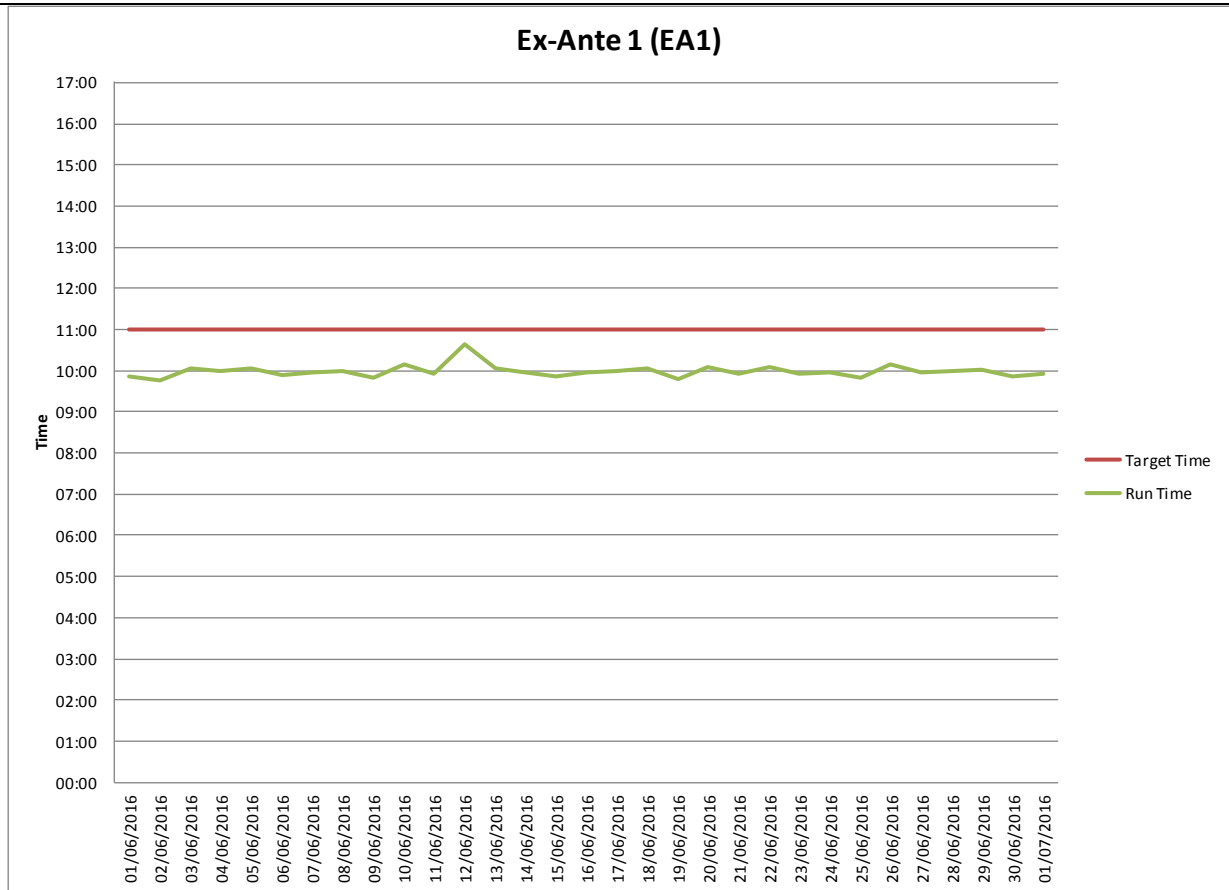
Figure 17 – Ex-Ante 1
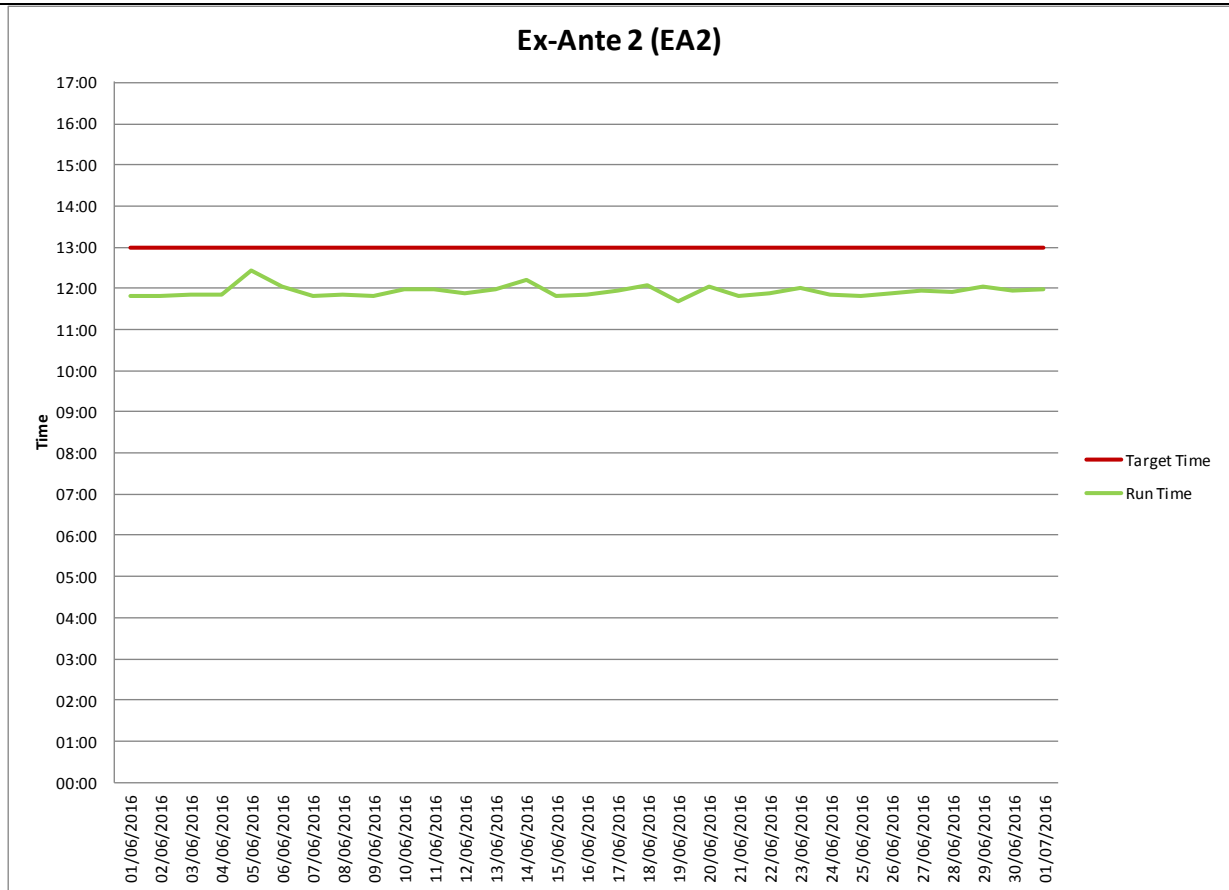
Figure 18 – Ex-Ante 2
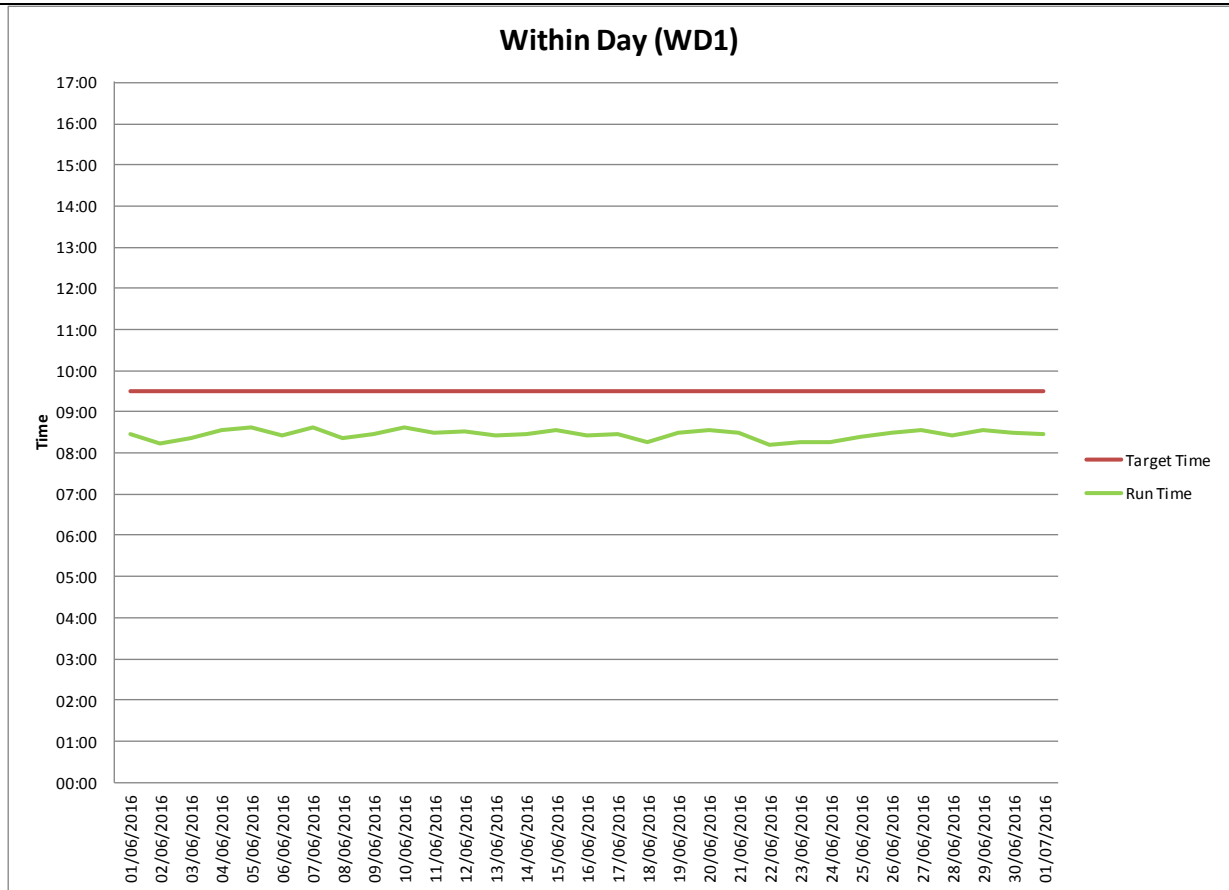
Figure 19 – Within Day 1
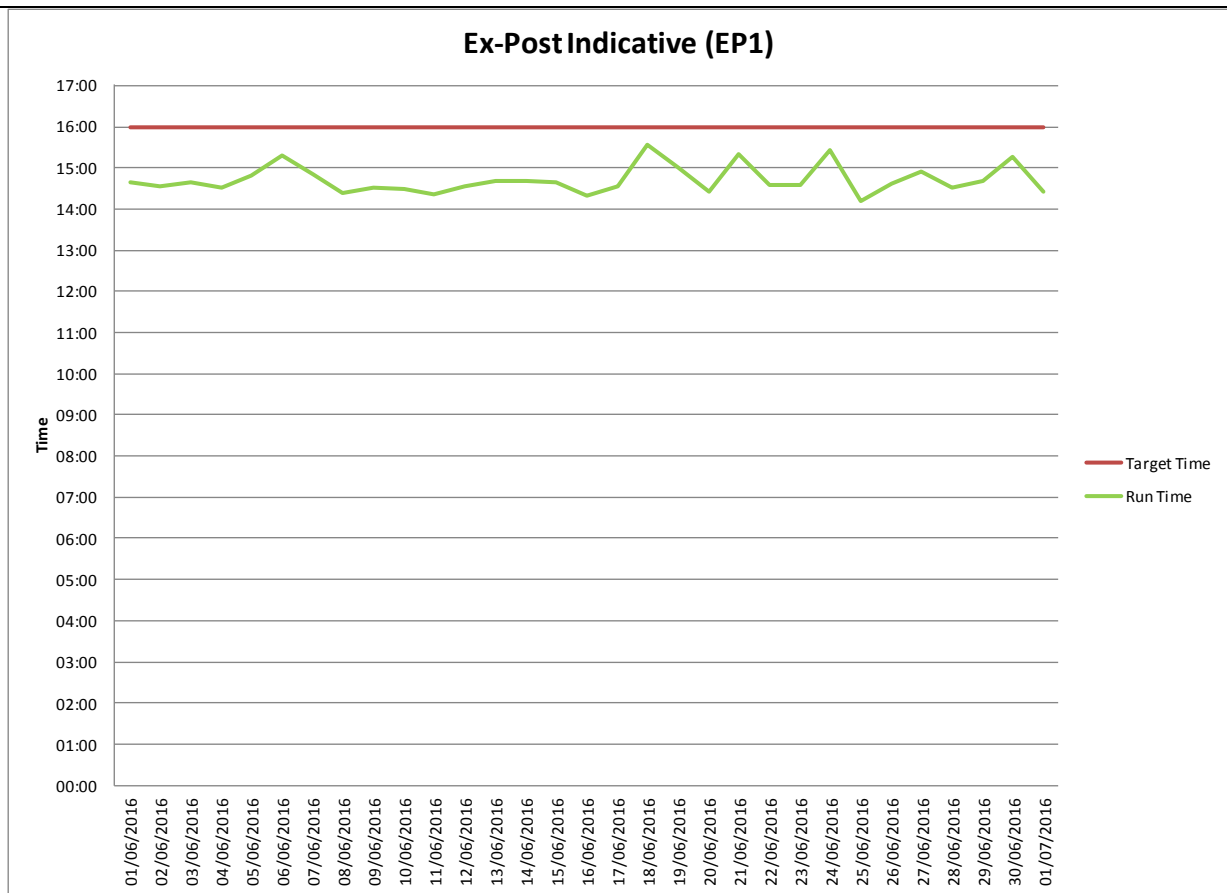
Figure 20 - Ex-Post Indicative
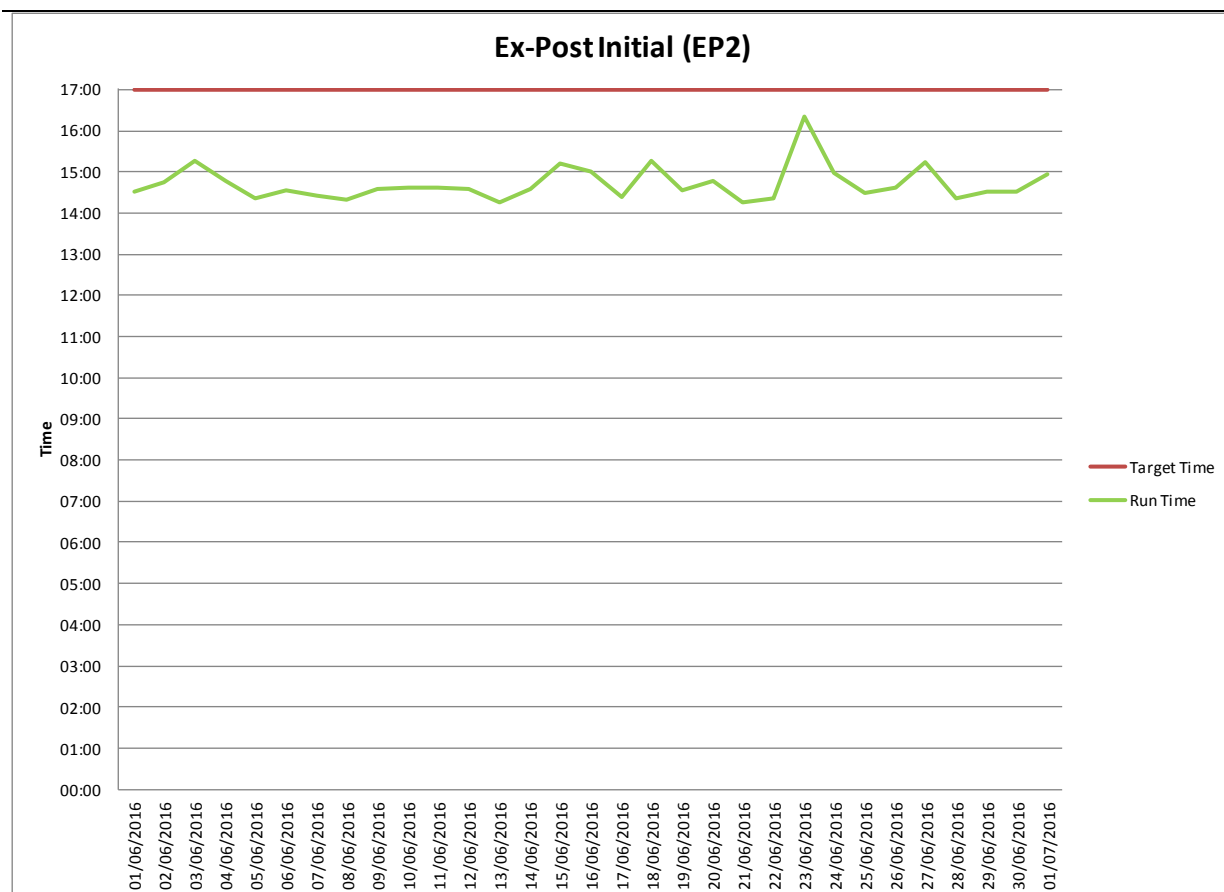
Figure 21 - Ex-Post Initial

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

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 here.

In June 2016, there was one instance 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.

6.4.3 Settlement Postings June 2016

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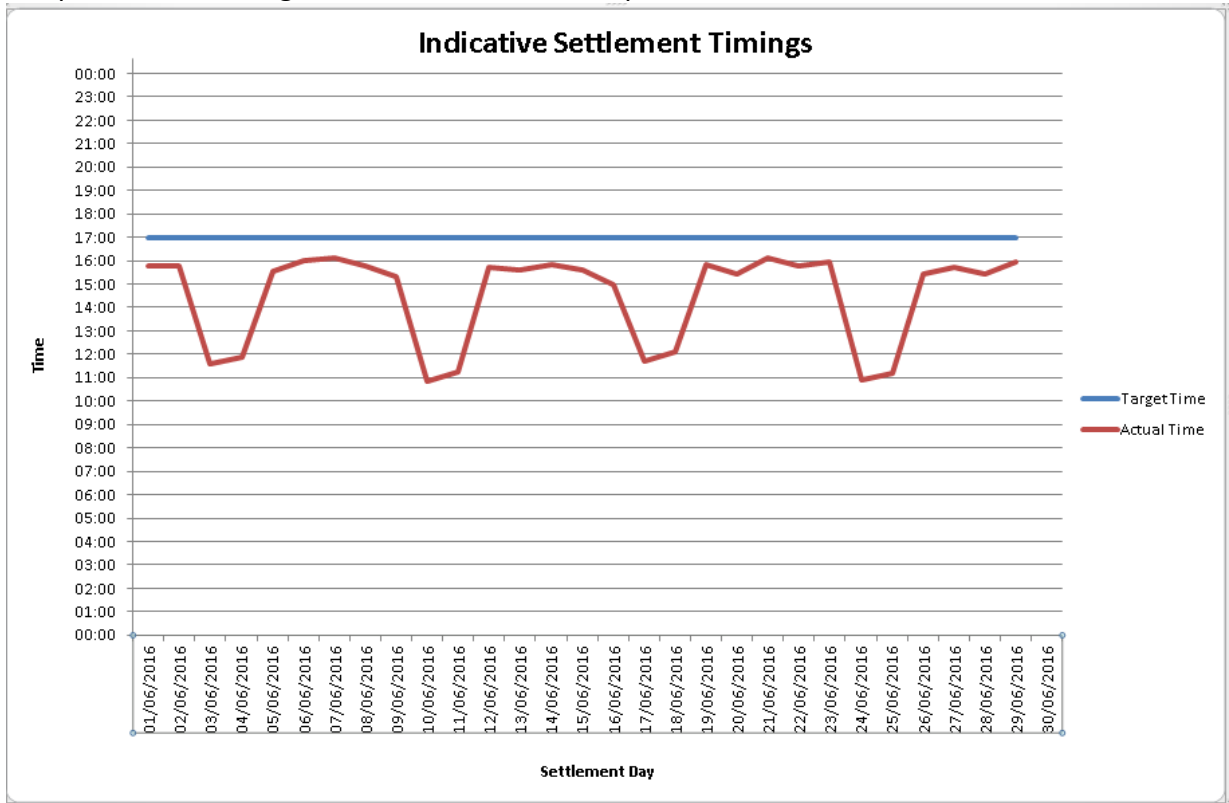
Figure 22 - Indicative Settlement Postings
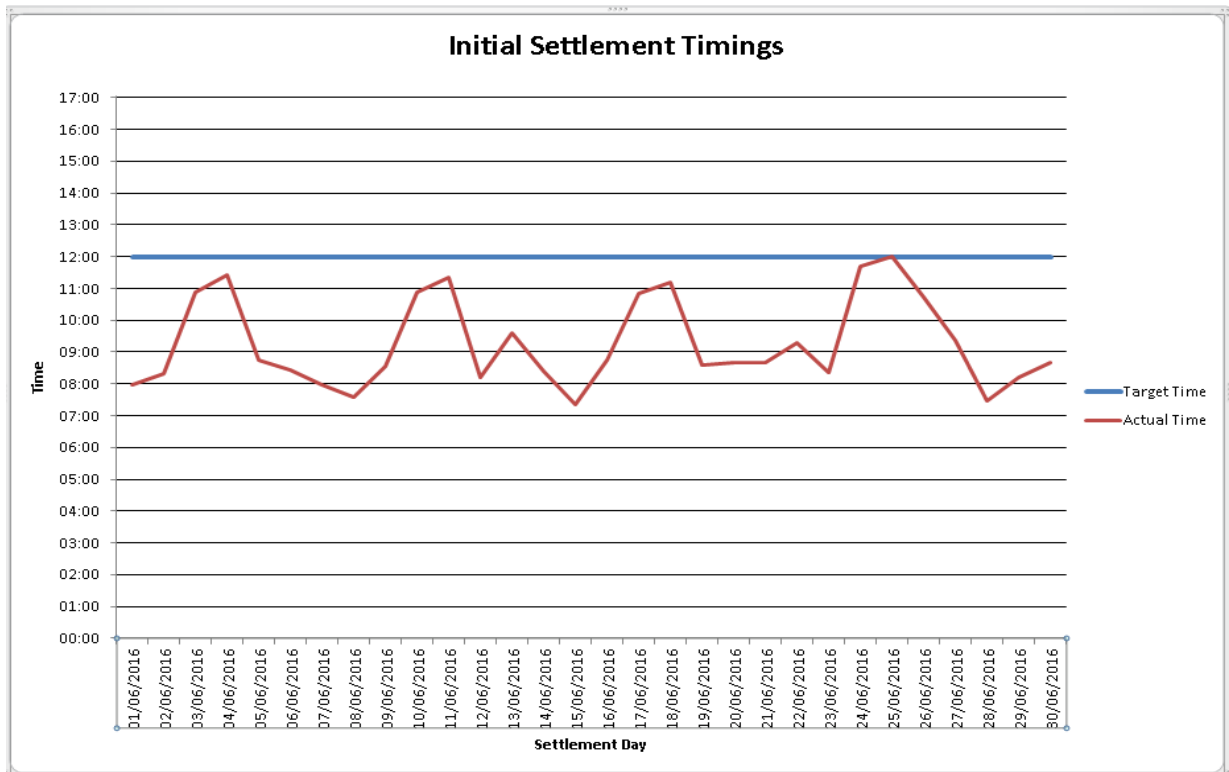
Figure 23 - Initial Settlement Postings

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

6.5.1 Release SEM R2.7.0 (Deployed: November 2nd 2015)

SEM R2.7.0 went live on Friday November 2nd with no issues

UUC 3.7.1 – (Deployed December 15th 2015)

UUC 3.7.1 was deployed on December 15th and the below defect fixes were applied.

ABB2015142976 – IP – IP heat state – Down Time
ABB2015143445 – DSP – Availability Profile (Dual Energy Unit)

6.5.2 Release SEM R2.8.0 (Deployed June 17th 2016)

SEM R2.8.0 went live on Friday June 17th with no issues

7. Occasional Components

7.1 Disaster Recovery/Business Continuity Tests

There were no scheduled Business Continuity tests performed during June 2016.

7.3 Communications or Systems Failures

There were no Communications or Systems Failures in June 2016

7.4 Denial of Service Attacks

There was no Denial of Service Attacks during June 2016.

7.5 Submission of Parameters to RAs for Approval

There has been no requirement for submission of parameters in the month of June 2016.

8. Appendix A: Detail of Trading and Settlement Code Breaches

Market Participant

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
02/06/2016	Money In	Timing	Participant	Payment Default	Arden Energy Limited (PT_400149) defaulted on a Week 20 2016 Initial Energy Invoice.	Participant Error	A default letter was issued to the participant.	Major
02/06/2016	Money In	Timing	Participant	Payment Default	Arden Energy Limited (PT_400149) defaulted on an April 2015 M+13 Capcity Invoice.	Participant Error	A default letter was issued to the participant.	Major
02/06/2016	Money In	Timing	Participant	Payment Default	Captured Carbon Limited (PT_400174) defaulted on a January 2016 M+4 Capacity Invoice.	Participant Error	A default letter was issued to the participant.	Major
02/06/2016	Money In	Timing	Participant	Payment Default	Electricity Exchange Limited (PT_400116) defaulted on an April 2015 M+13 Capacity Invoice.	Participant Error	A default letter was issued to the participant.	Major

Table 14 – Trading and Settlement Code Breaches – Market Participants

SEMO - Pricing and Scheduling

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
25/06/2016	EP1	Timing	SONI TSO	File Submission	The SONI Actual Availability file for Trading Day 24/06/2016 was not recieved by the submission deadline of 14:00.	SONI experienced a system issue which resulted in a delay to the submission of this file.	The file was received successfully from SONI at 14:55.	Minor
27/06/2016	EP2	Timing	SONI TSO	File Submission	The SONI Actual Availability file for Trading Day 24/06/2016 was not recieved by the submission deadline of 14:00.	SONI experienced a system issue which resulted in a delay to the submission of this file.	The file was received successfully from SONI at 16:09.	Minor
27/06/2016	EP1	Timing	SONI TSO	File Submission	The SONI Actual Availability file for Trading Day 26/06/2016 was not recieved by the submission deadline of 14:00.	SONI experienced a system issue which resulted in a delay to the submission of this file.	The file was received successfully from SONI at 14:05.	Minor

Table 15 – Pricing and Scheduling Code Breaches – Market Participants

SEMO – Settlements

There were no issues to report in June 2016

SEMO - Funds Transfer

There were no issues to report in June 2016.

SEMO - Credit Management

There were no issues to report in June 2016.

SEMO – Other

There were no issues to report in June 2016

Appendix B: List of Queries by Type

Summary Title	Description	ID	Logged On	Date sent to MP	Type
Meter Generation	GU_400324 (PBA). No meter generation data for this unit.	PT_400030	2016-06-01	2016-06-01	**DATA**
Meter Generation	I have previously submitted a query for 28th May on PBA see F0067647. I have subsequently check all Power Gen units and notice problems with meter gen data for all units. Was there a problem with this day?	PT_400030	2016-06-02	2016-06-03	**Data**
SO-SO Trades	Incorrect cash values submitted in D+1 and D+3. Periods effected, 14 2 13:30 - 14:00 15 1 14:00 - 14:30 15 2 14:30 - 15:00	IA_MOYLE	2016-06-08	2016-06-09	**Settlement**
Meter Demand	Northern Ireland Electricity Networks Temperature adjustment data 1st April 2016-12th May 2016	NIE	2016-06-06	2016-06-10	**Data**
MIUNs	Issue with final PIR not matching the Error Report on 03.06.2016. Periods effected, 18 2 18:00 - 18:30 Pre-Lim PIR report -89.7, Final PIR report is -89.7,	TSO_SONI	2016-06-13	2016-06-16	**Settlement**
Meter Generation	An incorrect meter value was issued on 25th May 2016 for Kilroot Unit 1 (GU_500822) Trading period 00:00 –	TSO_SONI	2016-06-13	2016-06-14	**Settlement**
Meter Data	Captured Carbon Supply Unit currently has export arrangements with 7 generators as follows:	PT_400174	2016-06-22	2016-06-30	**Settlement**

Table 16 - Formal Queries

9. 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.

There was one Market Application defects found in June 2016.

Issue No.	Description	Effect	Fixed from	Re-Pricing	Resettlement	Status
ABB2016-146173	VPTG Unit – Incorrect UUC Treatment	-	-	N	N	In Progress

Table 17 - List of System Errors and Failures

10. Appendix D: Details of Operational Timings

Market Schedule and Price Runs

Operational Day	EA1 Postings		EA2 Postings		WD1 Postings		EP1 Postings		EP2 Postings	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
01/06/2016	11:00	09:51	13:00	11:48	09:30	08:27	16:00	14:39	17:00	14:31
02/06/2016	11:00	09:45	13:00	11:49	09:30	08:14	16:00	14:33	17:00	14:45
03/06/2016	11:00	10:03	13:00	11:51	09:30	08:21	16:00	14:38	17:00	15:16
04/06/2016	11:00	09:59	13:00	11:51	09:30	08:34	16:00	14:32	17:00	14:46
05/06/2016	11:00	10:04	13:00	12:26	09:30	08:38	16:00	14:49	17:00	14:22
06/06/2016	11:00	09:54	13:00	12:02	09:30	08:25	16:00	15:18	17:00	14:34
07/06/2016	11:00	09:57	13:00	11:48	09:30	08:37	16:00	14:50	17:00	14:26
08/06/2016	11:00	10:00	13:00	11:51	09:30	08:21	16:00	14:24	17:00	14:20
09/06/2016	11:00	09:50	13:00	11:49	09:30	08:28	16:00	14:32	17:00	14:35
10/06/2016	11:00	10:09	13:00	11:59	09:30	08:37	16:00	14:30	17:00	14:37
11/06/2016	11:00	09:55	13:00	11:58	09:30	08:30	16:00	14:21	17:00	14:37
12/06/2016	11:00	10:39	13:00	11:53	09:30	08:32	16:00	14:34	17:00	14:35
13/06/2016	11:00	10:03	13:00	11:58	09:30	08:25	16:00	14:40	17:00	14:16
14/06/2016	11:00	09:57	13:00	12:13	09:30	08:27	16:00	14:41	17:00	14:35
15/06/2016	11:00	09:52	13:00	11:49	09:30	08:33	16:00	14:38	17:00	15:12
16/06/2016	11:00	09:58	13:00	11:51	09:30	08:26	16:00	14:20	17:00	15:01
17/06/2016	11:00	10:00	13:00	11:56	09:30	08:28	16:00	14:34	17:00	14:24
18/06/2016	11:00	10:04	13:00	12:04	09:30	08:15	16:00	15:33	17:00	15:16
19/06/2016	11:00	09:48	13:00	11:42	09:30	08:29	16:00	15:01	17:00	14:33
20/06/2016	11:00	10:06	13:00	12:02	09:30	08:33	16:00	14:25	17:00	14:46
21/06/2016	11:00	09:55	13:00	11:49	09:30	08:29	16:00	15:20	17:00	14:15
22/06/2016	11:00	10:05	13:00	11:52	09:30	08:11	16:00	14:36	17:00	14:22
23/06/2016	11:00	09:55	13:00	12:00	09:30	08:16	16:00	14:36	17:00	16:20
24/06/2016	11:00	09:58	13:00	11:51	09:30	08:16	16:00	15:25	17:00	14:58
25/06/2016	11:00	09:49	13:00	11:49	09:30	08:24	16:00	14:12	17:00	14:30
26/06/2016	11:00	10:09	13:00	11:53	09:30	08:29	16:00	14:37	17:00	14:37
27/06/2016	11:00	09:58	13:00	11:57	09:30	08:33	16:00	14:55	17:00	15:15
28/06/2016	11:00	09:59	13:00	11:55	09:30	08:25	16:00	14:32	17:00	14:21
29/06/2016	11:00	10:01	13:00	12:03	09:30	08:33	16:00	14:41	17:00	14:32
30/06/2016	11:00	09:52	13:00	11:56	09:30	08:30	16:00	15:17	17:00	14:31
01/07/2016	11:00	09:55	13:00	11:58	09:30	08:28	16:00	14:25	17:00	14:56

Table 18 – MSP Runs

Settlement Runs

| Trading Day | Indicative | | | INITIAL | | | |
	Actual Date	Target Time	Actual Time	Trading Day	Actual Date	Target Time	Actual Time
01/06/2016	02/06/2016	17:00	15:46	01/06/2016	08/06/2016	12:00	07:57
02/06/2016	03/06/2016	17:00	15:45	02/06/2016	09/06/2016	12:00	08:20
03/06/2016	06/06/2016	17:00	11:35	03/06/2016	10/06/2016	12:00	10:53
04/06/2016	06/06/2016	17:00	11:52	04/06/2016	10/06/2016	12:00	11:25
05/06/2016	06/06/2016	17:00	15:33	05/06/2016	10/06/2016	12:00	08:44
06/06/2016	07/06/2016	17:00	15:59	06/06/2016	13/06/2016	12:00	08:26
07/06/2016	08/06/2016	17:00	16:07	07/06/2016	14/06/2016	12:00	07:59
08/06/2016	09/06/2016	17:00	15:45	08/06/2016	15/06/2016	12:00	07:36
09/06/2016	10/06/2016	17:00	15:20	09/06/2016	16/06/2016	12:00	08:32
10/06/2016	13/06/2016	17:00	10:52	10/06/2016	17/06/2016	12:00	10:53
11/06/2016	13/06/2016	17:00	11:16	11/06/2016	17/06/2016	12:00	11:20
12/06/2016	13/06/2016	17:00	15:42	12/06/2016	17/06/2016	12:00	08:11
13/06/2016	14/06/2016	17:00	15:35	13/06/2016	20/06/2016	12:00	09:36
14/06/2016	15/06/2016	17:00	15:50	14/06/2016	21/06/2016	12:00	08:23
15/06/2016	16/06/2016	17:00	15:35	15/06/2016	22/06/2016	12:00	07:20
16/06/2016	17/06/2016	17:00	14:59	16/06/2016	23/06/2016	12:00	08:44
17/06/2016	20/06/2016	17:00	11:44	17/06/2016	24/06/2016	12:00	10:50
18/06/2016	20/06/2016	17:00	12:08	18/06/2016	24/06/2016	12:00	11:11
19/06/2016	20/06/2016	17:00	15:51	19/06/2016	24/06/2016	12:00	08:36
20/06/2016	21/06/2016	17:00	15:27	20/06/2016	27/06/2016	12:00	08:39
21/06/2016	22/06/2016	17:00	16:06	21/06/2016	28/06/2016	12:00	08:40
22/06/2016	23/06/2016	17:00	15:48	22/06/2016	29/06/2016	12:00	09:18
23/06/2016	24/06/2016	17:00	15:56	23/06/2016	30/06/2016	12:00	08:21
24/06/2016	27/06/2016	17:00	10:53	24/06/2016	01/07/2016	12:00	11:42
25/06/2016	27/06/2016	17:00	11:12	25/06/2016	01/07/2016	12:00	12:00
26/06/2016	27/06/2016	17:00	15:25	26/06/2016	01/07/2016	12:00	10:43
27/06/2016	28/06/2016	17:00	15:44	27/06/2016	04/07/2016	12:00	09:23
28/06/2016	29/06/2016	17:00	15:25	28/06/2016	05/07/2016	12:00	07:27
29/06/2016	30/06/2016	17:00	15:57	29/06/2016	06/07/2016	12:00	08:13
30/06/2016	01/07/2016	17:00	16:19	30/06/2016	07/07/2016	12:00	08:39

Table 19 – Settlement Runs

11. 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
01/10/2015	€184,048.17	-€2,821.59	-€417,294.17
02/10/2015	€236,003.67	-€8,758.78	-€418,385.31
03/10/2015	€447,568.14	-€8,429.85	-€381,381.79
04/10/2015	€355,210.41	-€24,773.87	-€349,405.45
05/10/2015	€403,998.22	-€16,845.94	-€406,685.67
06/10/2015	€408,090.09	-€11,370.17	-€409,451.55
07/10/2015	€396,852.65	-€1,016.51	-€416,499.23
08/10/2015	€833,027.77	-€21,031.97	-€419,217.67
09/10/2015	€571,135.00	-€23,911.84	-€409,985.99
10/10/2015	€426,624.39	-€275.88	-€376,563.72
11/10/2015	€590,507.33	-€216.51	-€366,642.39
12/10/2015	€615,907.40	-€2,922.19	-€408,081.59
13/10/2015	€488,323.11	-€17,640.65	-€428,288.19
14/10/2015	€323,841.39	-€15,630.17	-€430,023.84
15/10/2015	€570,171.09	-€34,678.33	-€435,691.74
16/10/2015	€504,000.21	€18,400.98	-€429,027.80
17/10/2015	€539,706.96	-€10,829.35	-€390,086.25
18/10/2015	€266,275.31	-€19,394.40	-€378,763.32
19/10/2015	€691,729.65	-€1,637.61	-€431,384.59
20/10/2015	€416,398.00	-€16,742.61	-€431,705.80
21/10/2015	€432,672.89	€2,922.97	-€414,059.84
22/10/2015	€641,039.51	-€16,128.91	-€417,064.06
23/10/2015	€459,729.27	-€2,884.82	-€406,407.83
24/10/2015	€402,573.36	-€210.62	-€371,022.63
25/10/2015	€555,628.53	-€9,138.35	-€360,591.55
26/10/2015	€564,608.59	-€10,138.06	-€363,999.10
27/10/2015	€330,626.10	-€5,378.00	-€424,726.29
28/10/2015	€336,368.51	€2,317.42	-€421,130.98
29/10/2015	€695,460.11	-€15,712.74	-€418,305.21
30/10/2015	€614,928.96	-€7,082.05	-€407,138.37
31/10/2015	€291,199.69	-€8,191.01	-€379,817.58
01/11/2015	€219,117.61	-€16,496.48	-€370,314.93
02/11/2015	€418,967.95	-€965.50	-€422,957.41
03/11/2015	€375,447.29	-€8,157.08	-€443,867.51
04/11/2015	€401,223.42	-€20,165.19	-€446,024.38
05/11/2015	€326,445.86	-€1,493.30	-€443,483.97
06/11/2015	€461,976.61	-€30,206.25	-€413,708.71
07/11/2015	€776,346.02	-€22,596.69	-€388,100.95
08/11/2015	€351,184.98	-€7,740.85	-€356,069.06
09/11/2015	€637,710.42	-€15,306.58	-€410,651.49

10/11/2015	€346,932.55	€18,683.61	-€423,279.30
11/11/2015	€413,412.33	-€1,064.81	-€424,401.75
12/11/2015	€529,981.98	-€242.98	-€418,872.75
13/11/2015	€569,259.07	-€8,771.45	-€422,080.80
14/11/2015	€774,203.83	€7,975.32	-€400,612.57
15/11/2015	€652,155.86	-€1,432.95	-€362,387.34
16/11/2015	€393,453.63	-€59.62	-€426,655.42
17/11/2015	€722,783.23	-€4,356.33	-€445,955.61
18/11/2015	€656,773.28	-€14,208.65	-€430,119.19
19/11/2015	€574,200.46	€5,810.96	-€443,090.07
20/11/2015	€502,887.86	-€13,637.60	-€434,712.02
21/11/2015	€329,836.85	-€38,020.15	-€414,867.81
22/11/2015	€409,044.29	-€33,132.32	-€401,644.24
23/11/2015	€544,326.53	-€41,817.18	-€458,997.21
24/11/2015	€672,152.53	-€33,178.27	-€447,378.21
25/11/2015	€499,335.30	-€28,725.98	-€443,985.11
26/11/2015	€513,763.56	-€25,251.46	-€450,711.04
27/11/2015	€517,347.42	€5,245.16	-€433,116.49
28/11/2015	€528,876.77	-€26,426.01	-€399,484.36
29/11/2015	€778,321.27	-€1,046.20	-€383,956.46
30/11/2015	€479,044.79	-€9,894.47	-€463,918.12
01/12/2015	€688,673.73	-€26,887.62	-€438,251.29
02/12/2015	€317,798.49	-€52,895.68	-€456,989.27
03/12/2015	€405,603.50	-€5,897.64	-€476,134.19
04/12/2015	€774,967.27	-€15,545.28	-€438,397.60
05/12/2015	€640,701.45	-€13,804.14	-€404,055.15
06/12/2015	€366,403.91	-€12,707.39	-€396,607.78
07/12/2015	€733,517.52	-€25,280.71	-€433,440.19
08/12/2015	€432,398.54	-€17,081.48	-€445,634.75
09/12/2015	€542,863.04	-€14,765.85	-€444,156.73
10/12/2015	€335,601.49	-€40,789.27	-€457,423.12
11/12/2015	€426,928.12	-€51,155.51	-€457,168.99
12/12/2015	€558,417.52	-€21,084.89	-€437,241.40
13/12/2015	€546,224.69	-€43,154.55	-€414,260.41
14/12/2015	€686,747.66	-€34,497.65	-€460,059.67
15/12/2015	€625,379.03	-€6,605.71	-€453,446.82
16/12/2015	€674,889.78	-€18,367.78	-€449,690.27
17/12/2015	€534,573.55	-€35,533.70	-€433,385.22
18/12/2015	€561,845.35	-€6,582.15	-€425,519.13
19/12/2015	€423,888.14	-€5,214.50	-€388,770.80
20/12/2015	€458,505.06	-€21,975.88	-€375,498.89
21/12/2015	€605,543.76	€16,466.74	-€428,588.77
22/12/2015	€548,907.53	-€12,058.23	-€427,504.11
23/12/2015	€472,007.50	-€19,683.94	-€413,722.07
24/12/2015	€507,025.65	-€5,808.78	-€397,502.21
25/12/2015	€466,531.15	-€19,958.55	-€378,631.22
26/12/2015	€672,569.18	-€36,627.88	-€371,370.00
27/12/2015	€577,471.28	-€14,743.88	-€363,828.00
28/12/2015	€541,909.71	-€15,443.22	-€370,868.50
29/12/2015	€562,888.56	-€24,503.42	-€390,443.22
30/12/2015	€549,349.10	-€30,384.77	-€406,360.94
31/12/2015	€531,182.78	-€18,802.40	-€401,563.71
01/01/2016	€689,760.94	-€850.06	-€365,263.12
02/01/2016	€492,831.57	-€16,808.75	-€390,938.01

03/01/2016	€669,891.66	-€16,141.80	-€375,443.72
04/01/2016	€573,233.57	-€34,326.56	-€450,226.02
05/01/2016	€435,278.99	-€25,445.82	-€460,068.79
06/01/2016	€585,769.51	-€22,376.47	-€460,608.31
07/01/2016	€564,412.70	-€26,102.04	-€457,172.75
08/01/2016	€641,220.35	-€42,045.33	-€471,327.45
09/01/2016	€465,563.07	-€46,512.09	-€432,525.47
10/01/2016	€374,477.07	-€17,958.10	-€398,740.15
11/01/2016	€730,610.46	-€22,706.28	-€462,407.83
12/01/2016	€893,675.22	-€25,526.60	-€461,905.69
13/01/2016	€609,072.41	-€16,239.00	-€490,044.13
14/01/2016	€614,891.06	-€3,271.45	-€481,120.21
15/01/2016	€806,386.69	-€13,038.69	-€478,851.54
16/01/2016	€589,940.36	-€24,198.25	-€449,493.17
17/01/2016	€656,975.06	-€19,835.70	-€405,187.70
18/01/2016	€591,258.57	-€22,988.96	-€471,911.07
19/01/2016	€587,424.24	-€18,363.37	-€485,999.85
20/01/2016	€1,130,986.02	-€21,465.95	-€462,957.59
21/01/2016	€353,313.73	-€13,537.96	-€450,018.68
22/01/2016	€611,509.08	-€17,971.52	-€426,380.74
23/01/2016	€460,904.51	-€2,280.58	-€398,950.24
24/01/2016	€550,240.84	-€14,040.81	-€368,837.06
25/01/2016	€548,029.04	-€20,439.75	-€421,148.52
26/01/2016	€568,891.68	-€11,807.40	-€438,987.16
27/01/2016	€471,646.80	-€12,605.30	-€447,546.40
28/01/2016	€450,308.88	-€17,111.09	-€442,561.56
29/01/2016	€549,778.85	-€4,890.00	-€428,252.99
30/01/2016	€410,857.34	-€10,070.58	-€406,925.84
31/01/2016	€585,912.71	-€17,459.55	-€386,206.91
01/02/2016	€597,150.16	-€12,412.60	-€426,860.33
02/02/2016	€380,507.04	-€19,759.58	-€446,374.43
03/02/2016	€671,315.54	-€1,166.20	-€456,336.81
04/02/2016	€535,464.92	-€655.11	-€446,131.01
05/02/2016	€532,123.12	-€5,234.49	-€445,145.43
06/02/2016	€611,816.37	€3,469.28	-€397,155.42
07/02/2016	€572,044.92	-€15,082.20	-€383,519.56
08/02/2016	€346,687.44	-€10,745.66	-€444,677.22
09/02/2016	€692,018.61	€8,717.03	-€466,634.24
10/02/2016	€365,519.47	-€19,256.45	-€479,732.00
11/02/2016	€440,884.72	-€14,699.34	-€484,418.79
12/02/2016	€461,892.87	-€7,890.12	-€471,801.73
13/02/2016	€421,162.35	-€1,749.04	-€416,553.79
14/02/2016	€384,321.37	-€10,278.02	-€396,826.45
15/02/2016	€510,101.40	-€19,364.23	-€467,693.28
16/02/2016	€315,785.88	€2,093.47	-€457,602.33
17/02/2016	€626,657.48	-€23,789.13	-€480,813.42
18/02/2016	€560,025.64	-€12,342.48	-€475,118.65
19/02/2016	€504,377.27	-€10,985.27	-€446,158.68
20/02/2016	€554,774.66	-€4,450.23	-€397,610.37
21/02/2016	€633,946.93	-€5,175.90	-€383,845.09
22/02/2016	€241,660.16	-€8,119.39	-€455,503.59
23/02/2016	€448,946.36	-€15,627.46	-€471,687.19
24/02/2016	€555,735.22	-€27,144.18	-€480,968.29
25/02/2016	€314,829.66	-€28,796.52	-€485,404.36

26/02/2016	€398,677.03	-€17,958.54	-€466,615.98
27/02/2016	€421,234.85	-€4,172.24	-€429,974.96
28/02/2016	€745,089.34	-€19,065.57	-€408,933.48
29/02/2016	€553,599.98	-€16,799.69	-€450,927.54
01/03/2016	€465,209.57	-€12,894.41	-€439,436.86
02/03/2016	€341,005.28	€541.45	-€448,860.52
03/03/2016	€361,296.67	-€15,248.88	-€465,450.15
04/03/2016	€411,689.77	€2,635.53	-€450,744.99
05/03/2016	€504,505.73	€10,268.92	-€411,349.56
06/03/2016	€641,724.36	-€24,579.57	-€412,739.09
07/03/2016	€403,341.26	-€10,007.64	-€461,004.43
08/03/2016	€589,645.13	-€13,978.70	-€465,389.27
09/03/2016	€478,538.59	-€293.85	-€446,891.78
10/03/2016	€388,856.94	-€7,146.47	-€465,087.27
11/03/2016	€363,139.51	-€9,999.06	-€441,184.02
12/03/2016	€287,695.75	-€12,213.87	-€395,809.38
13/03/2016	€466,962.47	€1,463.46	-€384,948.98
14/03/2016	€602,953.47	€8,906.38	-€424,191.54
15/03/2016	€313,185.11	-€6,753.87	-€437,129.27
16/03/2016	€418,796.29	-€4,701.62	-€446,050.65
17/03/2016	€520,302.53	€7,998.09	-€395,444.27
18/03/2016	€488,526.91	-€14,066.07	-€435,207.31
19/03/2016	€651,409.40	€6,794.28	-€406,828.63
20/03/2016	€351,398.79	-€7,362.25	-€386,959.22
21/03/2016	€446,639.37	-€1,914.21	-€453,380.77
22/03/2016	€321,933.32	€931.08	-€461,357.85
23/03/2016	€401,613.29	-€15,495.07	-€447,516.93
24/03/2016	€358,356.98	-€17,265.89	-€432,664.12
25/03/2016	€429,281.20	€17,848.84	-€399,082.47
26/03/2016	€626,651.71	€9,317.35	-€375,996.87
27/03/2016	€422,089.59	€26,639.00	-€337,269.15
28/03/2016	€605,126.59	-€22,540.76	-€367,547.69
29/03/2016	€584,436.80	-€8,770.30	-€415,656.12
30/03/2016	€317,248.55	-€16,355.46	-€434,642.74
31/03/2016	€352,454.55	-€924.03	-€429,872.19
01/04/2016	€254,665.77	€19,410.52	-€418,172.85
02/04/2016	€273,567.32	-€1,407.33	-€404,833.08
03/04/2016	€160,794.82	-€2,047.92	-€385,435.83
04/04/2016	€416,599.77	-€9,183.59	-€439,040.73
05/04/2016	€250,111.93	-€5,506.80	-€433,512.72
06/04/2016	€336,670.55	€8,880.44	-€416,429.62
07/04/2016	€113,656.31	-€3,252.93	-€421,102.48
08/04/2016	€216,288.56	€3,619.93	-€434,709.43
09/04/2016	€120,423.37	€23,055.64	-€406,334.92
10/04/2016	€451,165.73	-€4,904.32	-€365,342.88
11/04/2016	€27,294.04	€5,442.30	-€433,170.38
12/04/2016	€381,420.09	-€13,852.41	-€448,891.24
13/04/2016	€285,398.63	-€11,332.70	-€445,360.38
14/04/2016	€355,975.07	-€54,196.75	-€437,602.19
15/04/2016	€386,518.01	€8,502.73	-€420,352.20
16/04/2016	€61,034.21	-€17,147.75	-€388,830.50
17/04/2016	€302,335.18	-€10,404.64	-€377,211.48
18/04/2016	€280,732.73	€1,419.88	-€421,534.12
19/04/2016	€270,332.02	€3,286.06	-€436,536.55

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20/04/2016	€379,578.06	€1,507.75	-€419,156.47
21/04/2016	€537,074.46	€363.23	-€412,975.33
22/04/2016	€361,054.67	-€4,791.35	-€408,510.66
23/04/2016	€413,344.04	-€5,088.23	-€371,723.42
24/04/2016	€402,453.12	-€3,480.08	-€361,118.12
25/04/2016	€610,006.03	-€10,075.78	-€395,294.97
26/04/2016	€188,667.49	€6,807.41	-€407,028.35
27/04/2016	€543,611.51	€20,939.30	-€427,790.26
28/04/2016	€444,164.57	€2,513.65	-€425,418.50
29/04/2016	€467,497.39	-€643.14	-€415,553.12
30/04/2016	€367,553.26	€345.39	-€382,757.45
01/05/2016	€318,711.36	€46.79	-€348,183.04
02/05/2016	€265,639.36	€2,900.27	-€337,474.54
03/05/2016	€307,546.49	-€1,227.25	-€402,880.19
04/05/2016	€275,948.48	€5,228.96	-€398,811.00
05/05/2016	€224,908.34	€1,823.53	-€409,437.33
06/05/2016	€196,488.60	-€3,953.30	-€405,348.39
07/05/2016	€215,106.42	€13,786.76	-€372,905.56
08/05/2016	€338,654.44	-€5,241.44	-€343,553.41
09/05/2016	€376,377.42	€103.57	-€388,079.13
10/05/2016	€232,089.24	€1,162.31	-€410,277.96
11/05/2016	€94,819.65	-€9,693.39	-€407,183.40
12/05/2016	€207,182.84	-€5,530.62	-€399,631.40
13/05/2016	€268,281.83	€1,281.93	-€397,583.66
14/05/2016	€172,657.73	€2,100.06	-€358,479.25
15/05/2016	€270,385.84	€612.81	-€346,488.38
16/05/2016	€74,167.82	€5,878.68	-€400,481.38
17/05/2016	€206,529.16	€9,917.38	-€403,878.41
18/05/2016	€261,963.29	-€5,773.72	-€402,077.89
19/05/2016	€213,366.04	€6,115.62	-€393,020.28
20/05/2016	€406,247.83	-€5,794.20	-€390,136.77
21/05/2016	€415,353.52	-€1,181.85	-€357,519.37
22/05/2016	€416,802.08	€8,358.08	-€344,927.61
23/05/2016	€184,660.48	-€991.20	-€398,423.86
24/05/2016	€242,141.63	-€6,731.50	-€397,480.27
25/05/2016	€88,752.89	-€2,675.89	-€401,265.47
26/05/2016	€100,636.02	€12,891.89	-€418,400.89
27/05/2016	€296,388.97	-€15,542.96	-€405,625.74
28/05/2016	€173,729.31	€8,352.72	-€365,500.02
29/05/2016	€172,856.92	-€6,512.65	-€343,084.06
30/05/2016	€199,477.51	-€8,374.61	-€386,891.37
31/05/2016	€323,036.70	-€6,178.45	-€391,492.34
01/06/2016	€4,689.24	€21,790.77	-€395,637.98
02/06/2016	€170,104.82	-€5,399.31	-€392,535.51
03/06/2016	€203,007.45	€367.05	-€389,642.80
04/06/2016	€240,011.38	-€17,200.48	-€354,718.32
05/06/2016	€653,304.41	€2,066.37	-€333,219.66
06/06/2016	€425,126.49	€309.62	-€355,867.53
07/06/2016	€238,463.12	-€40,280.37	-€404,272.33
08/06/2016	€185,076.23	-€901.65	-€408,563.94
09/06/2016	€425,615.76	-€13,803.37	-€404,962.01
10/06/2016	€148,642.27	-€4,413.70	-€404,552.11
11/06/2016	€329,156.32	-€7,913.95	-€363,225.22
12/06/2016	€379,065.18	-€14,349.51	-€343,260.70

13/06/2016	€357,133.86	-€8,460.70	-€390,988.55
14/06/2016	€309,349.55	€2,481.91	-€396,200.68
15/06/2016	€214,221.50	-€7,224.12	-€390,391.93
16/06/2016	€295,339.25	-€871.57	-€384,521.87
17/06/2016	€241,160.11	-€1,546.15	-€373,856.93
18/06/2016	€117,814.56	€14,733.17	-€355,069.54
19/06/2016	€313,865.27	€2,866.81	-€331,565.47
20/06/2016	€291,348.26	€17,197.78	-€382,656.28
21/06/2016	€169,732.87	-€10,338.96	-€384,559.73
22/06/2016	€307,400.61	-€1,798.92	-€391,664.95
23/06/2016	€337,079.60	-€16,077.12	-€393,012.28
24/06/2016	€207,996.90	-€5,839.77	-€387,550.79
25/06/2016	€135,149.18	-€2,997.88	-€350,475.20
26/06/2016	€176,935.50	-€14,385.45	-€336,272.59
27/06/2016	€185,811.69	-€4,131.91	-€375,028.62
28/06/2016	€279,569.02	-€20,336.99	-€392,693.12
29/06/2016	€244,715.70	-€8,202.56	-€391,472.97
30/06/2016	€236,573.72	€707.67	-€390,718.11

Table 20 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges
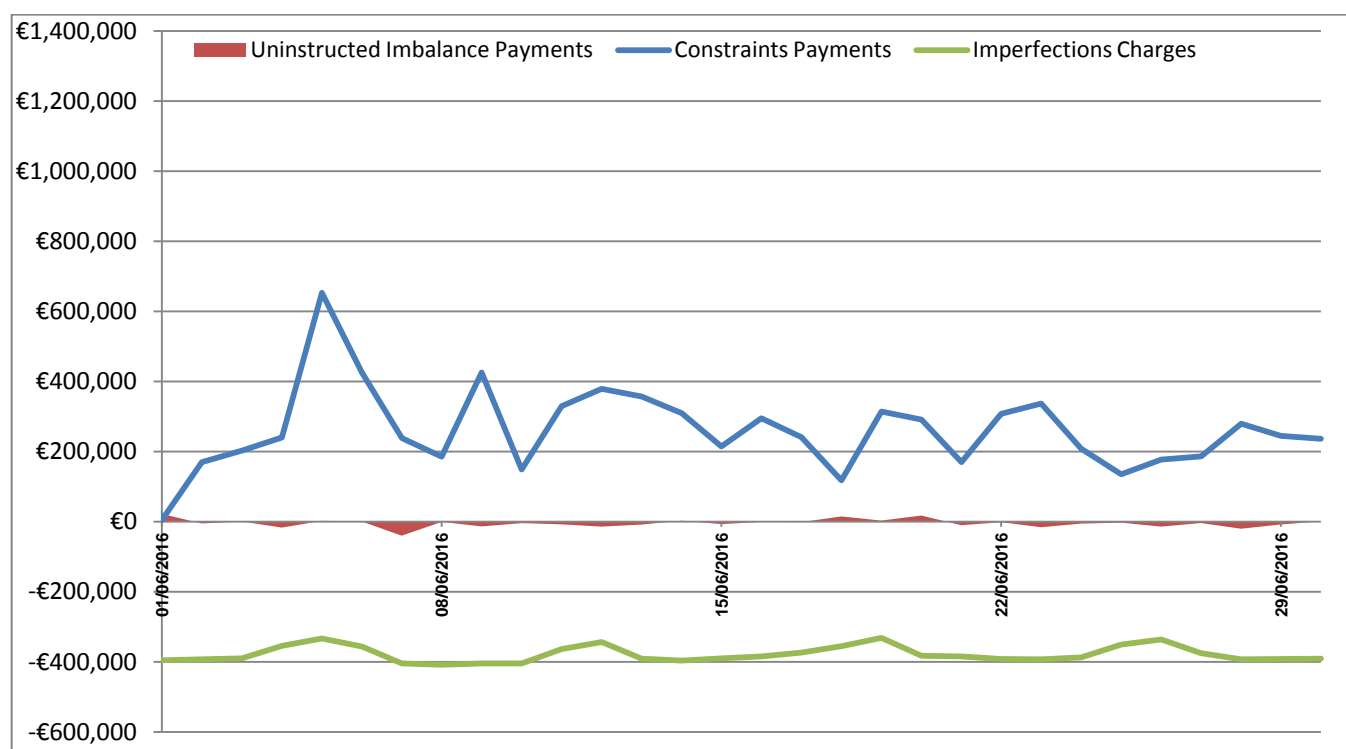
Figure 24 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

Week No	Make Whole Payments
38	€156,663.13
39	€99,549.05
40	€104,371.05
41	€9,305.58
42	€17,237.57
43	€18,614.74

44	€23,589.25
45	€5,513.20
46	€17,624.74
47	€27,403.03
48	€98,619.60
49	€82,787.86
50	€82,380.81
51	€68,751.08
52	€17,797.93
1	€71,533.60
2	€71,588.15
3	€22,455.89
4	€73,659.85
5	€44,834.21
6	€94,935.70
7	€71,991.91
8	€89,850.72
9	€187.41
10	€57,226.62
11	€24,353.24
12	€17,519.03
13	€18,413.95
14	€99,351.71
15	€67,571.67
16	€51,800.46
17	€44,459.11
18	€90,358.30
19	€18,448.89
20	€6,824.56
21	€131,010.25
22	€102,162.37
23	€125,869.44
24	€84,547.01
25	€111,163.70

Table 21 - Make Whole Payments

Market Operator Monthly Report
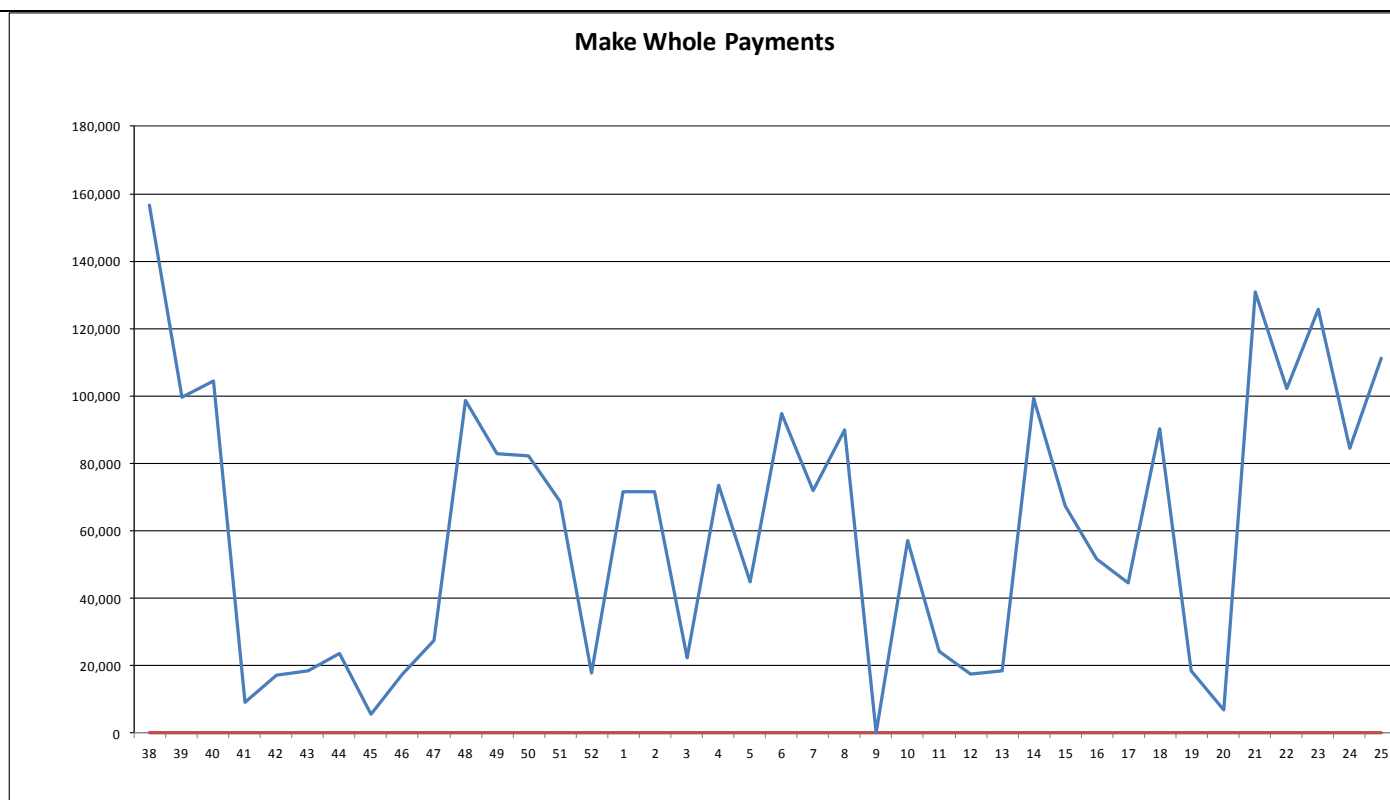
Figure 25 - Make Whole Payments

Week No	Testing Charges
38	-€12,688.71
39	-€1,257.57
40	-€19,812.53
41	-€21,021.55
42	-€10,419.94
43	-€13,069.61
44	-€16,635.14
45	-€16,770.11
46	-€27,151.66
47	€69,699.23
48	€0.00
49	-€13,909.92
50	-€740.68
51	-€353.00
52	-€456.00
1	-€470.00
2	-€582.00
3	€0.00
4	€0.00
5	€0.00
6	€0.00
7	-€4,381.00
8	-€313.00
9	€0.00
10	-€85,485.01
11	-€187,782.43
12	-€5,476.37

13	€0.00
14	-€904.60
15	-€95,270.20
16	€0.00
17	-€16,655.87
18	€0.00
19	€0.00
20	-€843.00
21	€0.00
22	€0.00
23	-€10,166.13
24	€0.00
25	-€17,762.06

Table 22 - Testing Charges
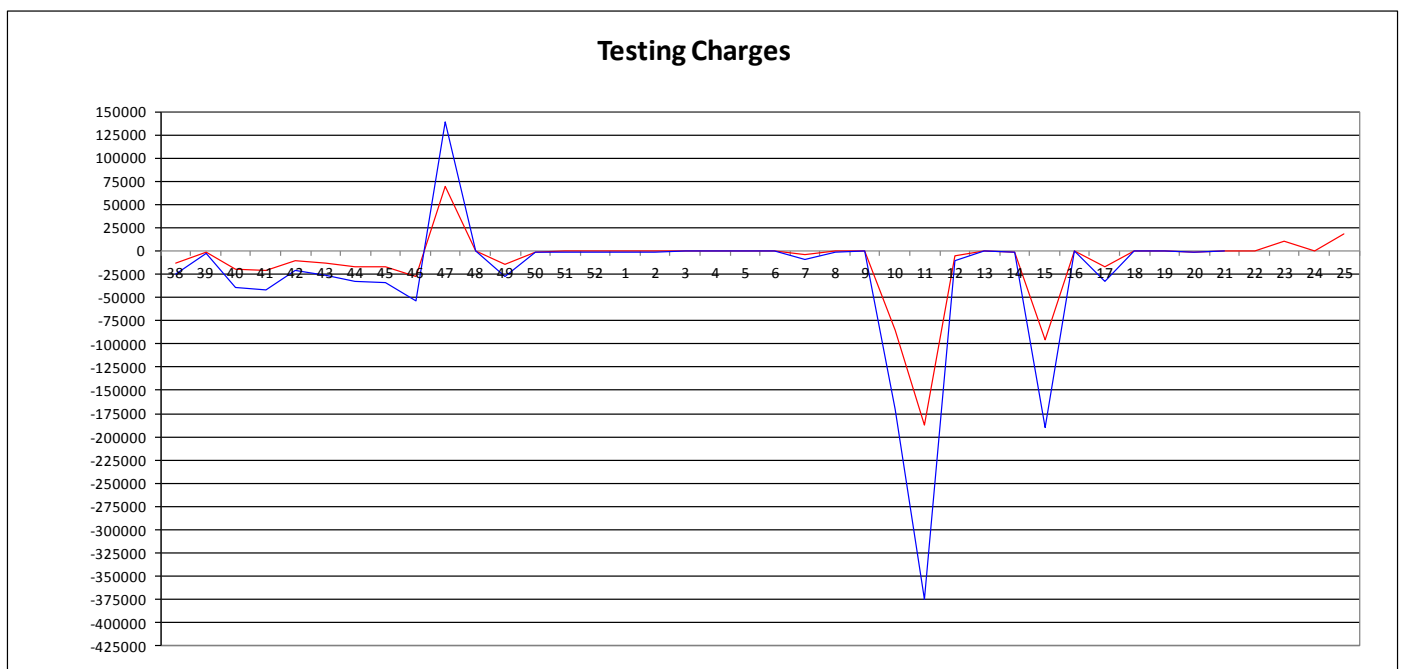
Figure 26 - Testing Charges

12. Appendix F: Default Commercial Offer Data Used

The table below lists for each unit the number of times in operations during June 2016 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_400144	DSU_401660			30	30
PT_400090	DSU_401620			11	11
PT_400116	DSU_401400			10	10
PT_400124	DSU_401490			6	6
PT_500078	DSU_501330			30	30
PT_400090	DSU_401800			27	27
PT_400138	DSU_401590			4	4
PT_400090	DSU_401850			2	2
PT_400090	DSU_401270			11	11
PT_500067	DSU_501380			30	30
PT_400111	DSU_401390			30	30
PT_400106	DSU_401330			9	9
PT_400133	DSU_401530			2	2
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_400180			9	9
PT_400030	GU_400181			9	9
PT_400030	GU_400182			9	9
PT_400030	GU_400183			9	9
PT_400030	GU_400200			9	9
PT_400030	GU_400201			9	9
PT_400030	GU_400202			9	9
PT_400030	GU_400203			9	9
PT_400030	GU_400210			9	9
PT_400030	GU_400211			9	9
PT_400030	GU_400220			9	9
PT_400030	GU_400221			9	9
PT_400030	GU_400240			9	9
PT_400030	GU_400250			9	9
PT_400030	GU_400251			9	9
PT_400030	GU_400252			9	9
PT_400030	GU_400260			9	9
PT_400030	GU_400270			9	9

PT_400030	GU_400271			9	9
PT_400030	GU_400272			9	9
PT_400030	GU_400280			9	9
PT_400030	GU_400281			9	9
PT_400030	GU_400290			9	9
PT_400030	GU_400300			9	9
PT_400030	GU_400311			9	9
PT_400030	GU_400323			18	18
PT_400030	GU_400324			9	9
PT_400030	GU_400325			9	9
PT_400030	GU_400360			9	9
PT_400030	GU_400361			9	9
PT_400030	GU_400362			9	9
PT_400030	GU_400363			9	9
PT_400030	GU_400370			9	9
PT_400030	GU_400850			9	9
PT_400032	GU_400430			12	12
PT_400034	GU_400940			12	12
PT_400034	GU_401090			12	12
PT_400034	GU_401440			12	12
PT_400034	GU_401680			12	12
PT_400035	GU_400480			2	2
PT_400037	GU_400500			4	4
PT_400038	GU_400550			30	30
PT_400041	GU_400530			7	7
PT_400044	GU_400540			2	2
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_400054	GU_400620			12	12
PT_400055	GU_400630			12	12
PT_400062	GU_400730			30	30
PT_400062	GU_400731			30	30
PT_400062	GU_400840			30	30
PT_400066	GU_401540			30	30
PT_400066	GU_401820			30	30
PT_400075	GU_400930			13	13
PT_400077	GU_400950			12	12
PT_400078	GU_401010			9	9
PT_400078	GU_401011			9	9
PT_400082	GU_401100			30	30
PT_400087	GU_401230			27	27
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_400162	GU_401830				30	30
PT_400172	GU_401860				9	9
PT_500021	GU_500010				30	30
PT_500021	GU_500740				30	30
PT_500021	GU_501160				30	30
PT_500024	GU_500040				9	9
PT_500024	GU_500041				5	5
PT_500027	GU_500130				5	5
PT_500027	GU_500131				5	5
PT_500027	GU_500140				5	5
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_500032	GU_501300				30	30
PT_500039	GU_500270				30	30
PT_500040	GU_500281				9	9
PT_500040	GU_500282				9	9
PT_500040	GU_500283				9	9
PT_500040	GU_500284				9	9
PT_500044	GU_500720				30	30
PT_500045	GU_500820				9	9
PT_500045	GU_500821				9	9
PT_500045	GU_500822				5	5
PT_500045	GU_500823				5	5
PT_500045	GU_500824				9	9
PT_500045	GU_500825				9	9
PT_500047	GU_500790				30	30
PT_500048	GU_500904				8	8
PT_500050	GU_501040				16	16
PT_500050	GU_501050				16	16
PT_500050	GU_501150				16	16
PT_500050	GU_501190				16	16
PT_500053	GU_501130				3	3
PT_500061	GU_501170				30	30
PT_500062	GU_501180				30	30
PT_500066	GU_501210				12	12
PT_500073	GU_501230				6	6
PT_500074	GU_501250				30	30
PT_500089	GU_501360				30	30
PT_400030	GU_400361				9	9
PT_400030	GU_400362				9	9
PT_400030	GU_400363				9	9
PT_400030	GU_400370				9	9
PT_400030	GU_400850				9	9
PT_400032	GU_400430				12	12
PT_400034	GU_400940				12	12
PT_400034	GU_401090				12	12

PT_400034	GU_401440			12	12
PT_400034	GU_401680			12	12
PT_400035	GU_400480			2	2
PT_400037	GU_400500			4	4
PT_400038	GU_400550			30	30
PT_400041	GU_400530			7	7
PT_400044	GU_400540			2	2
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_400054	GU_400620			12	12
PT_400055	GU_400630			12	12
PT_400062	GU_400730			30	30
PT_400062	GU_400731			30	30
PT_400062	GU_400840			30	30
PT_400066	GU_401540			30	30
PT_400066	GU_401820			30	30
PT_400075	GU_400930			13	13
PT_400077	GU_400950			12	12
PT_400078	GU_401010			9	9
PT_400078	GU_401011			9	9
PT_400082	GU_401100			30	30
PT_400087	GU_401230			27	27
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_400162	GU_401830			30	30
PT_400172	GU_401860			9	9
PT_500021	GU_500010			30	30
PT_500021	GU_500740			30	30
PT_500021	GU_501160			30	30
PT_500024	GU_500040			9	9
PT_500024	GU_500041			5	5
PT_500027	GU_500130			5	5
PT_500027	GU_500131			5	5
PT_500027	GU_500140			5	5
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_500032	GU_501300			30	30
PT_500039	GU_500270			30	30
PT_500040	GU_500281			9	9
PT_500040	GU_500282			9	9
PT_500040	GU_500283			9	9
PT_500040	GU_500284			9	9
PT_500044	GU_500720			30	30
PT_500045	GU_500820			9	9
PT_500045	GU_500821			9	9
PT_500045	GU_500822			5	5
PT_500045	GU_500823			5	5
PT_500045	GU_500824			9	9
PT_500045	GU_500825			9	9
PT_500047	GU_500790			30	30
PT_500048	GU_500904			8	8
PT_500050	GU_501040			16	16
PT_500050	GU_501050			16	16
PT_500050	GU_501150			16	16
PT_500050	GU_501190			16	16
PT_500053	GU_501130			3	3
PT_500061	GU_501170			30	30
PT_500062	GU_501180			30	30
PT_500066	GU_501210			12	12
PT_500073	GU_501230			6	6
PT_500074	GU_501250			30	30
PT_500089	GU_501360			30	30
PT_400090	DSU_401610	30			30
PT_400138	DSU_401590	26			26
PT_400090	DSU_401620	19			19
PT_400090	DSU_401850	28			28
PT_400116	DSU_401400	20			20
PT_400090	DSU_401270	19			19
PT_400106	DSU_401330	21			21
PT_400133	DSU_401530	29			29
PT_400090	DSU_401800	4			4
PT_400124	DSU_401490	24			24
PT_400024	GU_400120	30			30
PT_400024	GU_400121	30			30
PT_400030	GU_400180	26			26
PT_400030	GU_400181	26			26
PT_400030	GU_400182	26			26
PT_400030	GU_400183	26			26
PT_400030	GU_400200	27			27
PT_400030	GU_400201	27			27
PT_400030	GU_400202	27			27
PT_400030	GU_400203	27			27
PT_400030	GU_400210	26			26
PT_400030	GU_400211	26			26
PT_400030	GU_400220	26			26
PT_400030	GU_400221	26			26
PT_400030	GU_400240	26			26
PT_400030	GU_400250	26			26
PT_400030	GU_400251	26			26

PT_400030	GU_400252	26			26
PT_400030	GU_400260	26			26
PT_400030	GU_400270	26			26
PT_400030	GU_400271	26			26
PT_400030	GU_400272	27			27
PT_400030	GU_400280	26			26
PT_400030	GU_400281	26			26
PT_400030	GU_400290	26			26
PT_400030	GU_400300	26			26
PT_400030	GU_400311	26			26
PT_400030	GU_400324	28			28
PT_400030	GU_400325	28			28
PT_400030	GU_400360	25			25
PT_400030	GU_400361	25			25
PT_400030	GU_400362	25			25
PT_400030	GU_400363	25			25
PT_400030	GU_400370	26			26
PT_400030	GU_400850	26			26
PT_400032	GU_400430	18			18
PT_400034	GU_400940	18			18
PT_400034	GU_401090	18			18
PT_400034	GU_401440	18			18
PT_400034	GU_401680	18			18
PT_400035	GU_400480	40			40
PT_400037	GU_400500	27			27
PT_400041	GU_400530	38			38
PT_400044	GU_400540	40			40
PT_400054	GU_400620	18			18
PT_400055	GU_400630	18			18
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_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	17			17
PT_400077	GU_400950	18			18
PT_400078	GU_401010	21			21
PT_400078	GU_401011	21			21
PT_400087	GU_401230	5			5
PT_400172	GU_401860	21			21
PT_500024	GU_500040	21			21
PT_500024	GU_500041	25			25
PT_500027	GU_500130	61			61
PT_500027	GU_500131	61			61
PT_500027	GU_500140	61			61
PT_500034	GU_501350	30			30
PT_500040	GU_500281	21			21
PT_500040	GU_500282	21			21
PT_500040	GU_500283	21			21
PT_500040	GU_500284	21			21

PT_500045	GU_500820	21			21
PT_500045	GU_500821	21			21
PT_500045	GU_500822	25			25
PT_500045	GU_500823	25			25
PT_500045	GU_500824	21			21
PT_500045	GU_500825	21			21
PT_500048	GU_500904	31			31
PT_500050	GU_501040	14			14
PT_500050	GU_501050	14			14
PT_500050	GU_501150	14			14
PT_500050	GU_501190	14			14
PT_500053	GU_501130	28			28
PT_500066	GU_501210	18			18
PT_500073	GU_501230	25			25
PT_400021	I_ROIEWIC	18			18
PT_500083	I_NIMOYLE	8			8
PT_500021	I_NIMOYLE	18			18
PT_500024	I_NIMOYLE	2			2
PT_400163	I_ROIEWIC	52			52
PT_500031	I_NIMOYLE	24			24
PT_400157	I_ROIEWIC	18			18
PT_500069	I_NIMOYLE	17			17
PT_500058	I_NIMOYLE	7			7
PT_500037	I_NIMOYLE	15			15
PT_400096	I_ROIEWIC	52			52
PT_400113	I_ROIEWIC	10			10
PT_400168	I_ROIEWIC	45			45
PT_400037	I_ROIEWIC	29			29
PT_400115	I_ROIEWIC	24			24
PT_500081	I_NIMOYLE	7			7
PT_400108	I_ROIEWIC	37			37
PT_400171	I_ROIEWIC	14			14
PT_400170	I_ROIEWIC	22			22
PT_500070	I_NIMOYLE	13			13
PT_400099	I_ROIEWIC	38			38
PT_500088	I_NIMOYLE	5			5
PT_400030	I_ROIEWIC	21			21
PT_500092	I_NIMOYLE	8			8
	Total	**2926**	**0**	**4386**	**7312**
	Percentage	**40.02%**	**0.00%**	**59.98%**	**100.00%**

Table 23 – Commercial Offer Data Used

13. 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.

Month															Total
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	£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**
	NI	£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	ROI	£62,682,234.81	£19,502,808.85	£978,929.74	£496,789.41	£113,309.65	£2,668.35	£257,691.56	£37,913.64	£947.65	£105,628.08	£0.00	£0.00	**84,178,921.74**
	NI	£20,656,049.28	£5,471,708.22	£941,978.73	£284,714.17	£81,721.34	£1,530.01	£28,297.30	£5,740.95	£255.12	£458.23	£0.00	£0.00	**27,472,453.35**
Jun-15	ROI	£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**
	NI	£16,086,817.66	£4,881,262.27	£731,152.70	£190,327.69	£56,176.06	£1,108.32	£14,086.52	£3,263.83	£136.37	£4.82	£0.00	£0.00	**21,964,336.24**
Jul-15	ROI	£60,081,065.67	£18,106,345.49	£938,580.42	£392,863.94	£100,250.95	£2,281.34	£70,409.41	£14,571.40	£801.22	£3,383,812.96	£0.00	£0.00	**83,090,982.80**
	NI	£20,399,899.80	£4,559,620.30	£901,179.27	£122,425.31	£34,196.36	£798.99	£13,983.16	£3,041.83	£170.87	£560,424.72	£0.00	£0.00	**26,595,740.61**
Aug-15	ROI	£78,361,586.44	£18,780,406.68	£706,070.38	£980,269.55	£57,624.58	£1,113.70	£78,106.89	£15,466.63	£704.85	£100,608.41	£0.00	£0.00	**99,081,958.11**
	NI	£26,593,706.25	£4,803,877.25	£717,392.01	£96,278.24	£20,145.75	£293.79	£11,711.41	£2,659.00	£109.44	£1,579.59	£0.00	£0.00	**32,247,752.73**
Sep-15	ROI	£56,880,935.07	£19,007,006.26	£785,990.22	£310,026.85	£107,852.47	£1,796.61	£36,597.16	£9,587.72	£443.17	£15,420.42	£0.00	£0.00	**77,155,655.95**
	NI	£16,638,373.40	£5,599,036.84	£750,313.33	£28,072.71	£9,405.58	£194.47	£6,674.12	£1,949.58	£89.21	£1,839.74	£0.00	£0.00	**23,035,948.98**
Oct-15	ROI	£44,227,777.74	£22,236,309.33	£1,235,987.38	£320,699.87	£111,578.50	£2,310.47	£168,670.97	£16,768.91	£473.10	£0.00	£0.00	£0.00	**68,320,576.27**
	NI	£16,675,395.96	£6,086,547.11	£1,187,219.91	£53,340.80	£16,688.72	£277.65	£11,014.82	£3,948.74	£76.07	£0.00	£0.00	£0.00	**24,034,509.78**
Nov-15	ROI	£56,463,736.52	£23,128,442.30	£1,100,826.75	£429,995.20	£99,296.34	£2,542.49	£702,840.25	£20,038.40	£309.43	£293,116.81	£0.00	£380.36	**82,241,524.85**
	NI	£19,619,287.90	£8,142,113.54	£256,488.48	£118,896.22	£40,962.87	£778.31	£24,801.93	£11,150.14	£150.06	£21,408.98	£0.00	£1.87	**28,236,040.30**
Dec-15	ROI	£56,771,584.52	£26,115,101.51	£1,227,682.68	£528,056.78	£108,604.95	£3,426.94	£244,831.00	£43,714.70	£499.00	£0.00	£0.00	£0.00	**85,043,502.08**
	NI	£18,807,275.81	£8,947,272.84	£1,177,606.04	£132,697.73	£37,389.03	£908.11	£23,859.97	£15,486.06	£141.18	£0.00	£0.00	£0.00	**29,142,636.77**
Jan-16	ROI	£58,962,181.52	£24,712,649.02	£1,489,145.25	£360,735.59	£112,295.73	£2,766.96	£446,172.64	£37,483.70	£461.80	£0.00	£0.00	£0.00	**86,123,892.21**
	NI	£22,884,292.07	£6,792,946.67	£1,439,182.95	£61,720.87	£33,725.86	£439.13	£13,953.72	£11,288.27	£91.07	£0.00	£0.00	£0.00	**31,237,640.61**
Feb-16	ROI	£44,227,777.74	£22,236,309.33	£1,235,987.38	£320,699.87	£111,578.50	£2,310.47	£168,670.97	£16,768.91	£473.10	£0.00	£0.00	£0.00	**68,320,576.27**
	NI	£16,675,395.96	£6,086,547.11	£1,187,219.91	£53,340.80	£16,688.72	£277.65	£11,014.82	£3,948.74	£76.07	£0.00	£0.00	£0.00	**24,034,509.78**
Mar-16	ROI	£46,479,736.23	£21,810,284.94	£1,247,077.11	£218,253.91	£0.00	£2,241.73	£325,512.38	£0.00	£184.01	£10,658.28	£0.00	£0.00	**70,093,948.59**
	NI	£18,169,780.86	£5,723,642.36	£307,019.09	£92,518.83	£0.00	£1,042.35	£18,464.14	£0.00	£90.30	£35.07	£0.00	£0.00	**24,312,593.00**
Apr-16	ROI	£49,184,916.98	£15,501,521.21	£1,127,381.20	£270,121.81	£95,679.82	£3,486.64	£68,851.15	£18,608.43	£470.47	£0.00	£0.00	£0.00	**66,271,037.71**
	NI	£17,362,464.69	£4,104,501.10	£265,764.31	£105,262.33	£39,607.51	£1,261.76	£60,590.82	£22,415.09	£387.37	£0.00	£0.00	£0.00	**21,962,254.98**
May-16	ROI	£49,184,916.98	£15,501,521.21	£1,127,381.20	£270,121.81	£95,679.82	£3,486.64	£68,851.15	£18,608.43	£470.47	£0.00	£0.00	£0.00	**66,271,037.71**
	NI	£17,362,464.69	£4,104,501.10	£265,764.31	£105,262.33	£39,607.51	£1,261.76	£60,590.82	£22,415.09	£387.37	£0.00	£0.00	£0.00	**21,962,254.98**
Jun-16	ROI	£53,375,208.42	£17,448,090.41	£1,108,031.77	£257,153.08	£0.00	£3,631.81	£69,411.55	£0.00	£491.00	£0.00	£0.00	£0.00	**72,262,018.04**
	NI	£15,757,202.40	£3,944,264.18	£257,443.58	£76,340.27	£0.00	£1,013.44	£90,011.12	£0.00	£515.17	£0.00	£0.00	£0.00	**20,126,790.16**

Charges by Month

Month													Total
Aug-14	ROI	€76,295,371.52	€16,503,906.00	€283,973.76	€42,797.07	€2,738.01	€125,676.42	€0.00	€1,327.83	€29.36	€0.00	€0.00	**€93,255,819.97**
	NI	€17,954,420.41	€5,911,052.65	€74,371.07	€15,553.63	€863.74	€54,424.97	€0.00	€488.54	€7.43	€0.00	€0.00	**€24,011,182.44**
Sep-14	ROI	€73,630,247.02	€17,405,067.16	€261,367.00	€62,924.88	€3,377.33	€73,033.72	€11,845.94	€728.13	€0.00	€0.00	€0.00	**€91,448,591.18**
	NI	€22,272,153.08	€5,742,482.51	€49,069.86	€14,962.35	€717.66	€41,404.59	€13,672.05	€509.28	€0.00	€0.00	€0.00	**€28,134,971.38**
Oct-14	ROI	€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**
	NI	€18,391,944.98	€5,868,972.09	€82,257.95	€15,709.16	€1,031.70	€42,677.16	€6,422.11	€498.29	€0.00	€0.00	€0.00	**€24,409,513.44**
Nov-14	ROI	€64,818,088.97	€20,480,936.98	€530,386.99	€157,754.12	€6,116.91	€78,674.36	€23,606.67	€1,289.81	€0.00	€0.00	€0.00	**€86,096,854.81**
	NI	€14,616,605.70	€7,312,194.38	€50,960.79	€18,897.71	€653.20	€37,498.77	€6,592.72	€254.29	€0.00	€0.00	€0.00	**€22,043,657.56**
Dec-14	ROI	€79,262,340.64	€30,252,803.13	€636,211.01	€143,171.30	€7,087.15	€116,495.94	€25,330.11	€995.97	€0.00	€0.00	€0.00	**€110,444,435.25**
	NI	€17,625,339.05	€7,511,303.13	€58,743.90	€14,475.87	€679.17	€34,724.44	€7,982.34	€296.61	€0.00	€0.00	€0.00	**€25,253,544.51**
Jan-15	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**
	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**
Feb-15	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**
	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**
Mar-15	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**
	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**
Apr-15	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**
	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**
May-15	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	**€87,864,364.05**
	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	**€19,923,102.33**
Jun-15	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**
	NI	€10,536,540.86	€4,561,917.57	€13,069.46	€190,224.00	€56,986.34	-€1,109.52	€14,086.52	€3,197.29	€136.59	€0.00	€0.00	**€15,375,049.11**
Jul-15	ROI	€63,619,222.88	€17,795,388.83	€50,900.02	€368,804.77	€98,198.30	-€2,207.87	€70,409.41	€14,587.16	€801.29	€0.00	€0.00	**€82,020,520.53**
	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**
Aug-15	ROI	€78,593,341.57	€17,976,726.62	€1,941.74	€806,815.82	€62,841.79	€1,062.49	€78,106.89	€15,446.53	€704.90	€0.00	€0.00	**€97,536,988.35**
	NI	€18,174,076.35	€5,392,403.96	€13,263.37	€191,650.14	€15,985.64	-€294.74	€11,711.41	€2,643.17	€109.50	€0.00	€0.00	**€23,801,548.80**
Sep-15	ROI	€53,901,821.24	€19,234,943.47	€48,776.08	€306,959.54	€78,980.31	€1,722.88	€36,597.16	€9,593.94	€440.27	€0.00	€0.00	**€73,619,834.89**
	NI	€12,814,817.71	€5,453,049.86	€13,099.19	€28,119.15	€30,434.20	€195.13	€6,674.12	€1,961.83	€89.22	€0.00	€0.00	**€18,348,050.15**
Oct-15	ROI	€45,263,558.04	€22,785,032.30	€71,204.73	€469,504.52	€120,827.10	€2,298.60	€168,670.97	€17,161.82	€409.35	€0.00	€0.00	**€68,898,667.43**
	NI	€16,138,572.90	€5,672,214.93	€22,437.26	€24,123.83	€9,213.97	-€275.84	€11,014.82	€3,591.14	€59.13	€0.00	€0.00	**€21,880,952.14**
Nov-15	ROI	€59,724,442.55	€24,802,345.08	€433,219.82	€100,606.78	€2,695.40	€76,939.05	€22,197.47	€318.32	€37,920.24	€0.00	€372.94	**€85,201,057.65**
	NI	€17,210,572.00	€7,020,973.74	€117,530.15	€40,056.46	€765.32	€30,378.43	€9,648.77	€169.03	€1,973.04	€0.00	€0.00	**€24,432,066.94**
Dec-15	ROI	€59,375,497.41	€26,508,955.84	€71,188.34	€529,556.57	€108,617.22	€3,421.21	€244,831.00	€55,957.02	€455.17	€0.00	€0.00	**€86,898,479.78**
	NI	€17,357,006.06	€8,696,074.34	€21,111.70	€132,691.76	€37,359.60	-€907.89	€23,859.97	€6,608.19	€129.44	€0.00	€0.00	**€26,273,933.17**
Jan-16	ROI	€62,703,601.66	€25,688,393.77	€71,195.77	€374,077.81	€121,834.36	€2,764.99	€446,172.64	€41,361.35	€392.53	€0.00	€0.00	**€89,449,794.88**
	NI	€21,387,445.48	€6,172,081.95	€21,233.47	€63,300.69	€26,884.30	-€439.62	€13,953.72	€8,383.76	€72.48	€0.00	€0.00	**€27,692,916.23**
Feb-16	ROI	€45,263,558.04	€22,785,032.30	€71,204.73	€469,504.52	€120,827.10	€2,298.60	€168,670.97	€17,161.82	€409.35	€0.00	€0.00	**€68,898,667.43**
	NI	€16,138,572.90	€5,672,214.93	€22,437.26	€24,123.83	€9,213.97	-€275.84	€11,014.82	€3,591.14	€59.13	€0.00	€0.00	**€21,880,952.14**
Mar-16	ROI	€45,576,733.11	€21,729,626.52	€256,964.95	€0.00	€2,213.11	€34,217.09	€0.00	€140.55	€104,929.14	€0.00	€69.37	**€67,704,893.84**
	NI	€17,860,759.81	€5,776,150.05	€92,747.29	€0.00	€556.70	€16,666.86	€0.00	€79.45	€2.26	€0.00	€20.36	**€23,746,982.78**
Apr-16	ROI	€42,783,609.22	€14,666,602.66	€270,868.61	€95,779.49	€3,486.64	€70,280.71	€18,875.44	€440.06	€0.00	€0.00	€0.00	**€57,909,942.83**
	NI	€17,390,686.96	€4,751,740.09	€105,176.58	€39,633.85	€1,261.80	€59,561.31	€22,324.84	€380.36	€0.00	€0.00	€0.00	**€22,370,765.79**
May-16	ROI	€42,783,609.22	€14,666,602.66	€270,868.61	€95,779.49	€3,486.64	€70,280.71	€18,875.44	€440.06	€0.00	€0.00	€0.00	**€57,909,942.83**
	NI	€17,390,686.96	€4,751,740.09	€105,176.58	€39,633.85	€1,261.80	€59,561.31	€22,324.84	€380.36	€0.00	€0.00	€0.00	**€22,370,765.79**
Jun-16	ROI	€46,971,784.25	€17,461,175.53	€257,239.24	€0.00	€3,631.84	€70,130.99	€0.00	€445.33	€0.00	€0.00	€0.00	**€64,764,407.18**
	NI	€15,569,601.25	€3,966,742.06	€76,360.44	€0.00	€1,013.45	€75,519.22	€0.00	€504.58	€0.00	€0.00	€0.00	**€19,689,741.00**

Table 24 - Total Payments by Month

14. 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
02/10/2015	38	-€1,655,942.38	€ 162,994.80
09/10/2015	39	-€1,135,216.68	€177,381.90
16/10/2015	40	€507,903.08	€106,382.04
23/10/2015	41	€681,099.48	€131,096.53
30/10/2015	42	€405,933.93	-€25,867.40
06/11/2015	43	€559,788.60	€38,427.78
13/11/2015	44	-€49,013.58	€13,013.70
20/11/2015	45	€760,249.70	€98,639.75
27/11/2015	46	€808,399.38	€71,687.58
04/12/2015	47	€466,243.69	-€300,749.94
11/12/2015	48	€897,437.38	-€534,740.45
18/12/2015	49	€141,592.08	-€388,379.01
30/12/2015	50	€878,459.85	-€160,949.17
05/01/2016	51	€838,626.05	-€0
08/01/2016	52	€1,134,591.97	-€0
03/01/2016	1	€615,047.23	-€0
22/01/2016	2	€1,273,552.21	-€0
29/01/2016	3	€1,174,521.30	-€0
05/02/2016	4	€504,528.98	-€0
12/02/2016	5	€856,861.27	-€0
19/02/2016	6	€92,167.26	-€0
26/02/2016	7	€255,104.63	-€0
04/03/2016	8	-€265,963.47	-€0
11/03/2016	9	€256,130.58	-€0
21/03/2016	10	-€13,382.85	-€0
25/03/2016	11	€531,976.18	-€0
01/04/2016	12	-€35,023.74	-€0
08/04/2016	13	-€2,353.02	-€0
15/04/2016	14	-€1,306,455.65	-€0
22/04/2016	15	-€1,078,232.88	-€0
29/04/2016	16	-€316,904.19	-€0
06/05/2016	17	€225,399.35	-€0
13/05/2016	18	-€852,085.24	-€0
20/05/2016	19	-€1,030,542.65	-€0
27/05/2016	20	-€835,814.27	-€0
03/06/2016	21	-€1,224,851.34	-€0
10/06/2016	22	-€1,362,326.06	-€0
17/06/2016	23	-€334,215.24	-€0
24/06/2016	24	-€735,443.16	-€0

Table 25– 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 2015	-€340.35	-€ 7,800.91
November 2015	-€386.53	€20,938.81
December 2015	-€421.62	-€0
January 2016	-€365.96	-€0
February 2016	-€324.58	-€0
March 2016	-€349.99	-€0
April 2016	-€246.89	-€0
May 2016	-€232.99	-€0
June 2016	-€251.6	-€0

Table 26 - 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.

15. 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
October 2015	-	-	-	-	04/10/2015
November 2015	16/11/2015	30/11/2015	26/11/2015	-	-
December 2015	-	08/12/2015 17/12/2015 21/12/2015	08/12/2015 10/12/2015 11/12/2015 14/12/2015	14/12/2015 17/12/2015	-
January 2016	-	05/02/2016 13/01/2016	07/01/2016 08/01/2016	08/02/2016 26/01/2016	-
February 2016	-	-	-	-	10/02/2016
March 2016	-	28/03/2016	10/03/2016	10/03/2016	-
April 2016	-	-	-	-	-
May 2016	-	-	-	-	-

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Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
June	-	-	-	15/06/2016	-

Table 27 - MIP Algorithms

Operational Date	Trade Date	Run Type	LR Peak SMP	MIP Peak SMP	Published
08/10/2015	04/10/2015	EP2	€1000	€71.89	MIP
15/11/2015	16/11/2015	EA1	€524.42	€207.35	MIP
27/11/2015	26/11/2015	EP1	€1,000	€219.39	MIP
29/11/2015	30/11/2015	EA2	€1,000	€169.45	MIP
07/12/2015	08/12/2015	EA2	€1,000	€279.06	MIP
09/12/2015	08/12/2015	EP1	€1,000	€238.81	MIP
11/12/2015	10/12/2015	EP1	€1,000	€279.06	MIP
12/12/2015	11/12/2015	EP1	€1,000	€255.40	MIP
15/12/2015	14/12/2015	EP1	€1,000	€279.06	MIP
16/12/2015	17/12/2015	EA2	€1,000	€203.01	MIP
18/12/2015	14/12/2015	EP2	€1,000	€435.61	MIP
20/12/2015	21/12/2015	EA2	€1,000	€151.53	MIP
21/12/2015	17/12/2015	EP2	€513.81	€412.60	MIP
04/01/2016	05/01/2016	EA2	€1,000	€1,000	MIP
08/01/2016	07/01/2016	EP1	€1,000	€207.75	MIP
09/01/2016	08/01/2016	EP1	€1,000	€279.06	MIP
12/01/2016	13/01/2016	EA2	€1,000	€170.51	MIP
12/01/2016	08/01/2016	EP2	€1,000	€279.06	MIP
30/01/2016	26/01/2016	EP2	€1,000	€207.85	MIP
10/02/2016	10/02/2016	WD1	€1,000	€176.75	MIP
11/03/2016	10/03/2016	EP1	€1000	€179.85	MIP
14/03/2016	10/03/2016	EP2	€1000	€179.38	MIP
27/03/2016	28/03/2016	EA2	€1000	€114.04	MIP
19/06/2016	15/06/2016	EP2	€1000	€279.06	MIP

Table 28 - MIP Vs LR Peak Price Comparison