



# **Market Operator Monthly Report**

## **March 2017**

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### Executive Summary

This Single Electricity Market Operator's (SEMO) report covers the month of operation of March 2017 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 March 2017, there was one late Settlement publication as per the Trading and Settlement code.

During the month of March 2017, there was no late republication of the Credit Report as per the Trading and Settlement code timelines.

There were 23 defaults by Participants during March 2017. The largest of these was a Capacity February 2017 Initial invoice for €14,289.46 which was remedied the same day.

There were 16 Credit Cover Increase defaults during March 2017 as per the Trading and Settlement code timelines.

200 general queries were received in March 2017. During the same period 212 general queries were resolved.

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

## 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			
Area		Major	Minor
Data Providers		-	1
Market Participants	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	23	-
	Credit Risk Management	16	-
SEMO	Pricing & Scheduling	-	-
	Settlement	-	1
	Funds Transfer	-	-
	Credit Risk Management	-	-
	Other	-	-
<b>Total</b>		<b>39</b>	<b>2</b>

**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.

## Market Operator Monthly Report

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### *Joining and Terminating Parties and Units*

Two parties joined the Market in March 2017.

- PY\_000171 ElectroRoute Energy Supply Limited
- PY\_000172 Lightfield Limited

There were no terminating parties in March 2017.

The following units went effective in the Market in March 2017.

- PT\_500021\_Airtricity Energy Supply NI Ltd Generation- GU\_501550 Slieve Divena Wind Farm
- PT\_500050\_Hunters Hill- GU\_501440 Hunters Hill Windfarm Ltd - Eglisk Site
- PT\_500095\_Gaelectric Green Energy Limited- GU\_501410 Corby Knowe Windfarm

One unit de-registered from the Market in March 2017.

- PT\_500082\_Open Electric Limited- SU\_500081 Open Electric Supplier Unit

### *Suspension of Participants*

No Suspension Orders were issued by the Market Operator in March 2017.

Financial Statistics

Total Charges for Each Currency

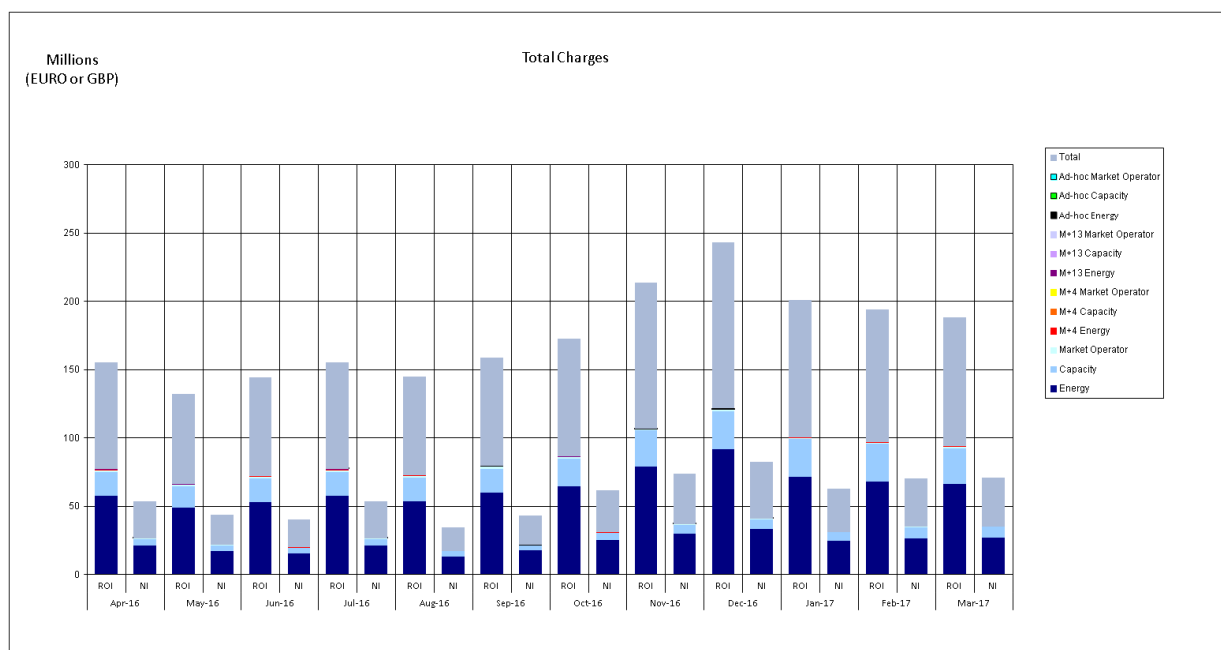


Figure 1 - Total Charges for Each Currency

Market	March 2017	
	ROI	NI
Energy	€66,590,904	£27,088,752
Capacity	€25,999,740	£8,001,218
Market Operator	€896,639	£232,052
M+4 Energy	€530,905	£72,288
M+4 Capacity	€113,906	£14,630
M+4 Market Operator	€3,188	£409
M+13 Energy	€40,679	£46,678
M+13 Capacity	€13,854	£14,277
M+13 Market Operator	€638	£577
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
<b>Total</b>	<b>€94,190,452</b>	<b>£35,470,882</b>

Table 2 - Total Charges for Each Currency

Notes relating to Table 2 and 3:

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

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## Total Payments for Each Currency

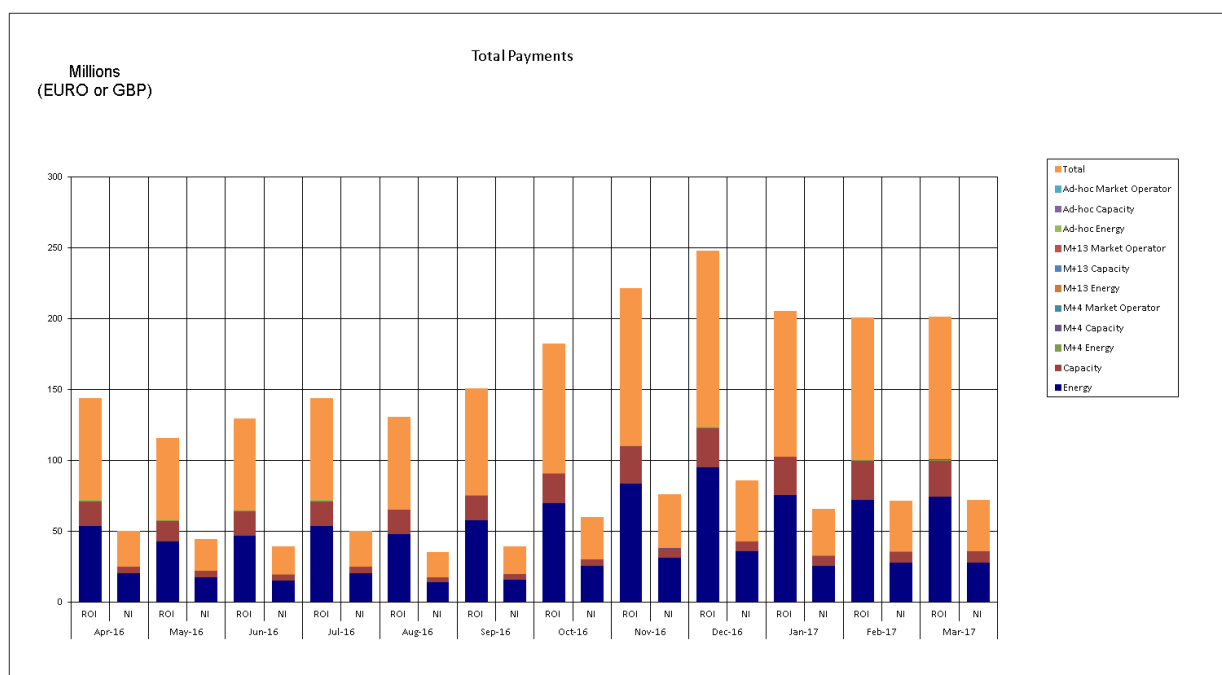


Figure 2 - Total Payments for Each Currency

Market	March 2017	
	ROI	NI
Energy	€74,265,958	£27,816,469
Capacity	€25,788,085	£8,149,369
M+4 Energy	€532,016	£76,024
M+4 Capacity	€116,105	£12,908
M+4 Market Operator	€3,142	£407
M+13 Energy	€39,271	£32,924
M+13 Capacity	€13,708	£14,411
M+13 Market Operator	€638	£583
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
<b>Total</b>	<b>€100,758,923</b>	<b>£36,103,094</b>

Table 3 - Total Payments for Each Currency

### Total Balancing Costs

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



## Market Operator Monthly Report

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:

March 2017	
Imbalance (Energy Only)	-€2,676,047.61

Table 4 - Balancing Costs for Energy Settlement

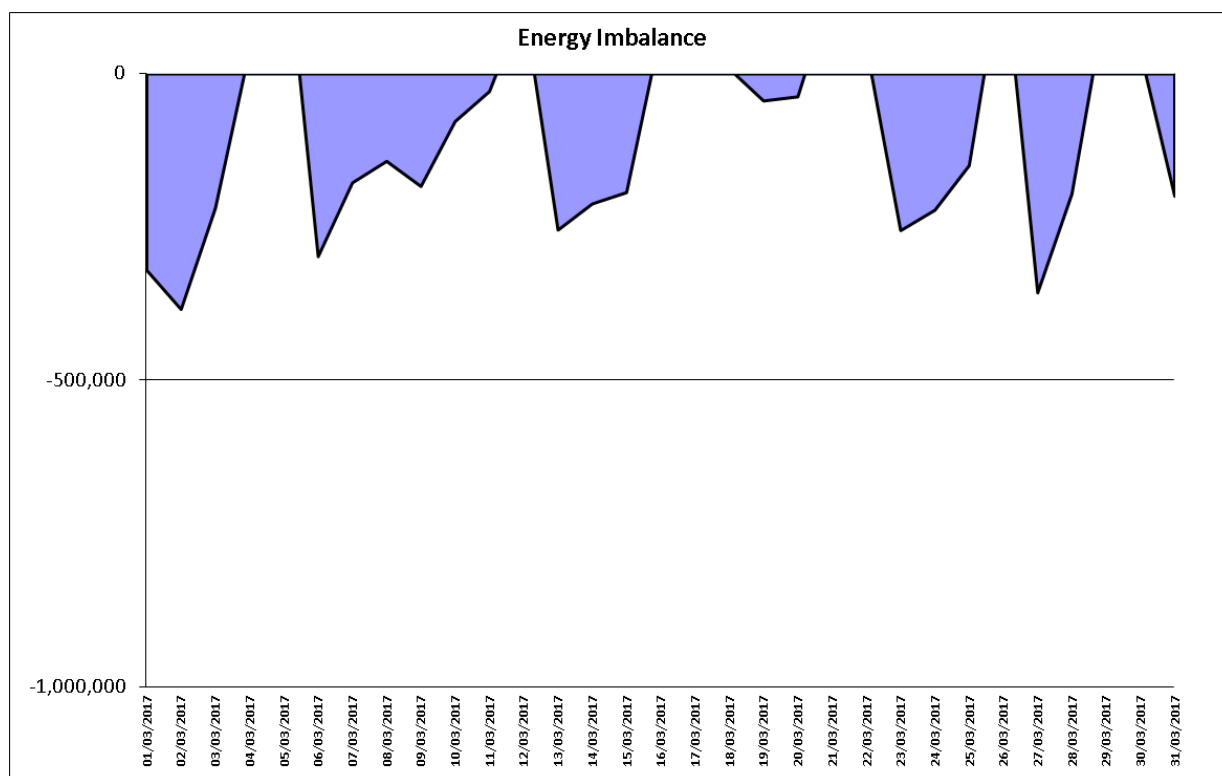


Figure 3 – Energy Imbalances

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.

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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
03/03/2017	8	€1,651,490.95	€0
10/03/2017	9	€2,459,833.45	€0
17/03/2017	10	€1,941,642.14	€0
24/03/2017	11	€2,196,781.35	€0
31/03/2017	12	€2,656,663.85	€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:

March 2017	
Capacity Charges	-€47,229,942.67
Capacity Payments	€47,229,666.45
Balancing Costs	-€276.22
VAT	€0

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

## Market Operator Monthly Report

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

### Total Currency Costs

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

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

Although the 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
25/02/2017	03/03/2017	8	-£42,970.32	£-	-£42,970.32
04/03/2017	10/03/2017	9	£16,302.70	£-	£16,302.70
11/03/2017	17/03/2017	10	£29,645.52	£-	£29,645.52
18/03/2017	24/03/2017	11	£16,481.33	£-	£16,481.33
25/03/2017	31/03/2017	12	-£242.37	£-	-£242.37

**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 £29,645.52 and a cost to Participants of up to £-42,970.32. 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
09/03/2017	February 2017	-£34,328.55

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 2016. 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
€89,755,381.20	-€2,152,956.77	€1,220,553.13	-€36,061,427.42

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.

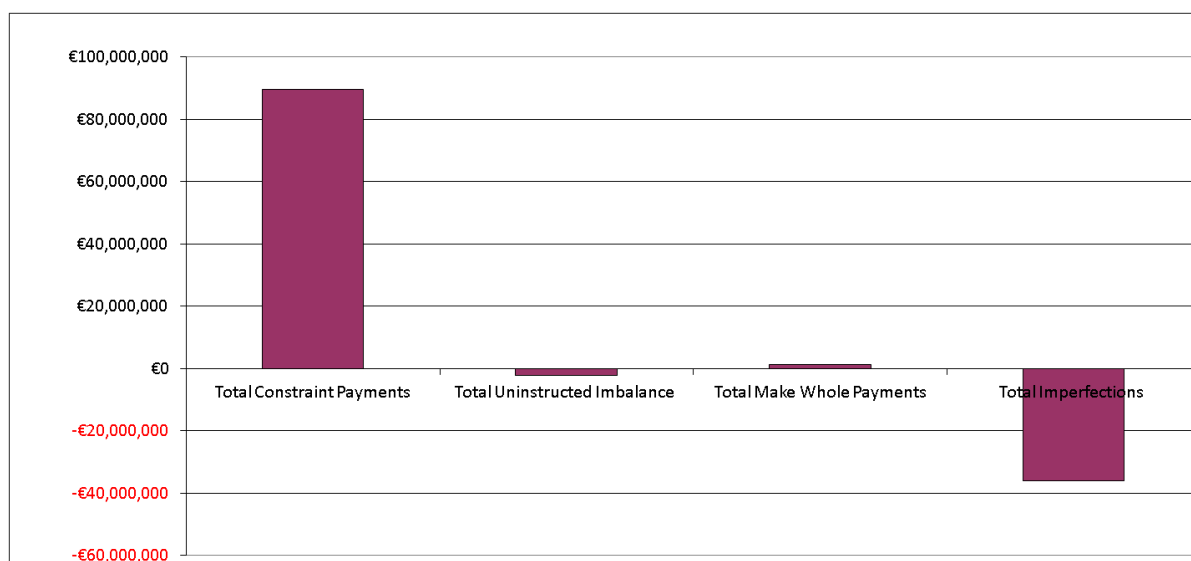


Figure 4 - Cumulative Imperfections Costs Vs Budget

# Market Operator Monthly Report

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 November 2016 and M+13 resettlement period of February 2016 for Energy and Capacity.

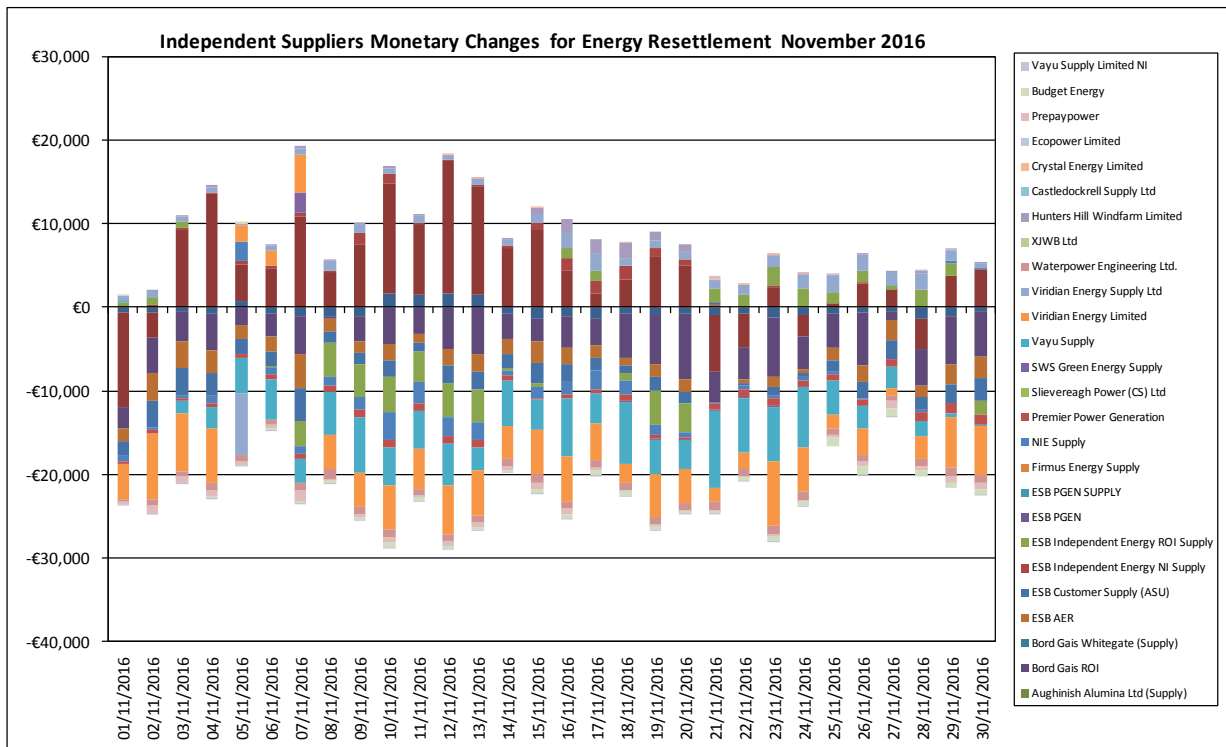
### 3.1.1 Energy Market

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

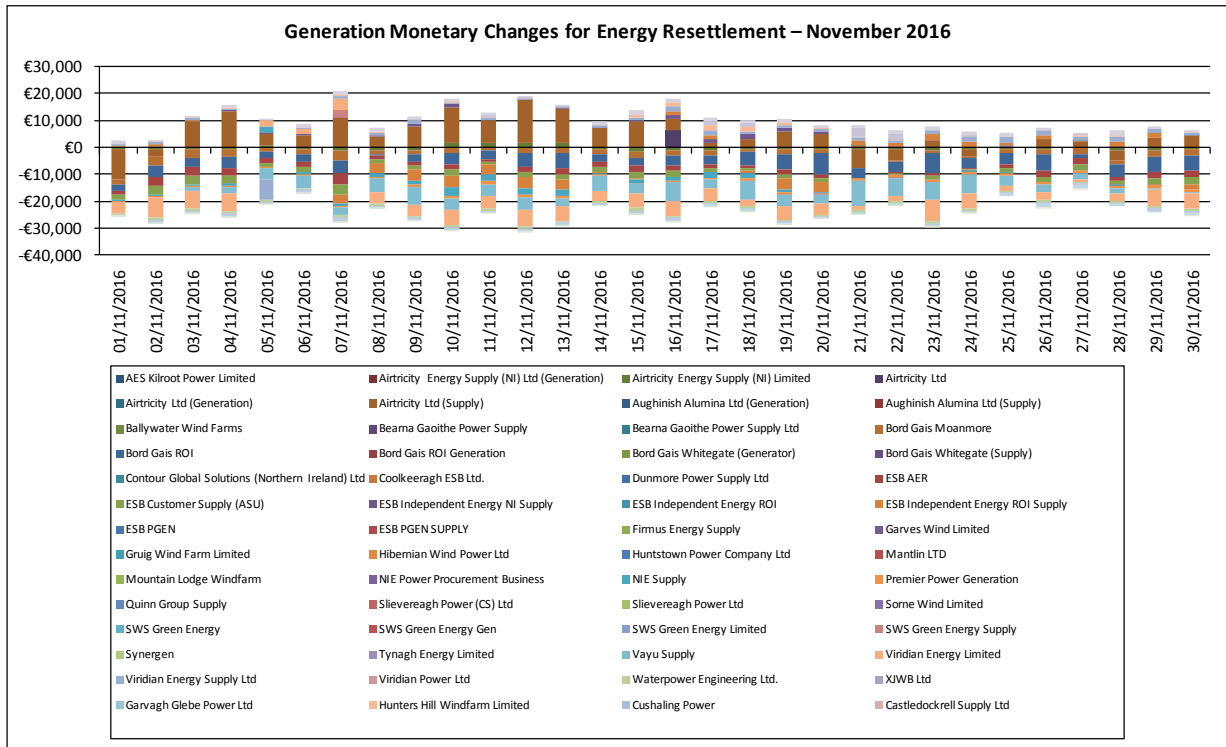
### M+4 Resettlement



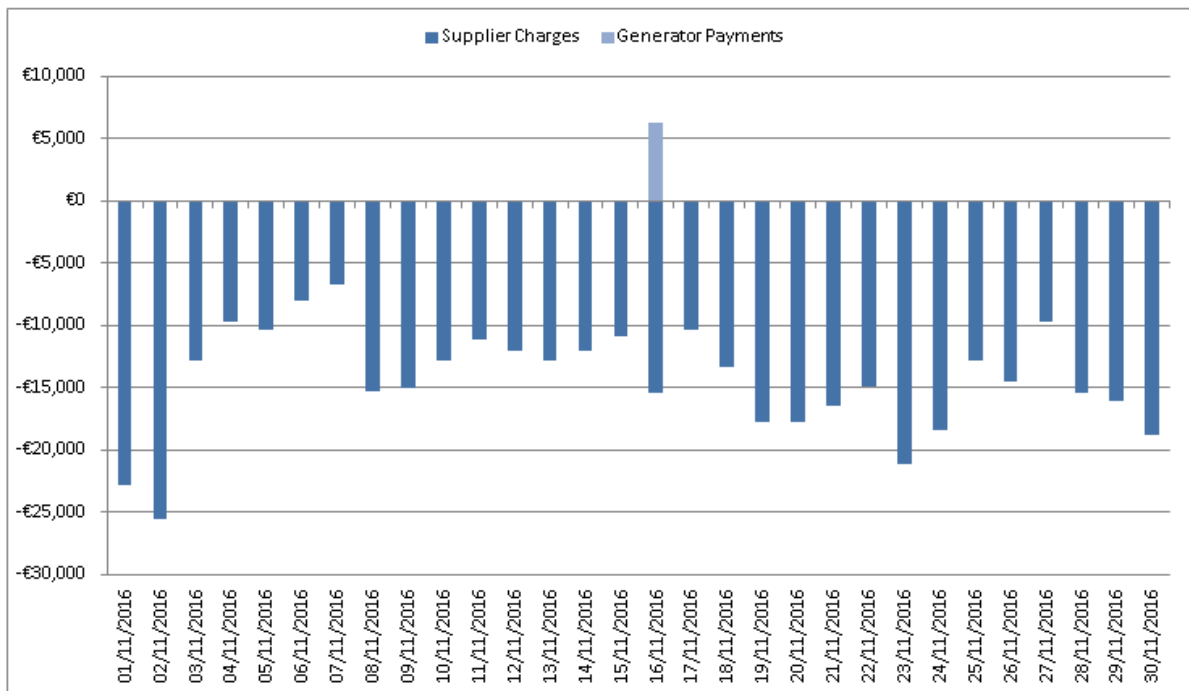
**Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement – November 2016**

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

# Market Operator Monthly Report



**Figure 6 – Generation Monetary Changes for Energy Resettlement – November 2016**



**Figure 7 – Total Monetary Changes for Energy Resettlement – November 2016**

M+13 Resettlement

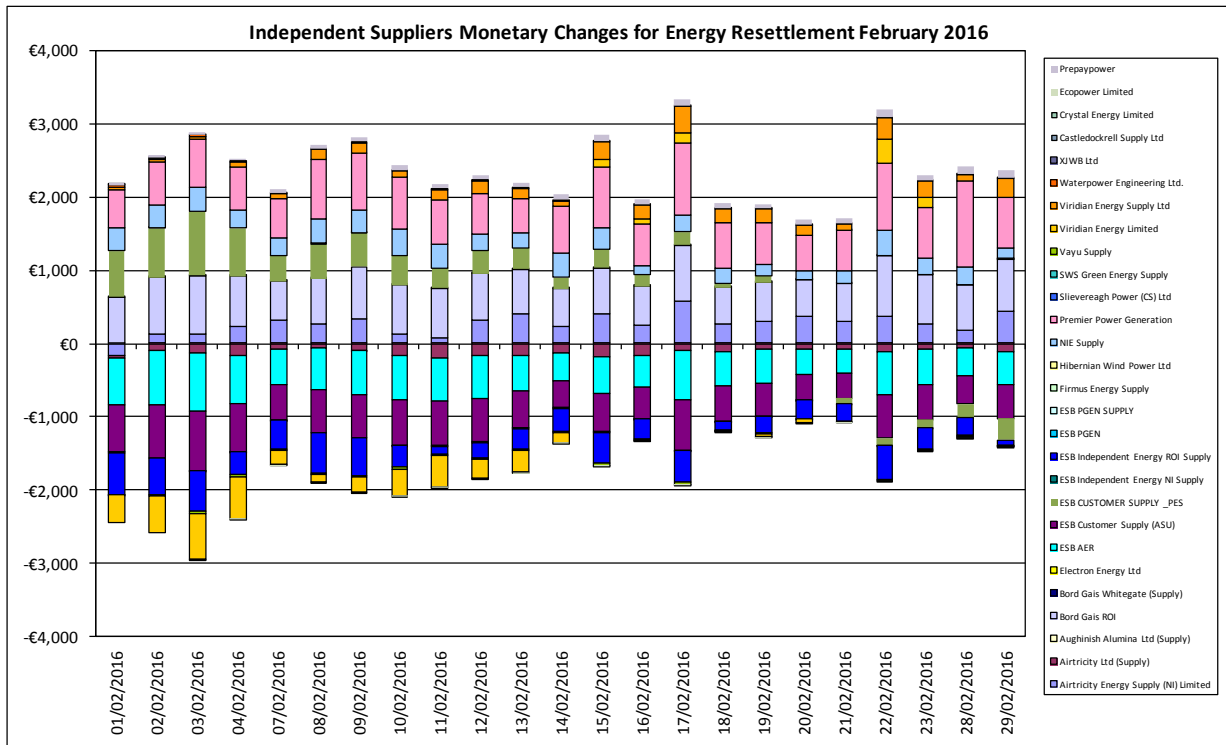


Figure 8 - Independent Suppliers Monetary Changes for Energy Resettlement – February 2016

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

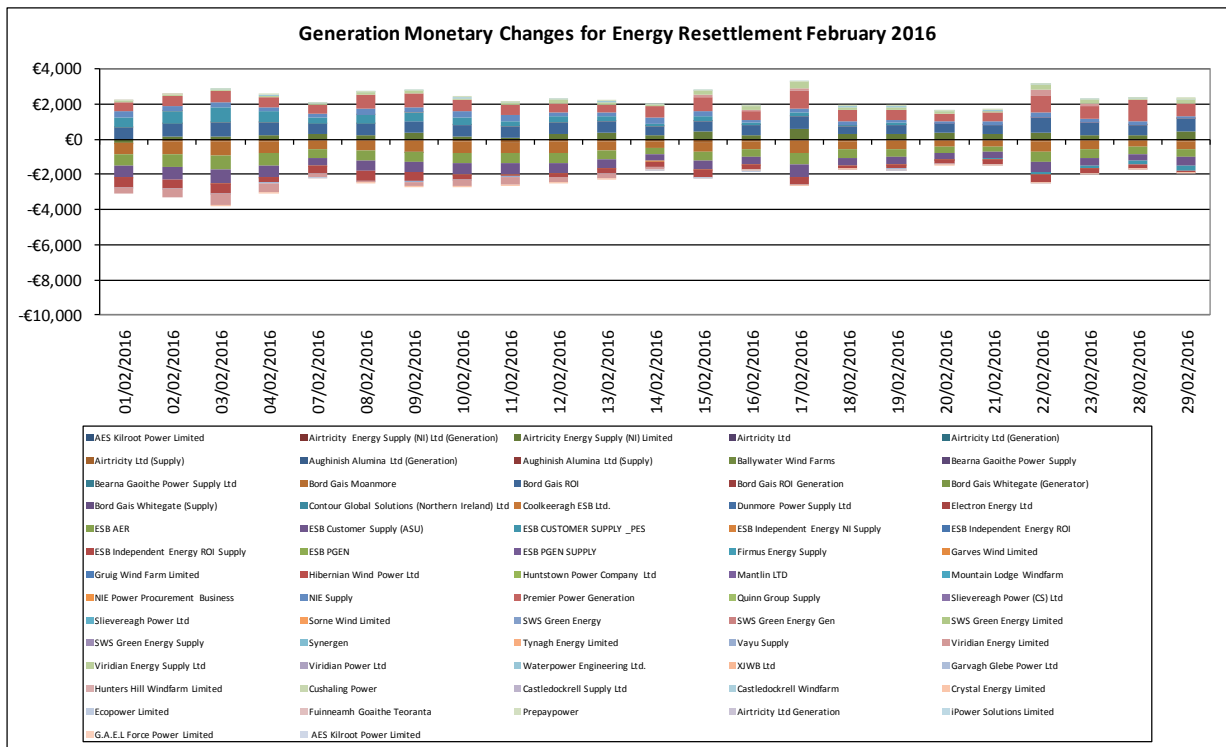


Figure 9 - Generation Monetary Changes for Energy Resettlement – February 2016

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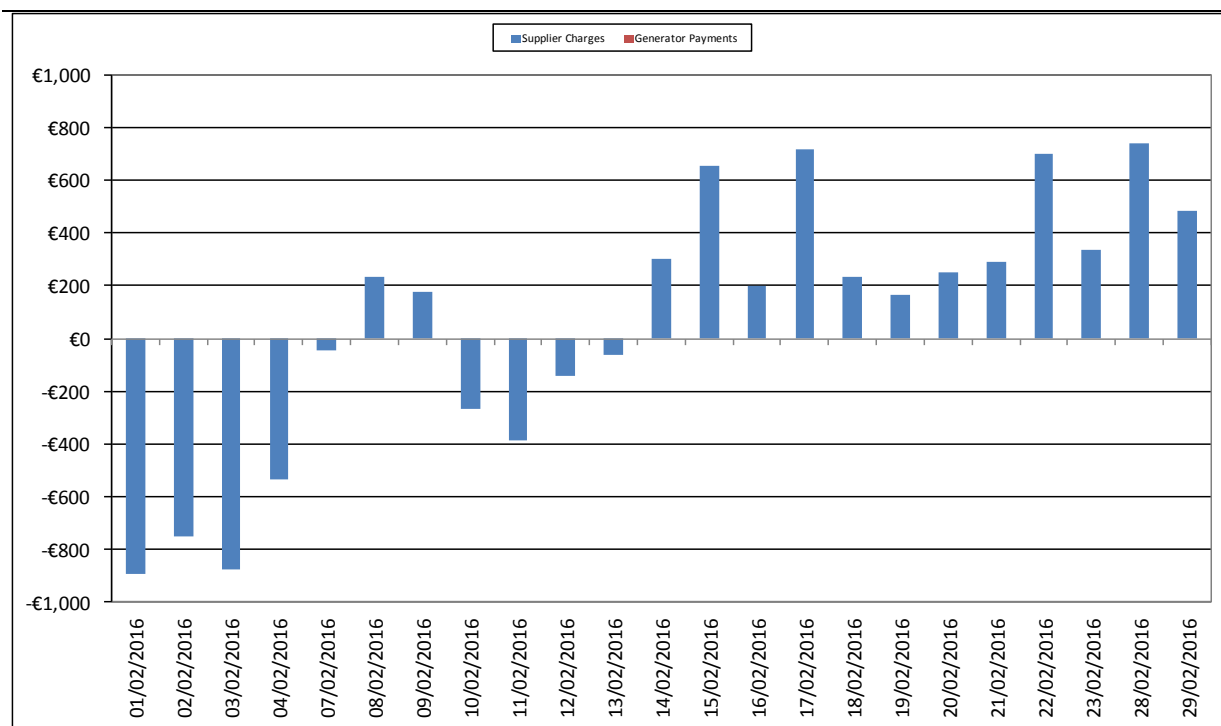


Figure 10 - Total Monetary Changes for Energy Resettlement – February 2016

### 3.1.2 Capacity Market

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

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

The reverse is true for Figure 14 & 22.

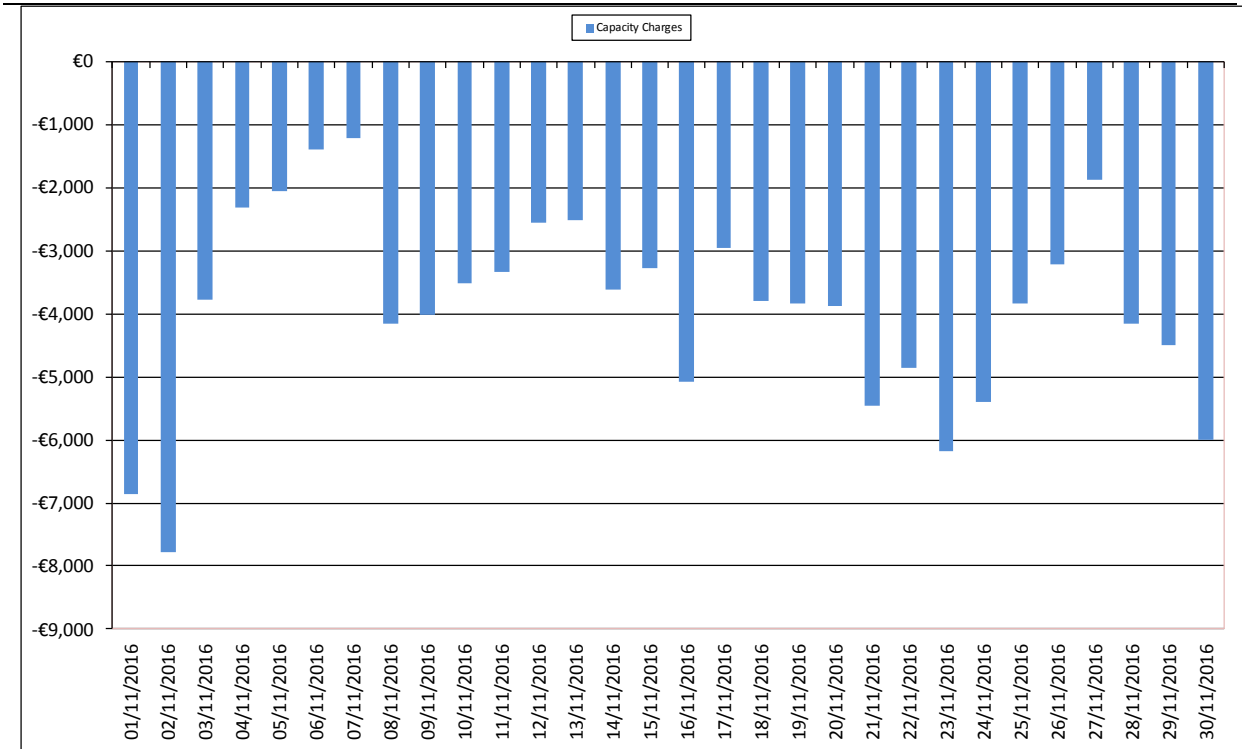
The changes in Capacity are graphed below showing the variance in monetary terms as opposed to percentage terms. As the Jurisdictional Error Supply Units can be significantly affected by resettlement, this is more reflective of the monetary redistribution in M+4 and M+13. Please also note that as of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

### M+4 Resettlement

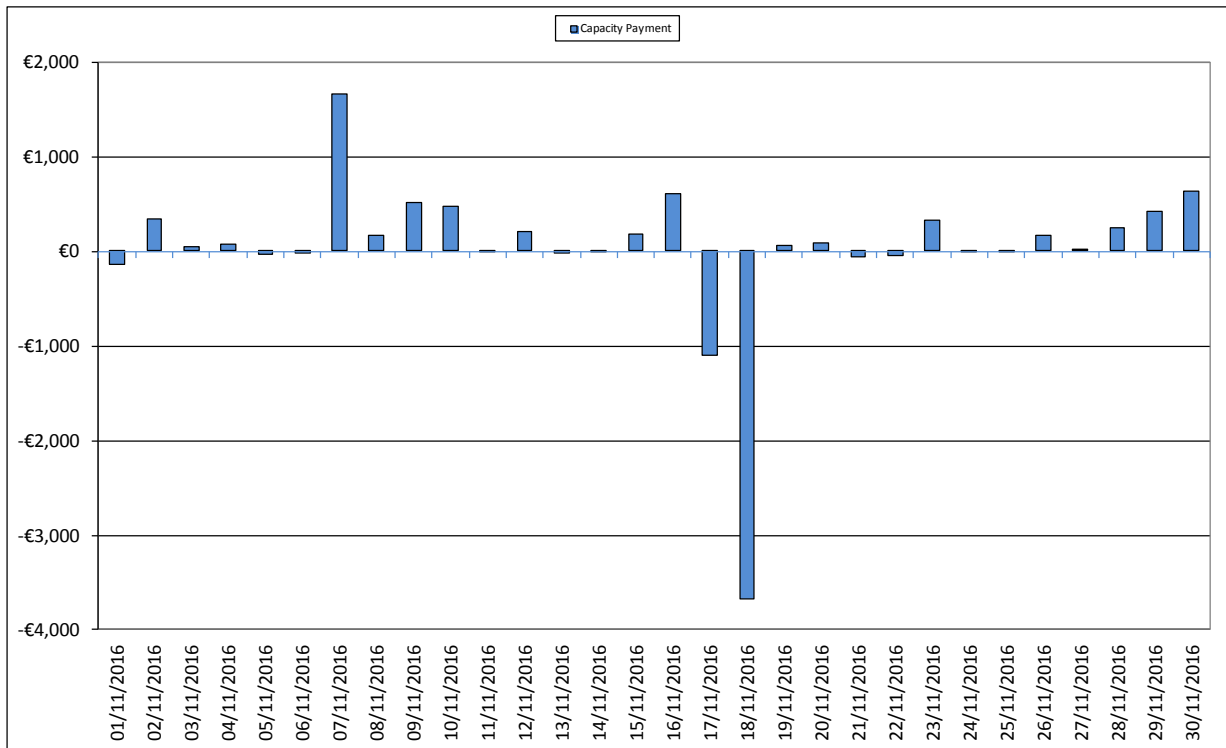
Under resettlement, charges originally attributed to the Jurisdictional Error Supplier Units, have now been redistributed among Market Participants.



# Market Operator Monthly Report



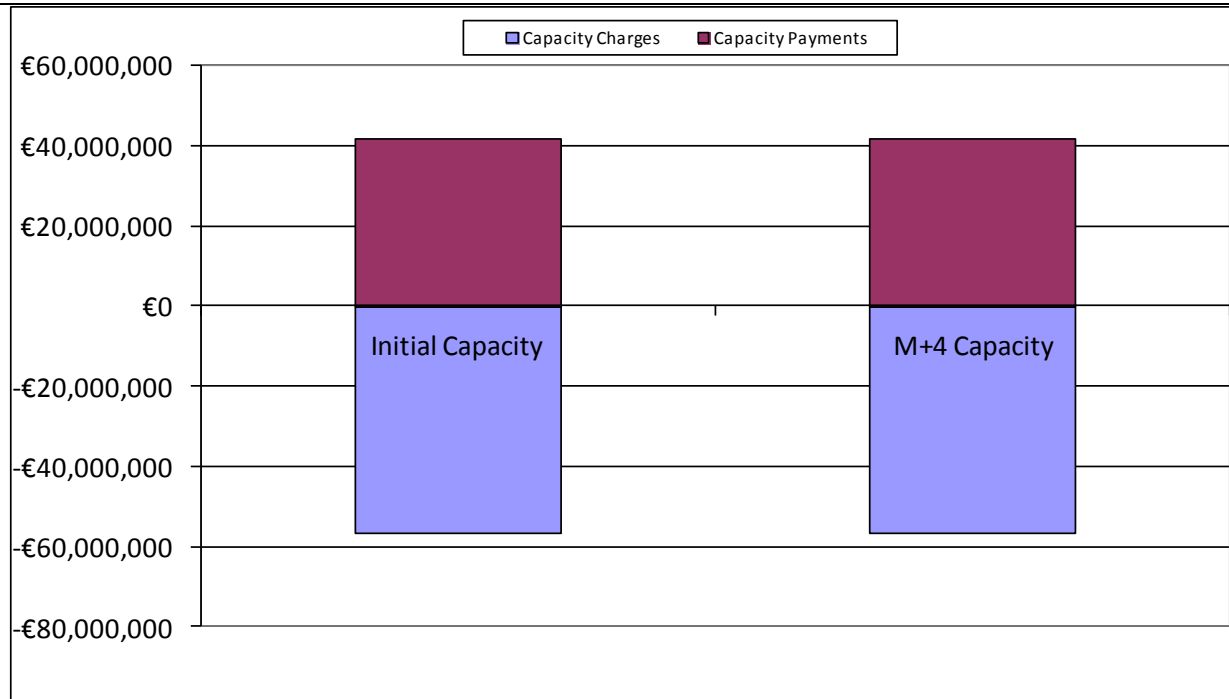
**Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement – November 2016**



**Figure 12 - All Generation Monetary Change for Capacity Resettlement – November 2016**

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

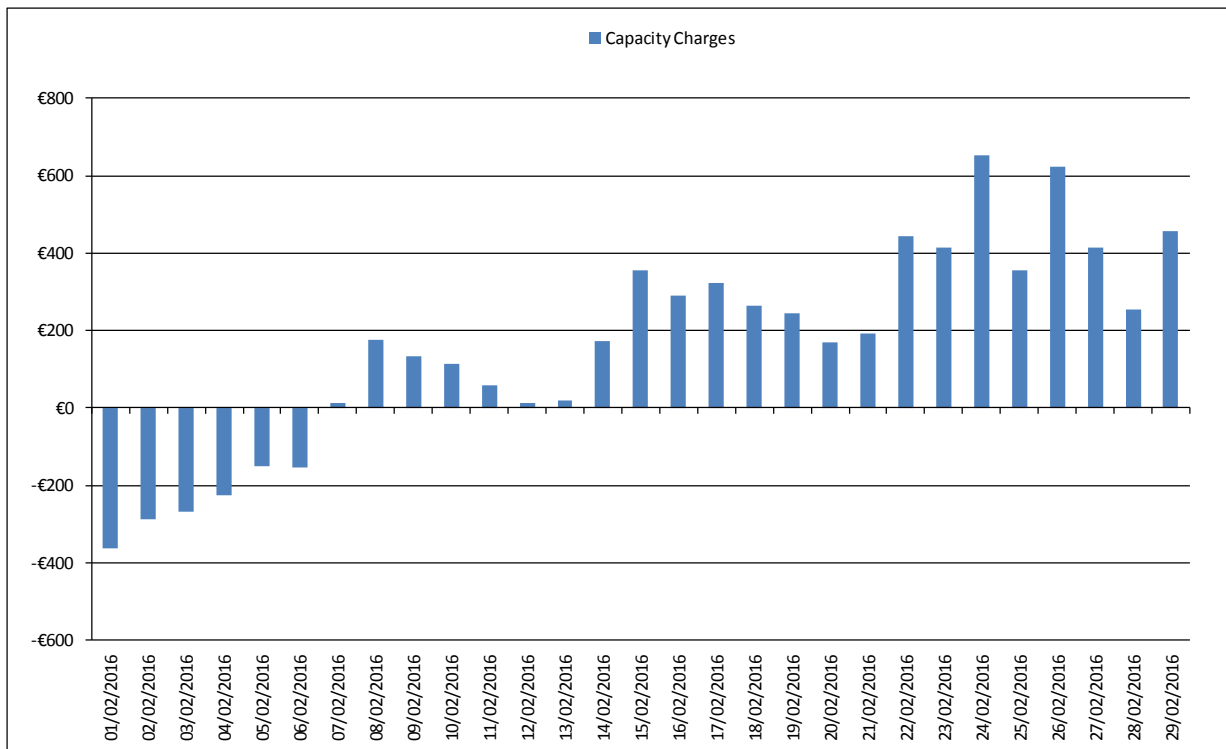
# Market Operator Monthly Report



**Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement November 2016**

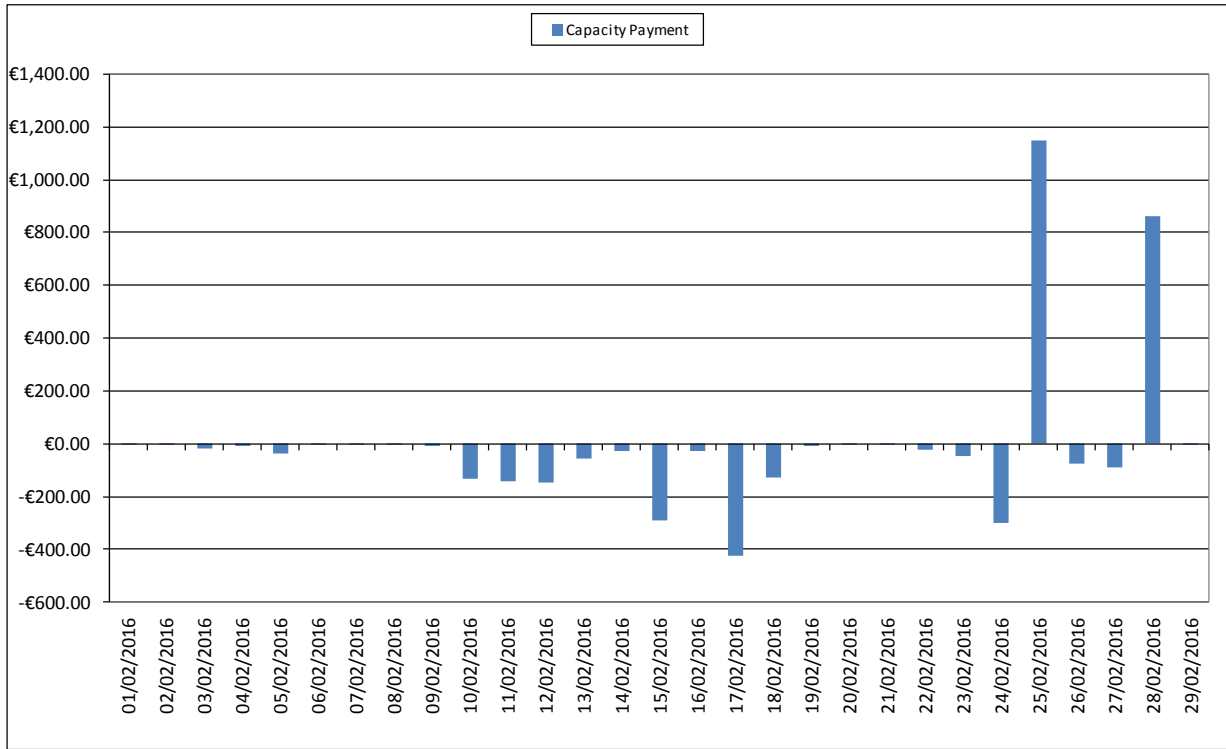
The above graph demonstrates that due to all the individual changes to payment and charge amounts on a Supplier or Generator Unit basis, the overall Capacity Market resettlement Charge and Payment amounts have not changed due to resettlement.

## M+13 Resettlement

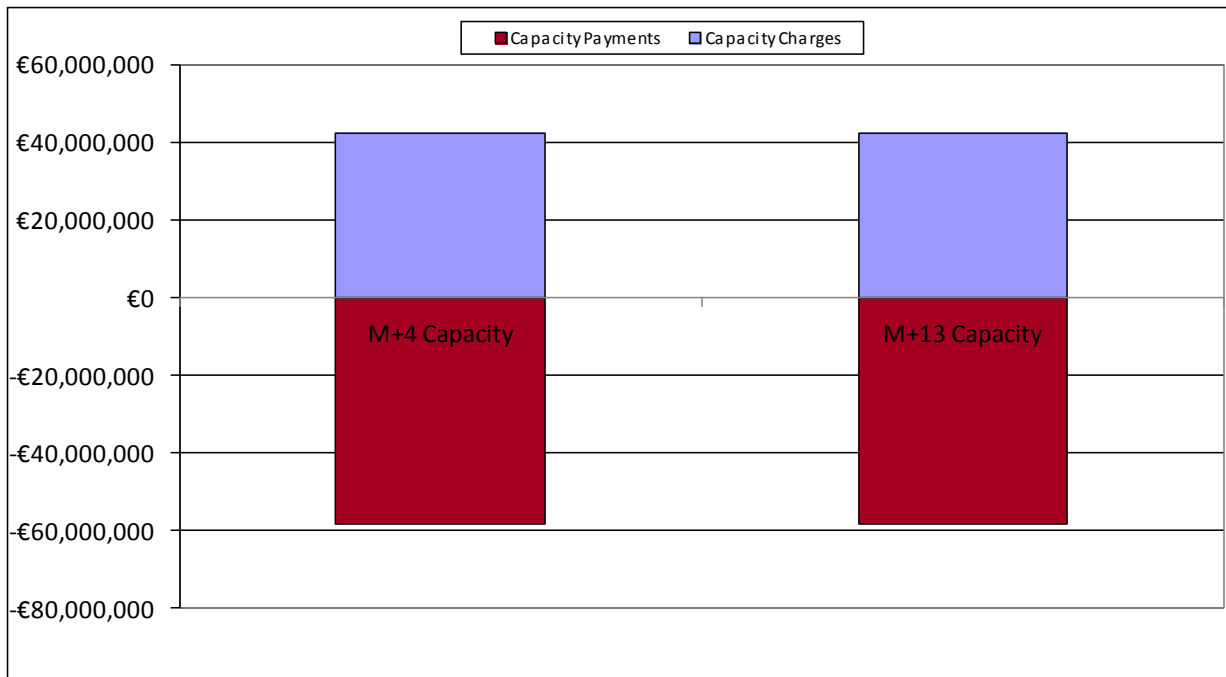


**Figure 14 - Independent Suppliers Monetary Changes for Capacity Resettlement – February 2016**

# Market Operator Monthly Report



**Figure 15 – All Generation Monetary Change for Capacity Resettlement – February 2016**



**Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – February 2016**

### Helpdesk Call Statistics

The statistics presented in Table 10 - Helpdesk Call Statistics covers the month of March 2017.

#### Market Helpdesk Report: 01/03/17 to 31/03/17

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	196	176	20	208	2.50	194
Important	0	0	0	0	0.00	0
Urgent	4	4	0	4	0.08	4
Settlement	4	2	2	2	0.78	2
Credit	0	0	0	0	0.00	0
Dispute	0	0	0	0	0.00	0
Data	0	0	0	0	0.00	0
<b>Total/Average</b>	<b>204</b>	<b>182</b>	<b>22</b>	<b>214</b>	<b>0.67</b>	<b>200</b>

**Table 10 – Helpdesk Statistics**

Definitions:

- Resolved within the Period refers to queries raised and resolved within the calendar month of March 2017.
- Resolved in the Period refers to queries resolved within March 2017, 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 March 2017.
- Not Resolved refers to queries raised but not resolved within March 2017.
- 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 0.16 working days from 2.29 in February 2017 to 2.45 working days in March 2017. 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 March 2017 with regard to formal Settlement Queries.

### Disputes and Queries

#### 5.1.1 Disputes

No Dispute was raised during the month of March 2017.

#### 5.1.2 Data Queries

There were no formal data queries raised during the month of March 2017.

#### 5.1.3 Settlement Queries

There were four formal Settlement queries raised in March 2017. Three queries were upheld, two have since been resolved

Topic	Number Of Queries
SO Trades	1
Dispatch Instructions	2

**Table 11 - Upheld Settlement Queries by Topic**

- One query relating to incorrect SO Trade Costs. This was deemed to be of Low Materiality and will be corrected within M+4 Resettlement
- Two queries relating to Dispatch Instructions were raised. One has been deemed to be of Low Materiality and will be corrected within M+4 Resettlement. The other remains unresolved.

#### Unresolved Queries

There is one unresolved settlement queries as of the 12<sup>th</sup> April 2017

A full list of all the Data and Settlement queries raised is contained in [Appendix B](#).

### Central Systems

#### 6.1 Proportion of Default Data Used

On review of the Commercial Offer Data used in the MSP runs, 66.61% of data used was submitted by Participants through the normal Bid-Offer process. 33.39% 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 / Resettlement Runs /MIUN Delays

There were no Re-Price runs carried out in March 2017.

There were no Ad hoc Re-Settlement runs carried out in March 2017.

There were no MIUN delays for in March 2017.

##### 6.3.2 System Errors

There were no Market Application defects found in March 2017.

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.

## Market Operator Monthly Report

The following tables and graphs provide details for the postings of the MSP for March 2017.

### 1.4.1 MSP Postings March 2017

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)

# Market Operator Monthly Report

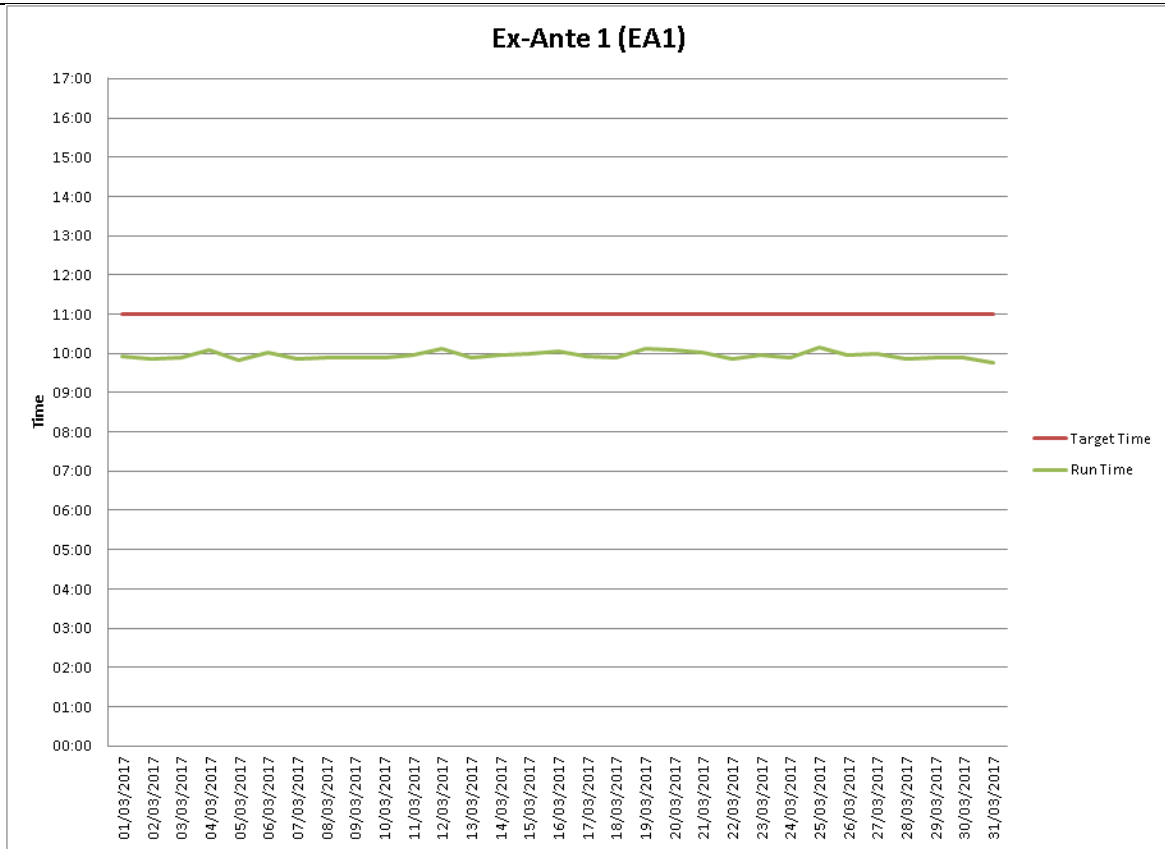


Figure 17 – Ex-Ante 1

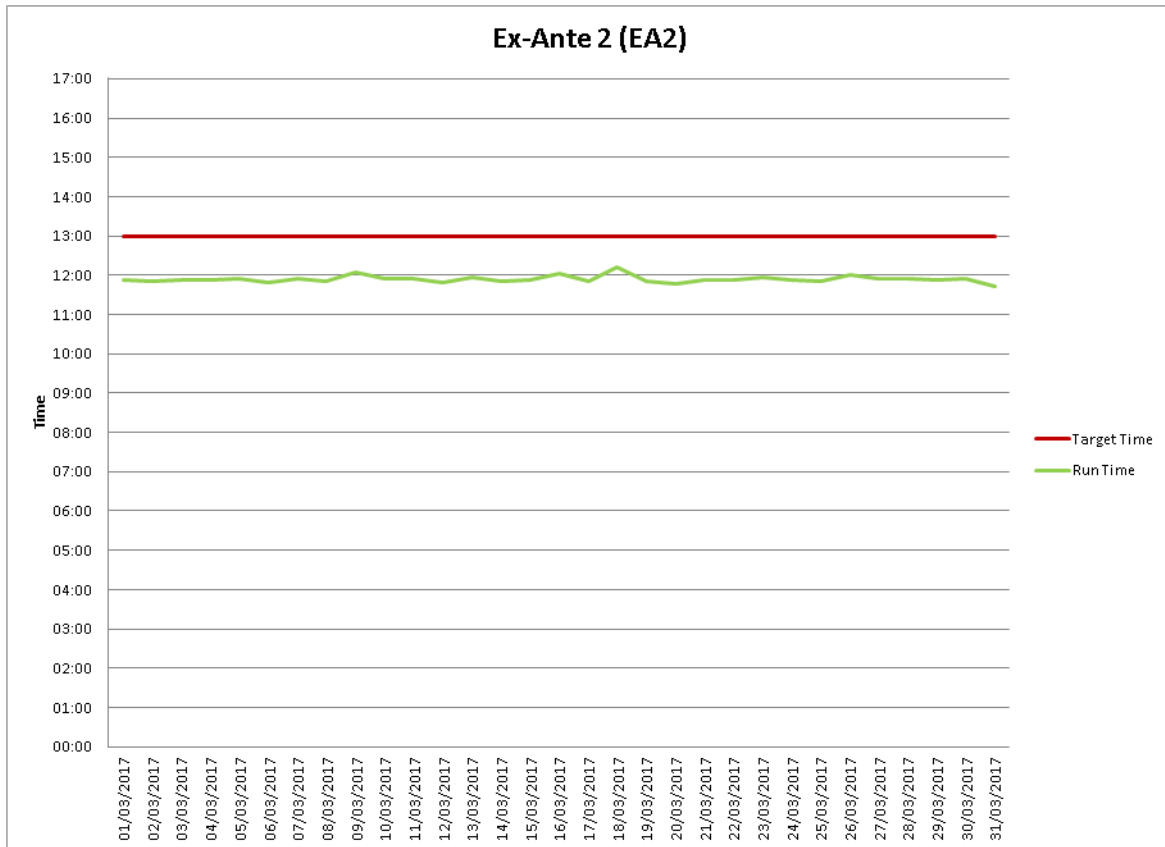


Figure 18 – Ex-Ante 2



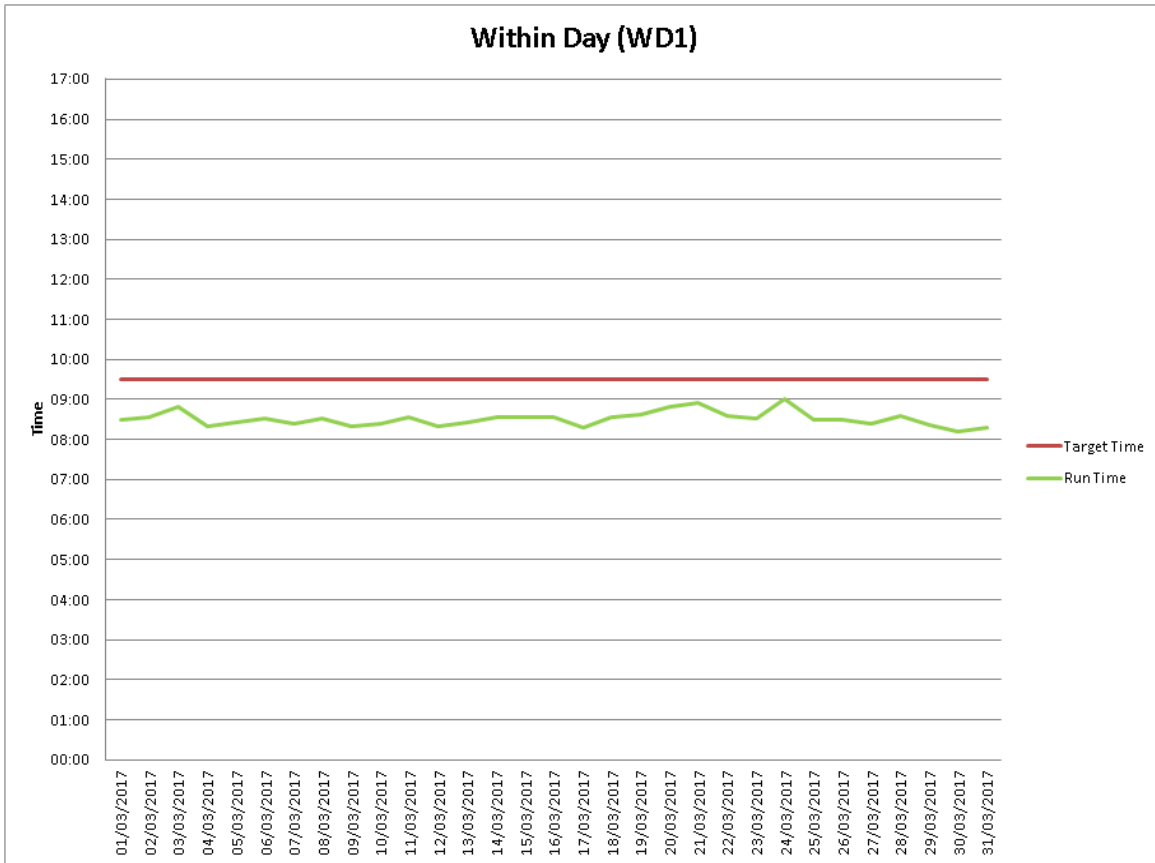


Figure 19 – Within Day 1

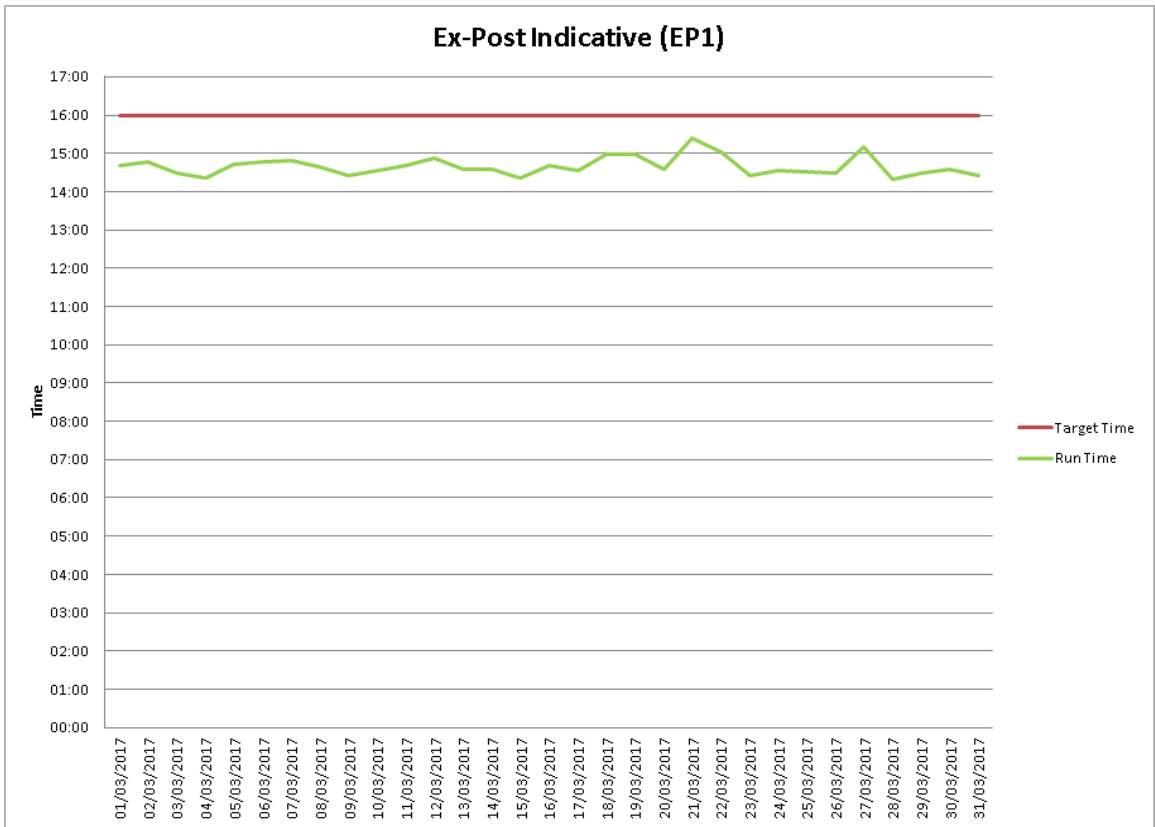


Figure 20 - Ex-Post Indicative

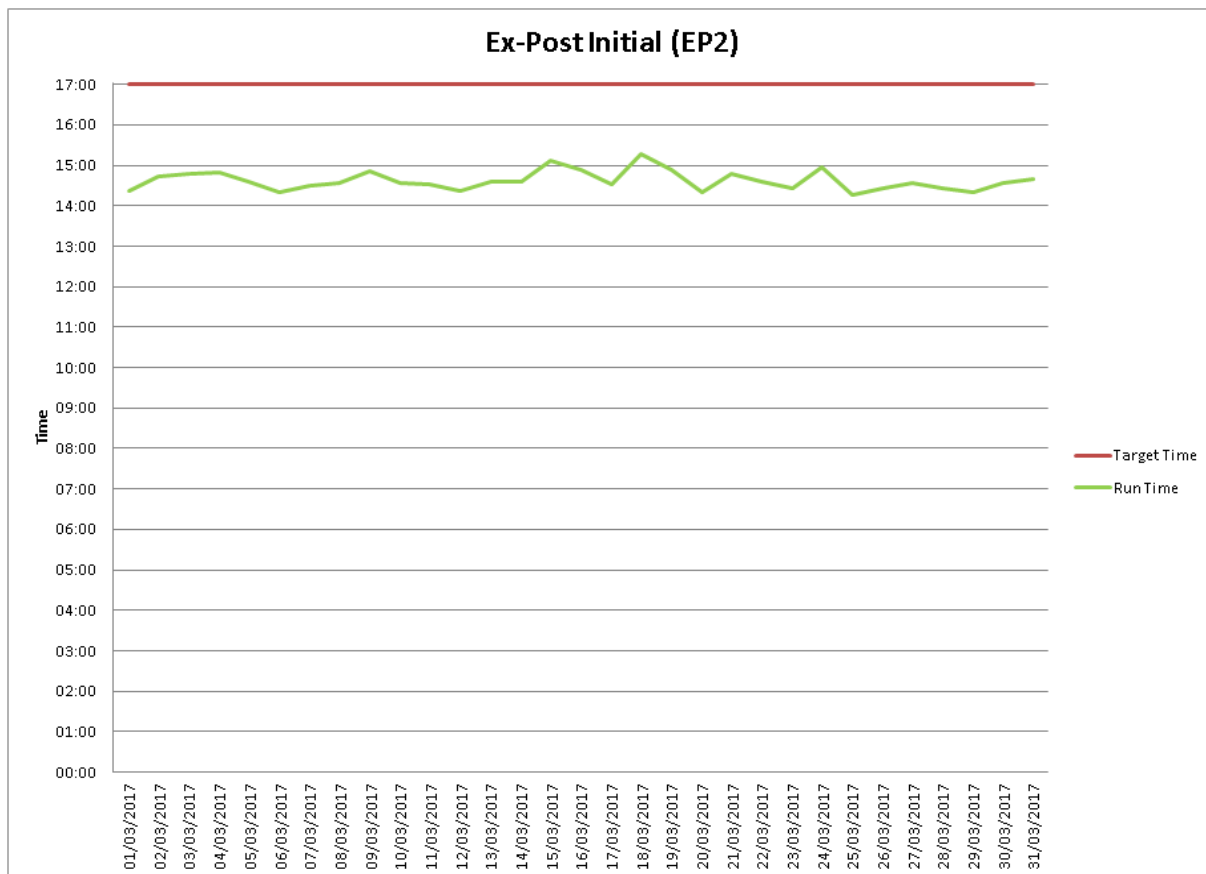


Figure 21 - Ex-Post Initial

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 March 2017, there were 8 instances of publishing with the MIP solver.

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

# Market Operator Monthly Report

## 1.4.1 Settlement Postings March 2017

The publication timings for Settlement runs are provided below.

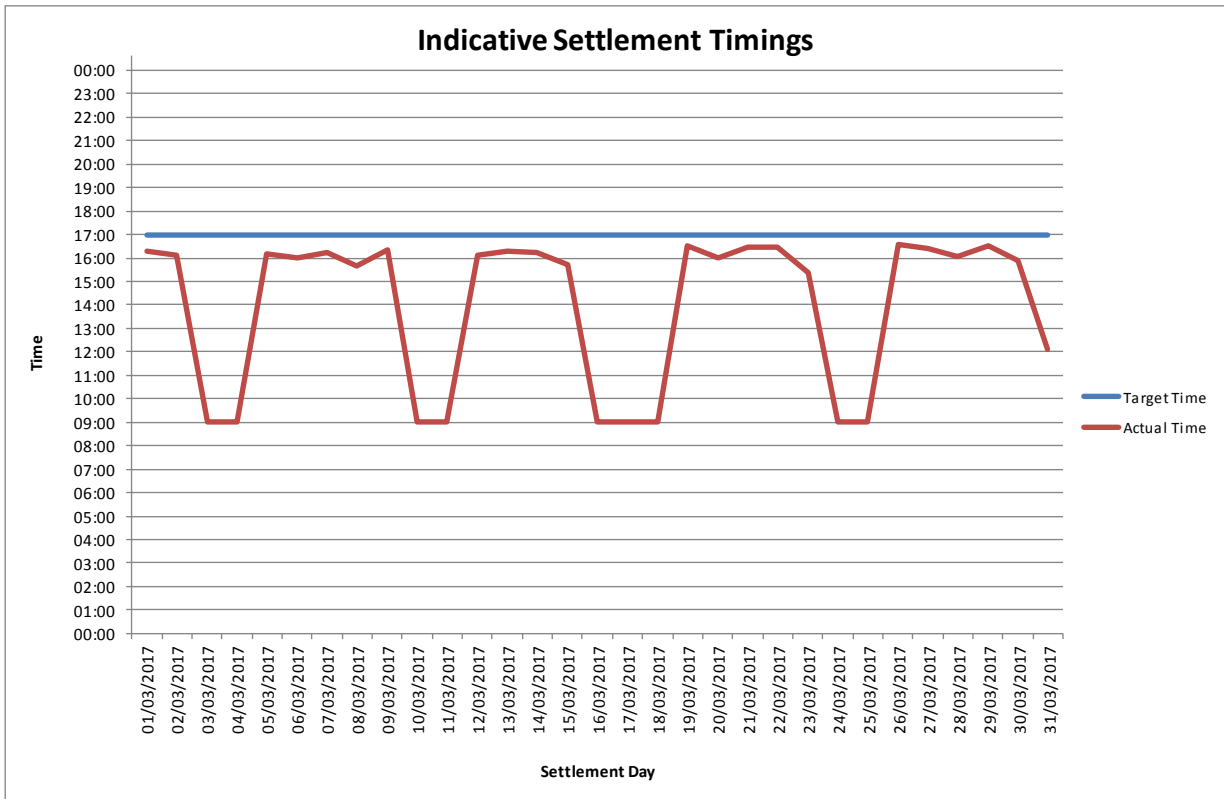


Figure 22 - Indicative Settlement Postings

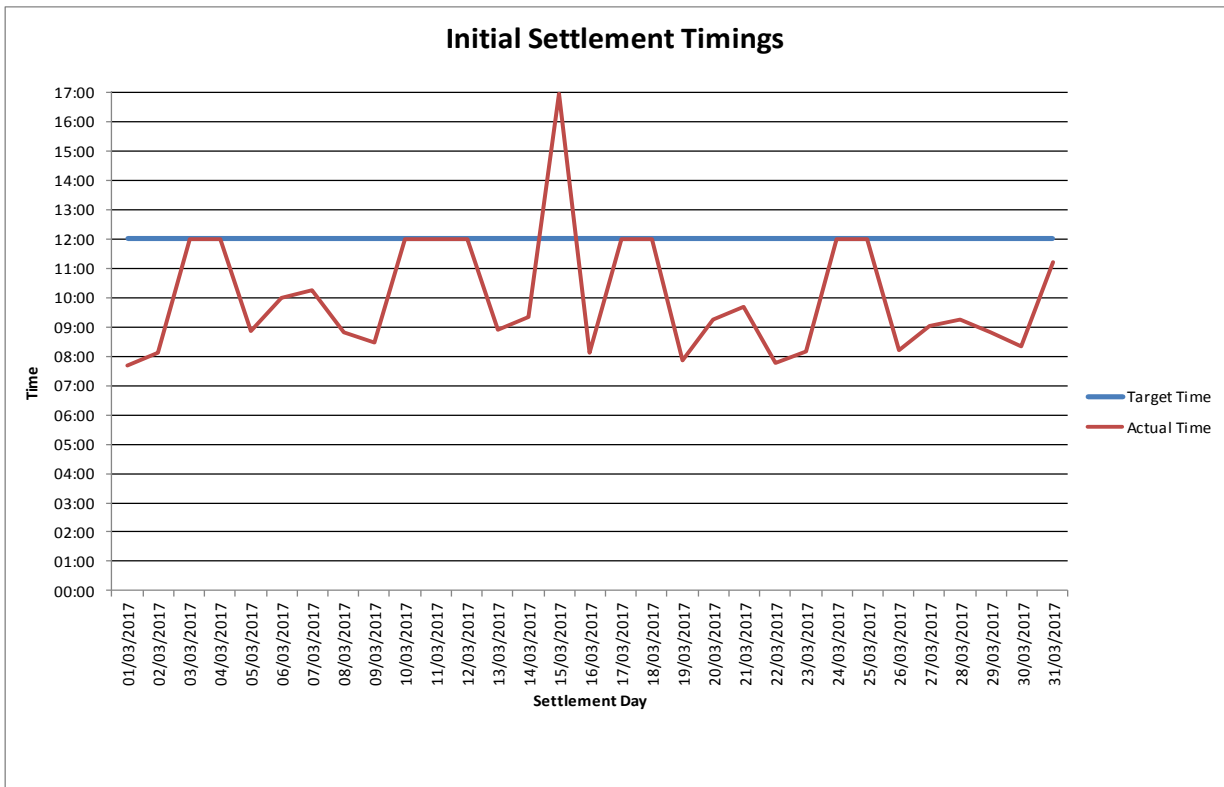


Figure 23 - Initial Settlement Postings

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

**6.5.1 – No deployments in March 2017**

### **Occasional Components**

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

There were no scheduled Business Continuity tests performed during March 2017.

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

There were no Communications Failures in March 2017

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

There was no Denial of Service Attacks during March 2017.

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

There has been no requirement for submission of parameters in March 2017.

## Appendix A: Detail of Trading and Settlement Code Breaches

### Data Provider

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
06/03/2017	SE1	Timing	SONI TSO	File Submission	Combined Loss Adjustment factors (CLAFs) for GU_501530 were not submitted as per agreed timelines in the Trading & Settlement Code (T&SC).	SONI TSO did not submit the CLAFs to SEMO in time for the Indicative Settlement run on 04/03/2017.	CLAFs were submitted on 06/03/2017 for GU_501530 meaning that they will be picked up as part of the Initial Settlement batch.	Minor

**Table 14 – Trading and Settlement Code Breaches – Data Providers**

### Market Participant

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
27/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 23/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
24/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 22/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
23/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 21/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
22/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 20/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
20/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 16/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
17/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 15/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
16/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 14/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
15/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 13/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
14/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 10/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
13/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 09/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
10/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 08/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
09/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 07/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
08/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 06/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
07/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 03/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
06/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 02/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
03/03/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 01/03/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
31/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a VMOC Week 47 2016 M+4 and on a VMOC Week 8 2016 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
29/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on an Energy Week 47 2016 M+4 and on an Energy Week 8 2016 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
27/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a VMOC Week 46 2016 M+4 and on a VMOC Week 7 2016 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
23/03/2017	Money In	Timing	Participant	Payment Default	Open Electric (PT_500082) defaulted on an Energy Week 46 2016 M+4 and on an Energy Week 7 2016 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
20/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a VMOC Week 45 2016 M+4 and on a VMOC Week 7 2016 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
15/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on an Energy Week 45 2016 M+4 and on an Energy Week 7 2016 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
14/03/2017	Money In	Timing	Participant	Payment Default	Captured Carbon Limited (PT_400168) defaulted on a Capacity February 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
10/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a VMOC Week 44 2016 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
10/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a FMOC February 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
10/03/2017	Money In	Timing	Participant	Payment Default	Quinn Windfarm Limited (PT_400049) defaulted on a FMOC February 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
10/03/2017	Money In	Timing	Participant	Payment Default	Mantlin Limited (PT_500039) defaulted on a FMOC February 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
10/03/2017	Money In	Timing	Participant	Payment Default	Endeco Technologies Ltd. (PT_500099) defaulted on a FMOC February 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
10/03/2017	Money In	Timing	Participant	Payment Default	Endeco Technologies Ltd. (PT_500100) defaulted on a FMOC February 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
10/03/2017	Money In	Timing	Participant	Payment Default	Endeco Technologies Ltd. (PT_400133) defaulted on a FMOC February 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
08/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on an Energy Week 44 2016 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
03/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a VMOC Week 43 2016 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
01/03/2017	Money In	Timing	Participant	Payment Default	Activation Energy DSU (PT_400090) defaulted on a Capacity 2016 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
01/03/2017	Money In	Timing	Participant	Payment Default	Electricity Exchange Limited (PT_400116) defaulted on a Capacity October 2016 M+4 and on a January 2016 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
01/03/2017	Money In	Timing	Participant	Payment Default	iPower Solutions Limited (PT_500053) defaulted on a Capacity October 2016 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
01/03/2017	Money In	Timing	Participant	Payment Default	Powerhouse Generation Limited (PT_500078) defaulted on a Capacity October 2016 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
01/03/2017	Money In	Timing	Participant	Payment Default	Activation Energy DSU (PT_500098) defaulted on a Capacity October 2016 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
01/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a Capacity October 2016 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
01/03/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on an Energy Week 43 2016 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major

**Table 15 – Trading and Settlement Code Breaches – Market Participants**

# Market Operator Monthly Report

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## SEMO - Pricing and Scheduling

There were no issues to report in March 2017.

## SEMO – Settlements

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
15/03/2017	SE2	Timing	SEMO	Operational	Initial Energy and VMOC Statements and Participant Information Reports (PIRs) for Settlement Day 15/03/2017 were published after the 12:00 deadline.	An operational error resulted in Initial Settlement for Settlement Day 15/03/2017 being delayed.	Initial Energy & VMOC Resettlement Statements and PIRs were published at 17:02pm on 22/03/2017.	Minor

**Table 16 – Trading and Settlement Code Breaches – Settlements**

## SEMO - Funds Transfer

There were no issues to report in March 2017.

## SEMO - Credit Management

There were no issues to report in March 2017.

## SEMO – Other

There were no issues to report in March 2017.

## Appendix B: List of Queries by Type

Summary Title	Description	ID	Logged On	Date sent to MP	Type
SO-SO Trades	Due to a delay in receiving correct costs, Expost SO Trade costs require updating for trade date 24/12/16, 25/12/16 and 26/12/16  Cost have been updated in highlighted periods, please see attached spreadsheet with updated data.	TSO_EIRGRID	2017-03-02	2017-03-03	Settlement
Dispatch Instructions	GU_400383 (TH4). Missing dispatch instructions. Pumping dispatch instructions are missing from midnight to 06:00 on 2nd Feb for TH4. This is resulting in high uninstructed imbalances for this period.	PT_400030	2017-03-23		Settlement
Unit Under Test	GU_400271 (MP2) Testing Charges calculations. GU_400271. I am using testing tariff A ?6.33 for this unit for 13th Feb 2017. However, my calculations do not agree with SEM-O values. Can you please confirm what tariff SEM-O are applying?	PT_400030	2017-03-23	2017-04-03	Settlement
Dispatch Instructions	The DESY instruction for Powerhouse 2 was rejected on 20th March 2017 at 15:15. The unit then subsequently came off and the original desync time was re-entered. Unfortunately this was after the market gate closure and the standing Dispatch instruction was 1 MW.  This has been revised in SDX and can be resent to the market for recalculating the relevant DQ's.  RESOURCE_NAME INSTR_TIMESTAMP DSU_501560 20/03/2017 14:53	TSO_SONI	2017-03-29	2017-03-30	Settlement

**Table 17 - 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 were no Market Application defects found in March 2017.

Issue No.	Description	Effect	Fixed from	Re-Pricing	Resettlement	Status
-	-	-	-	-	-	-

**Table 18 - List of System Errors and Failures**

## 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
01/03/2017	11:00	09:55	13:00	11:52	09:30	08:29	16:00	14:40	17:00	14:22
02/03/2017	11:00	09:51	13:00	11:50	09:30	08:34	16:00	14:46	17:00	14:43
03/03/2017	11:00	09:53	13:00	11:52	09:30	08:50	16:00	14:29	17:00	14:47
04/03/2017	11:00	10:05	13:00	11:52	09:30	08:19	16:00	14:22	17:00	14:49
05/03/2017	11:00	09:50	13:00	11:55	09:30	08:26	16:00	14:43	17:00	14:35
06/03/2017	11:00	10:02	13:00	11:49	09:30	08:31	16:00	14:46	17:00	14:20
07/03/2017	11:00	09:52	13:00	11:54	09:30	08:23	16:00	14:48	17:00	14:29
08/03/2017	11:00	09:53	13:00	11:51	09:30	08:31	16:00	14:38	17:00	14:33
09/03/2017	11:00	09:53	13:00	12:04	09:30	08:20	16:00	14:25	17:00	14:52
10/03/2017	11:00	09:54	13:00	11:54	09:30	08:23	16:00	14:33	17:00	14:33
11/03/2017	11:00	09:58	13:00	11:55	09:30	08:33	16:00	14:40	17:00	14:32
12/03/2017	11:00	10:08	13:00	11:49	09:30	08:19	16:00	14:53	17:00	14:21
13/03/2017	11:00	09:54	13:00	11:56	09:30	08:26	16:00	14:35	17:00	14:36
14/03/2017	11:00	09:58	13:00	11:51	09:30	08:34	16:00	14:36	17:00	14:36
15/03/2017	11:00	10:00	13:00	11:53	09:30	08:33	16:00	14:22	17:00	15:07
16/03/2017	11:00	10:04	13:00	12:03	09:30	08:33	16:00	14:40	17:00	14:54
17/03/2017	11:00	09:56	13:00	11:51	09:30	08:18	16:00	14:34	17:00	14:32
18/03/2017	11:00	09:53	13:00	12:12	09:30	08:33	16:00	14:59	17:00	15:16
19/03/2017	11:00	10:07	13:00	11:50	09:30	08:37	16:00	14:58	17:00	14:54
20/03/2017	11:00	10:05	13:00	11:47	09:30	08:49	16:00	14:36	17:00	14:20
21/03/2017	11:00	10:01	13:00	11:53	09:30	08:54	16:00	15:23	17:00	14:48
22/03/2017	11:00	09:51	13:00	11:52	09:30	08:35	16:00	15:02	17:00	14:35
23/03/2017	11:00	09:57	13:00	11:56	09:30	08:32	16:00	14:25	17:00	14:25
24/03/2017	11:00	09:54	13:00	11:52	09:30	09:01	16:00	14:34	17:00	14:58
25/03/2017	11:00	10:09	13:00	11:51	09:30	08:30	16:00	14:31	17:00	14:16
26/03/2017	11:00	09:58	13:00	12:00	09:30	08:30	16:00	14:29	17:00	14:26
27/03/2017	11:00	10:00	13:00	11:54	09:30	08:23	16:00	15:10	17:00	14:34
28/03/2017	11:00	09:52	13:00	11:55	09:30	08:36	16:00	14:19	17:00	14:26
29/03/2017	11:00	09:54	13:00	11:53	09:30	08:21	16:00	14:29	17:00	14:20
30/03/2017	11:00	09:53	13:00	11:54	09:30	08:12	16:00	14:36	17:00	14:33
31/03/2017	11:00	09:46	13:00	11:43	09:30	08:17	16:00	14:25	17:00	14:40

Table 19 – MSP Runs

## Market Operator Monthly Report

### Settlement Runs

Indicative				Initial			
Trading	Actual	Target	Actual	Trading	Actual	Target	Actual
Day	Date	Time	Time	Day	Date	Time	Time
01/03/2017	02/03/2017	17:00	16:18	01/03/2017	08/03/2017	12:00	07:41
02/03/2017	03/03/2017	17:00	16:07	02/03/2017	09/03/2017	12:00	08:06
03/03/2017	06/03/2017	17:00	11:23	03/03/2017	10/03/2017	12:00	11:09
04/03/2017	06/03/2017	17:00	13:21	04/03/2017	10/03/2017	12:00	12:04
05/03/2017	06/03/2017	17:00	16:09	05/03/2017	10/03/2017	12:00	08:51
06/03/2017	07/03/2017	17:00	16:02	06/03/2017	13/03/2017	12:00	10:00
07/03/2017	08/03/2017	17:00	16:15	07/03/2017	14/03/2017	12:00	10:15
08/03/2017	09/03/2017	17:00	15:41	08/03/2017	15/03/2017	12:00	08:48
09/03/2017	10/03/2017	17:00	16:21	09/03/2017	16/03/2017	12:00	08:28
10/03/2017	13/03/2017	17:00	11:22	10/03/2017	16/03/2017	12:00	11:28
11/03/2017	13/03/2017	17:00	12:22	11/03/2017	16/03/2017	12:00	12:21
12/03/2017	13/03/2017	17:00	16:06	12/03/2017	20/03/2017	12:00	11:21
13/03/2017	14/03/2017	17:00	16:19	13/03/2017	20/03/2017	12:00	08:54
14/03/2017	15/03/2017	17:00	16:13	14/03/2017	21/03/2017	12:00	09:20
15/03/2017	16/03/2017	17:00	15:44	15/03/2017	22/03/2017	12:00	16:59
16/03/2017	20/03/2017	17:00	11:34	16/03/2017	23/03/2017	12:00	08:08
17/03/2017	20/03/2017	17:00	13:51	17/03/2017	24/03/2017	12:00	11:12
18/03/2017	20/03/2017	17:00	15:26	18/03/2017	24/03/2017	12:00	12:04
19/03/2017	20/03/2017	17:00	16:32	19/03/2017	24/03/2017	12:00	07:51
20/03/2017	21/03/2017	17:00	16:01	20/03/2017	27/03/2017	12:00	09:14
21/03/2017	22/03/2017	17:00	16:27	21/03/2017	28/03/2017	12:00	09:42
22/03/2017	23/03/2017	17:00	16:28	22/03/2017	29/03/2017	12:00	07:47
23/03/2017	24/03/2017	17:00	15:23	23/03/2017	30/03/2017	12:00	08:10
24/03/2017	27/03/2017	17:00	11:34	24/03/2017	31/03/2017	12:00	11:50
25/03/2017	27/03/2017	17:00	13:06	25/03/2017	31/03/2017	12:00	13:38
26/03/2017	27/03/2017	17:00	16:36	26/03/2017	31/03/2017	12:00	08:12
27/03/2017	28/03/2017	17:00	16:24	27/03/2017	03/04/2017	12:00	09:02
28/03/2017	29/03/2017	17:00	16:04	28/03/2017	04/04/2017	12:00	09:14
29/03/2017	30/03/2017	17:00	16:30	29/03/2017	05/04/2017	12:00	08:49
30/03/2017	31/03/2017	17:00	15:55	30/03/2017	06/04/2017	12:00	08:19
31/03/2017	03/04/2017	17:00	12:05	31/03/2017	07/04/2017	12:00	11:13

Table 20 – Settlement Runs

## 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
01/10/2016	€588,508.40	-€8,918.87	-€171,588.78
02/10/2016	€695,496.65	-€14,324.68	-€158,400.40
03/10/2016	€851,843.59	€2,513.28	-€172,492.23
04/10/2016	€1,458,136.05	-€34,126.64	-€183,940.10
05/10/2016	€1,034,632.58	€28,642.11	-€182,957.87
06/10/2016	€501,418.38	-€23,710.92	-€183,057.63
07/10/2016	€768,598.93	-€12,609.20	-€187,080.24
08/10/2016	€764,269.17	€15,163.35	-€176,626.63
09/10/2016	€694,695.21	€184.58	-€170,378.25
10/10/2016	€528,141.01	€25,875.53	-€191,875.15
11/10/2016	€284,246.21	-€13,606.74	-€187,454.92
12/10/2016	€447,514.99	-€30,842.25	-€192,961.10
13/10/2016	€151,134.33	-€13,355.34	-€195,221.64
14/10/2016	€430,183.76	-€22,566.32	-€191,485.94
15/10/2016	€300,656.23	-€29,668.35	-€175,296.27
16/10/2016	€468,094.80	-€16,032.98	-€158,815.86
17/10/2016	€438,579.40	-€37,843.71	-€183,515.17
18/10/2016	€342,696.70	€3,554.83	-€190,005.81
19/10/2016	€146,197.27	-€20,059.24	-€202,058.88
20/10/2016	€258,466.43	-€48,963.68	-€204,159.57
21/10/2016	€249,643.69	-€14,592.68	-€201,002.64
22/10/2016	€530,986.82	-€15,298.38	-€177,531.31
23/10/2016	€561,694.17	-€26,065.05	-€164,730.74
24/10/2016	€401,362.80	€4,719.88	-€196,833.81
25/10/2016	€391,214.46	-€62,462.63	-€206,345.53
26/10/2016	€287,150.00	-€33,111.56	-€199,012.87
27/10/2016	€218,712.06	-€10,630.05	-€193,358.45
28/10/2016	€292,296.47	-€28,006.72	-€199,180.70
29/10/2016	€307,630.66	-€17,377.78	-€178,068.51
30/10/2016	€227,610.21	-€16,193.66	-€177,139.60
31/10/2016	€252,091.74	-€21,699.82	-€178,099.86
01/11/2016	€293,474.45	-€67,609.76	-€192,085.13
02/11/2016	€254,535.38	-€13,376.75	-€206,892.91
03/11/2016	€376,079.69	-€28,308.61	-€204,403.02
04/11/2016	€701,523.69	-€41,594.81	-€198,063.82
05/11/2016	€387,249.31	-€5,984.13	-€175,157.62
06/11/2016	€514,425.63	-€11,534.84	-€169,837.55
07/11/2016	€1,127,011.52	€6,794.54	-€209,253.46
08/11/2016	€1,021,388.24	-€39,628.91	-€212,137.87
09/11/2016	€921,181.60	-€27,519.93	-€209,544.14

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10/11/2016	€310,229.18	-€55,721.01	-€206,766.44
11/11/2016	€506,203.82	-€43,946.39	-€204,980.25
12/11/2016	€414,326.65	-€19,769.46	-€187,189.37
13/11/2016	€257,734.16	-€18,328.87	-€179,141.49
14/11/2016	€368,139.79	-€5,955.88	-€198,410.11
15/11/2016	€528,083.74	-€35,284.03	-€203,149.83
16/11/2016	€411,276.23	-€38,193.18	-€197,590.61
17/11/2016	€788,278.79	-€49,085.05	-€208,289.70
18/11/2016	€358,565.21	-€18,943.55	-€211,003.95
19/11/2016	€564,213.97	-€17,743.72	-€198,319.19
20/11/2016	€675,744.97	-€21,901.30	-€194,169.93
21/11/2016	€779,665.98	-€35,682.18	-€214,687.03
22/11/2016	€656,315.79	-€12,939.39	-€212,700.96
23/11/2016	€344,337.98	-€19,727.41	-€225,407.06
24/11/2016	€282,546.78	-€16,647.67	-€224,027.98
25/11/2016	€252,998.24	-€9,616.94	-€221,510.91
26/11/2016	€376,722.73	-€5,239.17	-€203,512.05
27/11/2016	€432,458.81	€4,094.90	-€191,553.33
28/11/2016	€528,694.39	-€19,113.09	-€219,070.96
29/11/2016	€470,092.65	-€25,198.34	-€224,612.99
30/11/2016	€415,589.69	-€19,310.35	-€225,474.43
01/12/2016	€408,948.37	-€12,732.88	-€230,421.75
02/12/2016	€497,830.59	-€60,142.90	-€225,150.09
03/12/2016	€610,505.74	-€11,456.99	-€202,187.74
04/12/2016	€404,764.82	-€2,491.96	-€186,982.40
05/12/2016	€778,207.55	-€30,306.36	-€220,530.59
06/12/2016	€471,985.61	-€8,839.10	-€210,873.61
07/12/2016	€435,371.82	-€17,466.17	-€204,878.32
08/12/2016	€513,133.29	-€32,325.91	-€212,111.27
09/12/2016	€440,687.82	-€18,965.70	-€200,154.69
10/12/2016	€508,736.96	-€38,877.82	-€190,400.53
11/12/2016	€403,593.17	-€15,511.77	-€186,371.67
12/12/2016	€273,272.43	-€10,779.62	-€215,955.84
13/12/2016	€310,257.18	-€27,025.44	-€209,918.81
14/12/2016	€504,679.48	-€137,587.45	-€217,740.30
15/12/2016	€373,881.10	-€1,369.73	-€211,907.78
16/12/2016	€289,939.72	€16,965.47	-€217,179.12
17/12/2016	€518,752.27	-€24,932.22	-€196,743.72
18/12/2016	€434,322.58	€7,475.92	-€186,979.77
19/12/2016	€305,425.08	€112,377.94	-€219,034.39
20/12/2016	€513,521.68	€340,981.84	-€219,720.76
21/12/2016	€387,903.90	€105,050.72	-€212,157.72
22/12/2016	€307,063.91	€2,260.95	-€207,229.89
23/12/2016	€801,538.29	€1,250.56	-€192,113.57
24/12/2016	€644,176.34	-€3,819.60	-€179,510.27
25/12/2016	€646,312.60	€6,531.08	-€160,276.79
26/12/2016	€491,051.80	-€10,272.32	-€165,567.66
27/12/2016	€280,684.38	-€21,663.23	-€176,704.18
28/12/2016	€531,636.61	-€22,317.02	-€186,871.14
29/12/2016	€812,015.00	-€33,779.04	-€189,186.96
30/12/2016	€326,483.33	-€2,252.78	-€182,059.26
31/12/2016	€383,369.61	-€18,924.22	-€174,413.93
01/01/2017	€642,480.06	€4,190.68	-€162,708.47
02/01/2017	€403,989.69	-€18,279.05	-€186,699.84

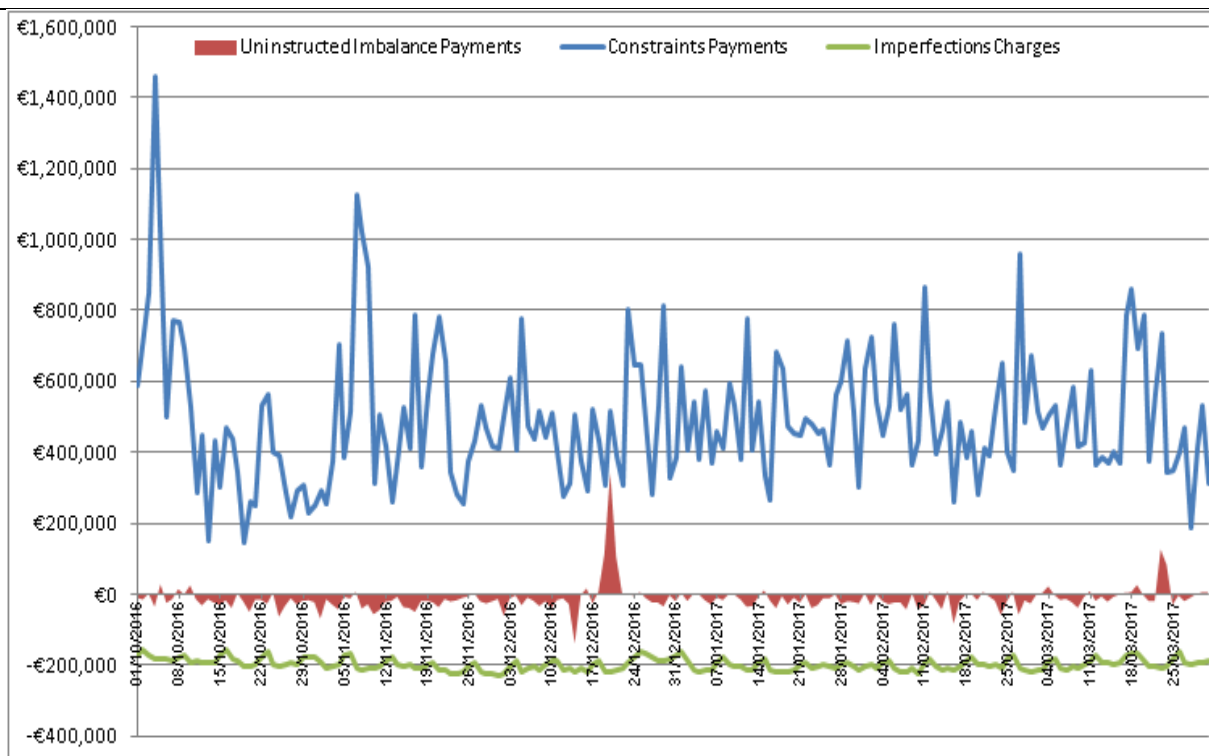
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03/01/2017	€544,065.75	€450.01	-€213,428.71
04/01/2017	€378,989.35	-€245.02	-€222,072.82
05/01/2017	€570,595.16	-€16,510.58	-€215,818.00
06/01/2017	€369,135.05	-€27,802.20	-€212,817.23
07/01/2017	€456,293.27	-€7,692.27	-€195,534.75
08/01/2017	€412,565.79	-€15,885.29	-€180,560.11
09/01/2017	€596,126.10	€376.15	-€199,554.21
10/01/2017	€530,653.17	-€783.35	-€205,034.27
11/01/2017	€379,109.64	-€13,915.08	-€205,086.09
12/01/2017	€777,260.46	-€34,139.81	-€215,818.37
13/01/2017	€406,625.56	-€32,596.55	-€215,250.58
14/01/2017	€542,267.00	-€6,541.97	-€195,260.21
15/01/2017	€333,140.52	€11,346.18	-€183,170.01
16/01/2017	€265,139.44	-€17,936.86	-€214,427.41
17/01/2017	€681,532.84	-€38,676.33	-€217,889.69
18/01/2017	€633,677.63	-€4,594.27	-€217,296.92
19/01/2017	€474,218.31	-€28,143.30	-€217,707.49
20/01/2017	€455,026.72	-€8,997.89	-€213,314.48
21/01/2017	€446,113.73	-€23,461.18	-€198,302.55
22/01/2017	€495,524.86	€647.78	-€195,411.30
23/01/2017	€481,594.38	-€37,478.34	-€211,313.82
24/01/2017	€454,069.13	-€30,263.16	-€206,560.13
25/01/2017	€465,854.86	-€9,904.17	-€198,111.00
26/01/2017	€366,066.48	-€10,913.28	-€204,226.65
27/01/2017	€561,968.06	€155.74	-€210,803.46
28/01/2017	€599,372.40	-€27,690.86	-€197,053.46
29/01/2017	€716,120.96	-€19,340.95	-€191,285.82
30/01/2017	€509,039.33	-€20,766.08	-€205,698.20
31/01/2017	€303,765.41	-€25,213.21	-€216,662.79
01/02/2017	€634,300.76	€3,707.16	-€205,917.59
02/02/2017	€723,018.04	-€29,474.42	-€200,079.34
03/02/2017	€539,333.96	€249.40	-€209,309.30
04/02/2017	€450,085.63	-€18,777.31	-€193,985.39
05/02/2017	€529,713.90	-€27,276.23	-€189,870.64
06/02/2017	€761,650.64	-€22,359.79	-€209,209.17
07/02/2017	€521,865.59	-€22,057.63	-€220,478.27
08/02/2017	€562,062.58	-€42,208.28	-€217,356.70
09/02/2017	€363,268.69	€2,455.88	-€210,936.28
10/02/2017	€434,404.44	-€41,675.37	-€222,802.06
11/02/2017	€863,406.07	-€30,879.36	-€195,490.48
12/02/2017	€574,278.89	€8,182.35	-€182,327.90
13/02/2017	€396,145.08	-€15,998.44	-€203,389.70
14/02/2017	€463,227.89	-€41,699.89	-€213,276.79
15/02/2017	€539,925.78	€9,449.11	-€207,882.80
16/02/2017	€261,460.14	-€82,217.98	-€212,648.12
17/02/2017	€483,449.13	-€19,752.27	-€206,094.31
18/02/2017	€387,687.60	-€1,478.64	-€186,257.51
19/02/2017	€460,500.74	€1,577.29	-€178,309.47
20/02/2017	€283,296.95	-€15,711.33	-€197,257.59
21/02/2017	€413,708.47	€7,235.25	-€200,752.79
22/02/2017	€390,469.08	-€5,426.14	-€204,388.39
23/02/2017	€531,561.26	-€17,618.94	-€200,567.00
24/02/2017	€651,357.16	-€58,112.53	-€206,971.04
25/02/2017	€398,723.07	-€19,129.56	-€182,693.56

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26/02/2017	€349,830.38	€7,836.58	-€172,442.67
27/02/2017	€960,964.35	-€56,905.07	-€211,232.45
28/02/2017	€481,927.25	-€16,914.43	-€212,021.99
01/03/2017	€673,185.77	-€25,305.00	-€218,038.48
02/03/2017	€517,773.73	-€358.03	-€216,066.14
03/03/2017	€468,028.41	€4,716.27	-€213,259.94
04/03/2017	€504,896.60	€22,975.43	-€189,757.11
05/03/2017	€532,837.64	-€576.96	-€181,319.04
06/03/2017	€362,831.11	-€15,209.00	-€211,089.19
07/03/2017	€479,790.12	-€12,388.23	-€214,449.83
08/03/2017	€585,520.61	-€22,162.37	-€206,162.80
09/03/2017	€417,069.65	-€37,424.69	-€207,098.98
10/03/2017	€428,585.73	-€8,181.62	-€198,769.26
11/03/2017	€628,235.64	€9,074.82	-€187,471.23
12/03/2017	€362,381.50	-€17,697.26	-€171,791.85
13/03/2017	€382,910.71	-€5,394.44	-€195,769.94
14/03/2017	€368,249.97	-€20,333.79	-€195,110.87
15/03/2017	€400,368.76	-€7,098.59	-€200,286.01
16/03/2017	€368,997.77	€40.13	-€192,470.84
17/03/2017	€788,764.44	€4,995.75	-€170,467.28
18/03/2017	€858,711.38	€5,951.05	-€168,169.24
19/03/2017	€690,958.15	€26,859.01	-€165,432.23
20/03/2017	€788,579.13	-€401.27	-€187,610.95
21/03/2017	€373,189.27	-€19,238.40	-€206,252.62
22/03/2017	€566,724.09	-€18,341.64	-€203,562.35
23/03/2017	€734,388.81	€126,951.80	-€207,034.56
24/03/2017	€343,675.44	€83,357.09	-€205,184.06
25/03/2017	€349,479.28	-€29,311.83	-€185,128.31
26/03/2017	€402,796.65	-€2,990.08	-€160,570.11
27/03/2017	€470,620.00	-€18,723.44	-€193,753.09
28/03/2017	€187,503.59	-€9,490.57	-€200,128.74
29/03/2017	€408,706.82	€1,608.48	-€196,245.25
30/03/2017	€530,909.13	€5,976.31	-€192,375.89
31/03/2017	€311,661.45	€6,124.07	-€190,818.13

**Table 21 - 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



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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
26	€93,228.84
27	€120,087.37
28	€111,064.38
29	€87,089.42
30	€120,954.18
31	€48,552.68
32	€83,561.36
33	€100,430.47
34	€314,113.57
35	€45,208.88
36	€60,068.39
37	€9,584.60
38	€13,717.29
39	€9,584.60
40	€13,717.29
41	€114,729.43
42	€3,055.91
43	€71,345.79
44	€40,053.00
45	€12,438.62
46	€50,083.01
47	€26,750.89
48	€6,581.31
49	€49,551.52
50	€48,136.44
51	€6.21
52	€46,822.40
1	€18,136.47
2	€46,413.29
3	€63,861.94
4	€8,517.16
5	€89,918.37
6	€55,994.40
7	€130,015.55
8	€79,630.70
9	€73,568.20
10	€89,624.86
11	€42,145.00
12	€39,455.39

**Table 22 - Make Whole Payments**

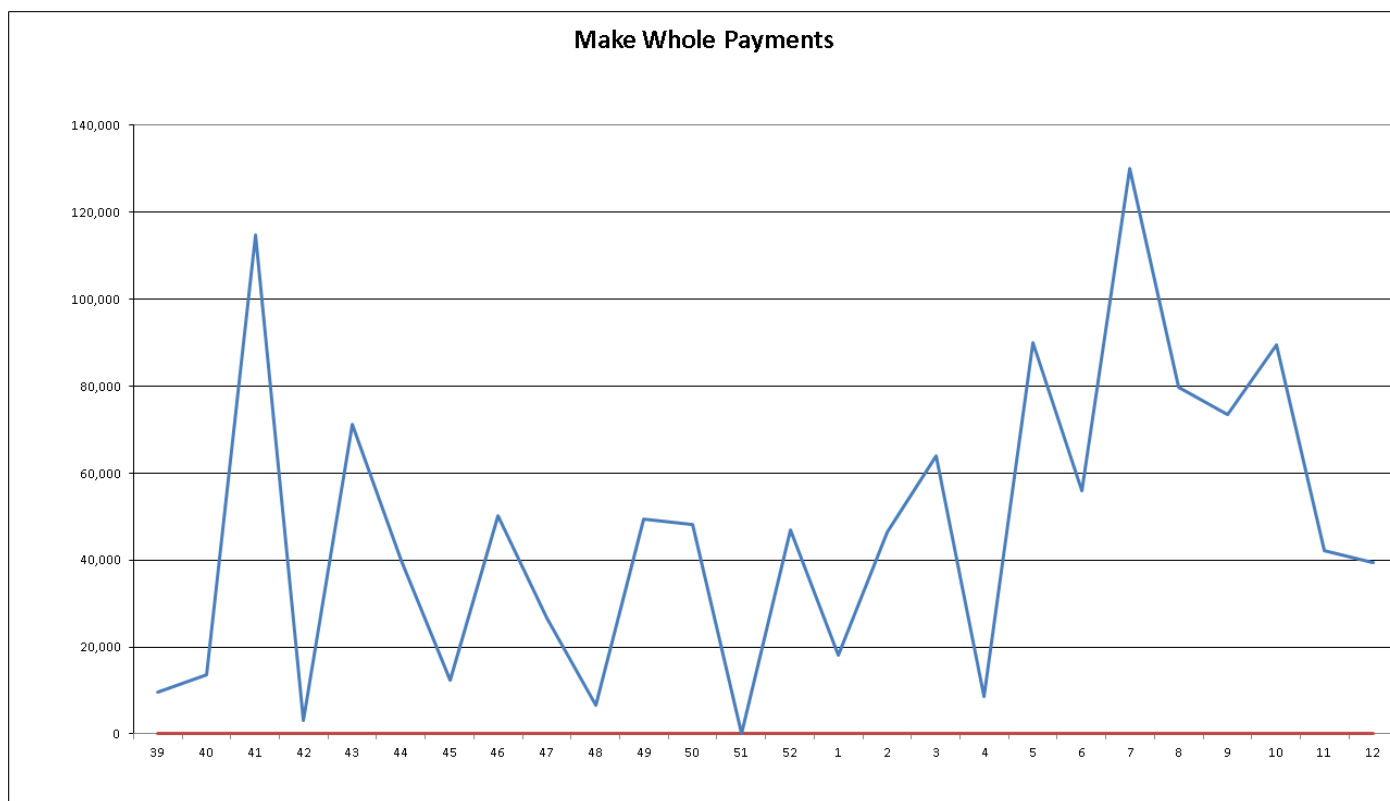


Figure 25 - Make Whole Payments

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
26	€0.00
27	-€789.58
28	-€134,653.05
29	-€87,783.63
30	-€175,504.34
31	-€2,364.71
32	€0.00
33	-€59,190.05
34	€0.00
35	€0.00
36	-€5,559.69
37	-€65,398.63
38	€0.00
39	-€65,398.63
40	€0.00
41	€0.00
42	-€6,444.66
43	-32739.69
44	106,406.47
45	-177,289.91
46	€0.00
47	€0.00
48	€0.00
49	€0.00
50	-€86,316.91
51	-€39,716.49
52	€0.00
1	€0.00
2	€0.00
3	-€12,145.26
4	€0.00
5	-€790.05
6	-€100,998.74
7	-€65,344.97
8	€0.00
9	€0.00
10	€0.00
11	-€8,504.92
12	-€33,115.55

Table 23 - Testing Charges

### Testing Charges

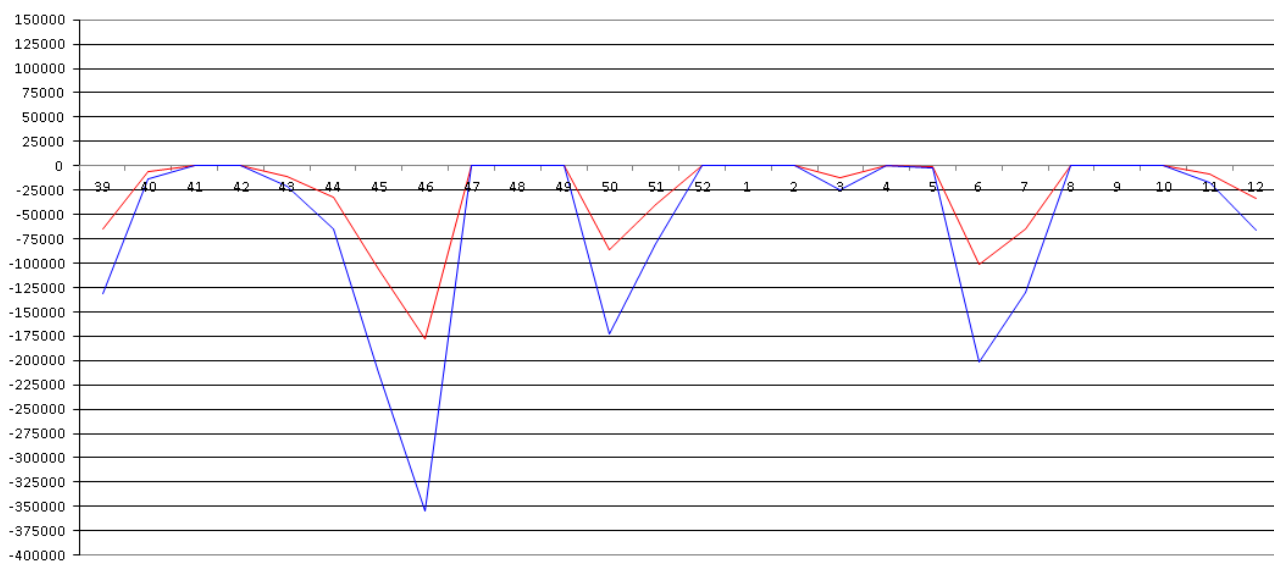


Figure 26 - Testing Charges

**Appendix F: Default Commercial Offer Data Used**

The table below lists for each unit the number of times in operations during February 2017 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	31			31
PT_400090	DSU_401610	30			30
PT_400124	DSU_401880	23			23
PT_400090	DSU_401620	30			30
PT_400116	DSU_401400	31			31
PT_400116	DSU_401870	18			18
PT_400106	DSU_401330	34			34
PT_400090	DSU_401270	30			30
PT_500108	DSU_501560	2			2
PT_400133	DSU_401530	10			10
PT_400124	DSU_401490	25			25
PT_400144	DSU_401660			31	31
PT_400124	DSU_401490			6	6
PT_400090	DSU_401620			1	1
PT_400090	DSU_401850			31	31
PT_400090	DSU_401800			31	31
PT_500078	DSU_501330			31	31
PT_500064	DSU_501200			31	31
PT_500099	DSU_501460			31	31
PT_400090	DSU_401270			1	1
PT_400090	DSU_401610			1	1
PT_400111	DSU_401390			31	31
PT_500067	DSU_501380			31	31
PT_400116	DSU_401870			13	13
PT_500098	DSU_501450			31	31
PT_400124	DSU_401880			8	8
PT_500108	DSU_501560			30	30
PT_400133	DSU_401530			21	21
PT_400024	GU_400120	31			31
PT_400024	GU_400121	31			31
PT_400030	GU_400180	34			34
PT_400030	GU_400181	37			37
PT_400030	GU_400182	35			35
PT_400030	GU_400183	35			35
PT_400030	GU_400200	38			38
PT_400030	GU_400201	36			36
PT_400030	GU_400202	40			40
PT_400030	GU_400203	41			41
PT_400030	GU_400210	34			34
PT_400030	GU_400211	35			35
PT_400030	GU_400220	35			35
PT_400030	GU_400221	35			35
PT_400030	GU_400240	34			34
PT_400030	GU_400250	35			35

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PT_400030	GU_400251	34		34
PT_400030	GU_400252	35		35
PT_400030	GU_400260	35		35
PT_400030	GU_400270	36		36
PT_400030	GU_400271	37		37
PT_400030	GU_400272	35		35
PT_400030	GU_400280	34		34
PT_400030	GU_400281	35		35
PT_400030	GU_400290	34		34
PT_400030	GU_400300	34		34
PT_400030	GU_400311	34		34
PT_400030	GU_400324	34		34
PT_400030	GU_400325	34		34
PT_400030	GU_400360	34		34
PT_400030	GU_400361	35		35
PT_400030	GU_400362	35		35
PT_400030	GU_400363	35		35
PT_400030	GU_400370	34		34
PT_400030	GU_400850	35		35
PT_400032	GU_400430	30		30
PT_400034	GU_400940	31		31
PT_400034	GU_401090	31		31
PT_400034	GU_401440	31		31
PT_400034	GU_401680	30		30
PT_400035	GU_400480	50		50
PT_400037	GU_400500	31		31
PT_400041	GU_400530	80		80
PT_400044	GU_400540	50		50
PT_400050	GU_401920	11		11
PT_400050	GU_401930	3		3
PT_400054	GU_400620	31		31
PT_400055	GU_400630	31		31
PT_400064	GU_400750	31		31
PT_400064	GU_400751	31		31
PT_400064	GU_400752	31		31
PT_400064	GU_400753	31		31
PT_400064	GU_400762	31		31
PT_400064	GU_400770	31		31
PT_400064	GU_400771	31		31
PT_400064	GU_400780	31		31
PT_400064	GU_400781	31		31
PT_400075	GU_400930	43		43
PT_400077	GU_400950	31		31
PT_400078	GU_401010	32		32
PT_400078	GU_401011	32		32
PT_400172	GU_401860	32		32
PT_400197	GU_402020	2		2
PT_500024	GU_500040	35		35
PT_500024	GU_500041	31		31
PT_500027	GU_500130	85		85
PT_500027	GU_500131	84		84
PT_500027	GU_500140	87		87

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PT_500034	GU_501350	31			31
PT_500040	GU_500281	62			62
PT_500040	GU_500282	62			62
PT_500040	GU_500283	31			31
PT_500040	GU_500284	31			31
PT_500045	GU_500820	31			31
PT_500045	GU_500821	31			31
PT_500045	GU_500822	31			31
PT_500045	GU_500823	31			31
PT_500045	GU_500824	31			31
PT_500045	GU_500825	31			31
PT_500048	GU_500904	52			52
PT_500050	GU_501040	30			30
PT_500050	GU_501050	31			31
PT_500050	GU_501150	31			31
PT_500050	GU_501190	30			30
PT_500053	GU_501130	31			31
PT_500066	GU_501210	31			31
PT_500073	GU_501230	7			7
PT_400021	GU_400021			31	31
PT_400021	GU_400050			31	31
PT_400021	GU_400060			31	31
PT_400021	GU_400070			31	31
PT_400021	GU_400080			31	31
PT_400021	GU_400591			31	31
PT_400021	GU_400600			31	31
PT_400021	GU_400910			31	31
PT_400021	GU_400920			31	31
PT_400021	GU_401080			31	31
PT_400021	GU_401380			31	31
PT_400021	GU_401640			31	31
PT_400025	GU_400130			31	31
PT_400032	GU_400430			1	1
PT_400034	GU_401680			1	1
PT_400038	GU_400550			31	31
PT_400050	GU_400650			31	31
PT_400050	GU_400660			31	31
PT_400050	GU_401000			31	31
PT_400050	GU_401060			31	31
PT_400050	GU_401150			31	31
PT_400050	GU_401240			31	31
PT_400050	GU_401250			31	31
PT_400050	GU_401280			31	31
PT_400050	GU_401290			31	31
PT_400050	GU_401360			31	31
PT_400050	GU_401790			31	31
PT_400062	GU_400730			31	31
PT_400062	GU_400731			31	31
PT_400062	GU_400840			31	31
PT_400066	GU_401540			31	31
PT_400066	GU_401820			31	31
PT_400082	GU_401100			31	31

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PT_400087	GU_401230			31	31
PT_400148	GU_401690			31	31
PT_400150	GU_401700			31	31
PT_400151	GU_401770			31	31
PT_400151	GU_401780			31	31
PT_400152	GU_401710			31	31
PT_400152	GU_401720			31	31
PT_400152	GU_401730			31	31
PT_400152	GU_401740			31	31
PT_400152	GU_401750			31	31
PT_400152	GU_401760			31	31
PT_400162	GU_401830			31	31
PT_400197	GU_402020			30	30
PT_500021	GU_500010			31	31
PT_500021	GU_500740			31	31
PT_500021	GU_501160			31	31
PT_500032	GU_500211			31	31
PT_500032	GU_501120			31	31
PT_500032	GU_501280			31	31
PT_500032	GU_501290			31	31
PT_500032	GU_501300			31	31
PT_500032	GU_501400			31	31
PT_500039	GU_500270			31	31
PT_500044	GU_500720			31	31
PT_500047	GU_500790			31	31
PT_500048	GU_500904			1	1
PT_500050	GU_501040			1	1
PT_500050	GU_501190			1	1
PT_500061	GU_501170			31	31
PT_500062	GU_501180			31	31
PT_500073	GU_501230			24	24
PT_500074	GU_501250			31	31
PT_500089	GU_501360			31	31
PT_500083	I_NIMOYLE	78			78
PT_400021	I_ROIEWIC	30			30
PT_500024	I_NIMOYLE	32			32
PT_500075	I_NIMOYLE	81			81
PT_500021	I_NIMOYLE	30			30
PT_400163	I_ROIEWIC	75			75
PT_500069	I_NIMOYLE	92			92
PT_400157	I_ROIEWIC	25			25
PT_500031	I_NIMOYLE	31			31
PT_500037	I_NIMOYLE	32			32
PT_400096	I_ROIEWIC	75			75
PT_400115	I_ROIEWIC	31			31
PT_400037	I_ROIEWIC	38			38
PT_400136	I_ROIEWIC	68			68
PT_400168	I_ROIEWIC	52			52
PT_500081	I_NIMOYLE	31			31
PT_400170	I_ROIEWIC	43			43
PT_400108	I_ROIEWIC	48			48
PT_500070	I_NIMOYLE	62			62



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PT_400164	I_ROIEWIC	28			28
PT_400171	I_ROIEWIC	35			35
PT_500085	I_NIMOYLE	31			31
PT_500092	I_NIMOYLE	14			14
PT_500088	I_NIMOYLE	41			41
PT_400030	I_ROIEWIC	32			32
PT_400099	I_ROIEWIC	1			1
<b>Total</b>		<b>4484</b>	<b>0</b>	<b>2248</b>	<b>6732</b>
<b>Percentage</b>		<b>66.61%</b>	<b>0.00%</b>	<b>33.39%</b>	<b>100.00%</b>

Table 24 – Commercial Offer Data Used

### 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
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	£66,590,904.20	£25,999,739.73	£896,638.56	£530,904.65	£113,905.95	£3,188.17	£40,679.29	£13,853.63	£638.11	£0.00	£0.00	£0.00	94,190,452.29
	NI	£27,088,752.15	£8,001,218.02	£232,052.21	£72,287.75	£14,630.37	£409.39	£46,677.74	£14,276.96	£577.22	£0.00	£0.00	£0.00	35,470,881.81
Jul-16	ROI	£57,935,825.17	£17,094,463.29	£1,471,499.46	£416,561.74	£228,953.88	£5,030.22	£478,630.27	£28,077.61	£475.98	£105,568.09	£0.00	£0.00	77,765,085.71
	NI	£21,413,999.73	£4,706,369.93	£356,309.07	£111,802.15	£87,327.04	£1,297.05	£47,648.29	£20,761.72	£299.44	£20,454.46	£0.00	£0.00	26,766,268.88
Aug-16	ROI	£53,990,805.17	£17,305,691.08	£1,082,679.75	£206,642.80	£45,575.08	£1,900.74	£45,391.41	£12,311.23	£322.89	£0.00	£0.00	£0.00	72,691,320.15
	NI	£13,463,141.18	£3,676,029.87	£272,060.88	£22,683.94	£6,912.45	£294.54	£2,906.60	£2,273.87	£18.25	£0.00	£0.00	£0.00	17,446,321.58
Sep-16	ROI	£60,365,808.65	£17,305,691.08	£1,381,850.46	£313,754.10	£83,238.29	£3,816.76	£47,911.41	£8,968.97	£354.53	£0.00	£2,861.23	£0.00	79,514,255.48
	NI	£17,693,943.87	£3,676,029.87	£349,566.95	£32,666.66	£7,720.07	£412.92	£4,847.16	£1,188.42	£33.50	£0.00	£532.20	£0.00	21,766,941.62
Oct-16	ROI	£64,937,764.02	£20,215,673.79	£813,429.31	£334,853.66	£96,213.40	£3,776.71	£47,334.32	£14,216.75	£359.61	£0.00	£0.00	£0.00	86,463,621.57
	NI	£25,790,620.36	£4,935,559.58	£220,252.61	£81,663.62	£17,690.00	£978.05	£11,878.35	£2,104.44	£85.45	£0.00	£0.00	£0.00	31,000,832.46
Nov-16	ROI	£79,083,041.86	£26,426,844.27	£746,953.39	£256,783.77	£97,150.99	£3,451.80	£77,643.02	£35,169.15	£618.36	£325,964.05	£0.00	£0.00	107,053,620.66
	NI	£30,128,694.39	£6,448,578.49	£206,907.51	£173,676.38	£60,271.90	£2,148.44	£42,708.63	£23,836.40	£422.17	£834.57	£0.00	£0.00	37,088,078.88
Dec-16	ROI	£91,892,862.67	£27,754,182.60	£986,254.46	£431,619.50	£110,272.39	£6,055.55	£98,070.16	£32,223.23	£1,076.34	£505,299.63	£0.00	£0.00	121,817,916.53
	NI	£33,787,693.11	£6,963,652.60	£260,893.62	£238,761.61	£53,464.74	£2,658.52	£27,575.46	£12,836.78	£304.21	£775.23	£0.00	£0.00	41,348,615.88
Jan-17	ROI	£71,678,885.81	£27,768,345.87	£756,389.76	£157,498.92	£96,027.36	£2,212.62	£63,104.42	£38,920.56	£719.17	£0.00	£0.00	£0.00	100,562,104.49
	NI	£24,623,245.15	£6,418,062.31	£203,136.05	£105,611.21	£32,330.86	£1,272.30	£50,004.40	£12,723.31	£166.24	£0.00	£0.00	£0.00	31,446,551.83
Feb-17	ROI	£68,417,749.71	£27,553,403.45	£786,234.64	£143,736.91	£161,777.77	£822.69	£56,371.33	£22,936.28	£671.74	£0.00	£0.00	£0.00	97,143,704.52
	NI	£26,623,159.66	£8,331,870.29	£208,457.12	£84,873.05	£12,863.18	£479.73	£65,781.22	£10,545.70	£290.27	£0.00	£0.00	£0.00	35,338,320.22
Mar-17	ROI	£66,590,904.20	£25,999,739.73	£896,638.56	£530,904.65	£113,905.95	£3,188.17	£40,679.29	£13,853.63	£638.11	£0.00	£0.00	£0.00	94,190,452.29
	NI	£27,088,752.15	£8,001,218.02	£232,052.21	£72,287.75	£14,630.37	£409.39	£46,677.74	£14,276.96	£577.22	£0.00	£0.00	£0.00	35,470,881.81

Table 25 – Total Charges by Month

## Market Operator Monthly Report

Market		Energy	Capacity	M+4 Energy	M+4 Capacity	M+4 Market Operator	M+13 Energy	M+13 Capacity	M+13 Market Operator	Ad-hoc Energy	Ad-hoc Capacity	Ad-hoc Market Operator	Total
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	€74,265,958.01	€25,788,084.66	€532,016.14	€116,104.70	€3,141.82	€39,271.10	€13,708.08	€638.20	€0.00	€0.00	€0.00	€100,758,922.71
	NI	€27,816,469.38	€8,149,368.84	€76,024.05	€12,908.20	€406.88	€32,923.50	€14,410.91	€582.61	€0.00	€0.00	€0.00	€36,103,094.37
Jul-16	ROI	€53,840,170.28	€17,104,842.75	€415,112.37	€247,294.27	€5,027.94	€81,626.06	€27,799.39	€410.18	€208,424.28	€0.00	€0.00	€71,930,707.52
	NI	€20,282,958.20	€4,658,773.71	€111,871.11	€72,753.11	€1,297.25	€52,180.96	€20,969.56	€283.82	€27,450.94	€0.00	€0.00	€25,228,538.66
Aug-16	ROI	€47,925,137.80	€17,191,335.52	€205,102.11	€45,376.26	€1,900.83	€46,132.09	€12,064.34	€323.00	€0.00	€0.00	€0.00	€65,427,371.95
	NI	€13,904,887.07	€3,784,287.20	€26,983.41	€6,959.89	€294.55	€2,874.89	€2,261.38	€18.45	€0.00	€0.00	€0.00	€17,728,566.84
Sep-16	ROI	€57,725,046.88	€17,191,335.52	€316,785.33	€82,962.59	€4,207.29	€47,913.59	€8,957.12	€354.44	€0.00	€295.52	€0.00	€75,377,858.28
	NI	€15,918,157.70	€3,784,287.20	€32,790.23	€7,927.66	€416.78	€4,847.59	€1,185.01	€33.38	€0.00	€2,875.40	€0.00	€19,752,520.95
Oct-16	ROI	€69,972,953.07	€20,863,182.68	€338,586.57	€95,502.31	€4,333.45	€87,892.25	€14,736.13	€359.59	€0.00	€0.00	€0.00	€91,377,546.05
	NI	€25,586,214.40	€4,376,394.83	€77,787.35	€18,365.43	€977.30	€11,874.98	€1,647.25	€85.65	€0.00	€0.00	€0.00	€30,073,347.19
Nov-16	ROI	€83,487,123.38	€26,395,539.72	€257,668.44	€80,165.18	€3,418.32	€94,355.82	€39,305.46	€618.26	€301,690.28	€0.00	€72.04	€110,659,956.90
	NI	€31,306,401.54	€6,468,679.78	€173,737.66	€74,786.08	€2,148.38	€43,017.39	€20,271.13	€422.26	€832.79	€0.00	€0.00	€38,090,297.01
Dec-16	ROI	€95,266,581.65	€27,572,460.28	€447,482.30	€114,736.82	€6,025.28	€97,017.33	€32,733.66	€1,076.70	€496,715.14	€0.00	€1,512.38	€124,036,341.54
	NI	€35,841,749.90	€6,989,191.13	€197,537.73	€49,301.94	€2,219.49	€25,889.47	€12,309.63	€304.11	€87.68	€0.00	€0.00	€43,118,591.08
Jan-17	ROI	€75,626,838.95	€26,766,502.24	€158,454.05	€90,014.92	€2,220.87	€57,510.67	€43,928.85	€718.84	€0.00	€0.00	€0.00	€102,746,189.39
	NI	€25,518,177.37	€7,218,837.74	€105,159.01	€37,420.47	€1,201.46	€13,624.71	€8,406.28	€166.14	€0.00	€0.00	€0.00	€32,902,993.18
Feb-17	ROI	€72,035,479.90	€27,979,553.27	€155,130.29	€146,308.11	€822.54	€52,898.05	€23,287.43	€672.03	€0.00	€0.00	€0.00	€100,394,151.62
	NI	€27,677,996.42	€8,012,556.21	€84,963.22	€26,404.97	€479.76	€26,710.73	€10,373.95	€304.45	€0.00	€0.00	€0.00	€35,839,789.71
Mar-17	ROI	€74,265,958.01	€25,788,084.66	€532,016.14	€116,104.70	€3,141.82	€39,271.10	€13,708.08	€638.20	€0.00	€0.00	€0.00	€100,758,922.71
	NI	€27,816,469.38	€8,149,368.84	€76,024.05	€12,908.20	€406.88	€32,923.50	€14,410.91	€582.61	€0.00	€0.00	€0.00	€36,103,094.37

Table 26 - Total Payments by Month

## 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
01/07/2016	25	-€875,900.06	€0
08/07/2016	26	-€911,184.06	€0
15/07/2016	27	-€1,059,451.72	€0

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Date Of Invoice	Week No	SEM Balancing Costs	VAT Balancing Costs
22/07/2016	28	-€859,485.92	€0
29/07/2016	29	-€407,934.96	€0
05/08/2016	30	-€186,586.75	€0
12/08/2016	31	-€117,429.10	€0
19/08/2016	32	-€511,694.11	€0
26/08/2016	33	-€338,852.43	€0
02/09/2016	34	-€945,476.51	€0
09/09/2016	35	-€544,556.24	€0
16/09/2016	36	-€636,434.36	€0
23/09/2016	37	-€1,029,609.73	€0
30/09/2016	38	€15,000.54	€0
7/10/2016	39	€224,128.80	€0
14/10/2016	40	€4,791,387.54	€0
21/10/2016	41	€1,447,919.59	€0
28/10/2016	42	€968,340.03	€0
04/11/2016	43	€949,596.13	€0
11/11/2016	44	€965,954.97	€0
18/11/2016	45	€3,223,731.55	€0
25/11/2016	46	€1,696,852.72	€0
02/12/2016	47	€1,750,562.49	€0
09/11/2016	48	€1,701,789.33	€0
16/12/2016	49	€1,977,683.44	€0
23/12/2016	50	€1,018,317.35	€0
30/12/2016	51	€2,542,783.75	€0
06/01/2017	52	€2,133,795.88	€0
13/01/2017	1	€1,890,580.08	€0
20/01/2017	2	€2,124,557.97	€0
27/01/2017	3	€1,716,277.00	€0
03/02/2017	4	€1,885,524.05	€0
10/02/2017	5	€2,343,110.28	€0
17/02/2017	6	€2,386,227.52	€0
24/02/2017	7	€1,550,781.62	€0
03/03/2017	8	€1,651,490.95	€0
10/03/2017	9	€2,459,833.45	€0
17/03/2017	10	€1,941,642.14	€0
24/03/2017	11	€2,196,781.35	€0
31/03/2017	12	€2,656,663.85	€0

**Table 27 – 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

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Invoice Month	SEM Balancing Costs	VAT Balancing Costs
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
July 2016	-€202.38	€0
August 2016	-€250.61	€0
September 2016	-€263.46	€0
October 2016	-€373.17	€0
November 2016	-€395.27	€0
December 2016	-€400.31	€0
January 2017	-€345.12	€0
February 2017	-€284.026	€0
March 2017	-€276.22	€0

**Table 28 - 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.

## Appendix I: MSP Algorithms

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

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

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

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>October 2015</u>	-	-	-	-	<u>04/10/2015</u>
<u>November 2015</u>	<u>16/11/2015</u>	<u>30/11/2015</u>	<u>26/11/2015</u>	-	-
<u>December 2015</u>	-	<u>08/12/2015</u> <u>17/12/2015</u> <u>21/12/2015</u>	<u>08/12/2015</u> <u>10/12/2015</u> <u>11/12/2015</u> <u>14/12/2015</u>	<u>14/12/2015</u> <u>17/12/2015</u>	-
<u>January 2016</u>	-	<u>05/02/2016</u> <u>13/01/2016</u>	<u>07/01/2016</u> <u>08/01/2016</u>	<u>08/02/2016</u> <u>26/01/2016</u>	-
<u>February 2016</u>	-	-	-	-	<u>10/02/2016</u>
<u>March 2016</u>	-	<u>28/03/2016</u>	<u>10/03/2016</u>	<u>10/03/2016</u>	-
<u>April 2016</u>	-	-	-	-	-
<u>May 2016</u>	-	-	-	-	-

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Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>June 2016</u>	-	-	-	<u>15/06/2016</u>	-
<u>July 2016</u>	-	-	-	-	-
<u>Aug 2016</u>	-	-	-	<u>16/08/2016</u>	-
<u>Sept 2016</u>	-	<u>10/09/2016</u> <u>11/09/2016</u> <u>14/09/2016</u>	-	<u>04/09/2016</u> <u>11/09/2016</u>	<u>11/09/2016</u> <u>24/09/2016</u>
<u>Oct 2016</u>	-	<u>03/10/2016</u> <u>26/10/2016</u>	<u>02/10/2016</u> <u>12/10/2016</u> <u>24/10/2016</u> <u>28/10/2016</u>	<u>04/10/2016</u> <u>07/10/2016</u> <u>08/10/2016</u> <u>24/10/2016</u> <u>25/10/2016</u>	<u>01/10/2016</u> <u>25/10/2016</u> <u>26/10/2016</u> <u>28/10/2016</u>
<u>Nov 2016</u>	-	<u>25/11/2016</u>	-	<u>01/11/2016</u> <u>17/11/2016</u>	<u>10/11/2016</u> <u>23/11/2016</u> <u>29/11/2016</u> <u>30/11/2016</u>
<u>Dec 2016</u>	<u>08/12/2016</u>	<u>06/12/2016</u> <u>08/12/2016</u> <u>13/12/2016</u> <u>15/12/2016</u> <u>21/12/2016</u>	<u>01/12/2016</u> <u>12/12/2016</u> <u>15/12/2016</u> <u>15/12/2016</u>	<u>04/12/2016</u> <u>16/12/2016</u> <u>18/12/2016</u> <u>20/12/2016</u> <u>22/12/2016</u>	<u>08/12/2016</u> <u>09/12/2016</u>
<u>Jan 2017</u>	<u>29/01/2017</u> <u>31/01/2017</u>	<u>03/01/2017</u> <u>26/01/2017</u> <u>29/01/2017</u> <u>31/01/2017</u>		<u>01/01/2017</u> <u>23/01/2017</u> <u>28/01/2017</u> <u>30/01/2017</u>	<u>12/01/2017</u> <u>31/01/2017</u>
<u>Feb 2017</u>		<u>06/02/2017</u> <u>13/02/2017</u> <u>19/02/2017</u>	<u>04/02/2017</u> <u>08/02/2017</u> <u>17/02/2017</u> <u>28/02/2017</u>	<u>01/02/2017</u> <u>05/02/2017</u> <u>08/02/2017</u> <u>11/02/2017</u>	<u>04/02/2017</u> <u>07/02/2017</u> <u>20/02/2017</u> <u>25/02/2017</u>
<u>Mar 2017</u>	-	<u>09/03/2017</u>	<u>19/03/2017</u> <u>24/03/2017</u>	<u>08/03/2017</u> <u>18/03/2017</u> <u>24/03/2017</u>	<u>20/03/2017</u> <u>21/03/2017</u>

Table 29 - MIP Algorithms



## Market Operator Monthly Report

Operational Date	Trade Date	Run Type	LR Peak SMP	MIP Peak SMP	Published
08/10/2015	04/10/2015	EP2	€1,000	€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	€1,000	€179.85	MIP
14/03/2016	10/03/2016	EP2	€1,000	€179.38	MIP
27/03/2016	28/03/2016	EA2	€1,000	€114.04	MIP
19/06/2016	15/06/2016	EP2	€1,000	€279.06	MIP
20/08/2016	16/08/2016	EP2	€1,000	€97.16	MIP
08/09/2016	04/09/2016	EP2	(€100)	€37.82	MIP
09/09/2016	10/09/2016	EA2	€548.34	€1,000.00	MIP
10/09/2016	11/09/2016	EA2	(€100)	€28.68	MIP
11/09/2016	11/09/2016	WD1	(€100)	€67.67	MIP
13/09/2016	14/09/2016	EA2	€1,000	€46.98	MIP
15/09/2016	11/09/2016	EP2	(€100)	€189.67	MIP
24/09/2016	24/09/2016	WD1	(€100)	€79.61	MIP
01/10/2016	01/10/2016	WD1	€629.67	€174.47	MIP
02/10/2016	03/10/2016	EA2	(€100)	€213.50	MIP
03/10/2016	02/10/2016	EP1	(€100)	€67.66	MIP
08/10/2016	04/10/2016	EP2	€670.56	€530.47	MIP
11/10/2016	07/10/2016	EP2	€779.29	€279.06	MIP
12/10/2016	08/10/2016	EP2	€761.10	€271.73	MIP
13/10/2016	12/10/2016	EP1	€536.13	€536.13	MIP
25/10/2016	26/10/2016	EA2	€1,000	€176.89	MIP
25/10/2016	24/10/2016	EP1	€778.40	€542.17	MIP
25/10/2016	25/10/2016	WD1	€780.67	€184.41	MIP
26/10/2016	26/10/2016	WD1	€520.07	€520.07	MIP
28/10/2016	24/10/2016	EP2	€778.25	€542.17	MIP

## Market Operator Monthly Report

28/10/2016	28/10/2016	WD1	€523.46	€185.11	MIP
29/10/2016	28/10/2016	EP1	€514.56	€226.86	MIP
29/10/2016	25/10/2016	EP2	€780.46	€436.68	MIP
05/11/2016	01/11/2016	EP2	€512.48	€218.59	MIP
10/11/2016	10/11/2016	WD1	€536.74	€190.70	MIP
21/11/2016	17/11/2016	EP2	€531.95	€227.60	MIP
23/11/2016	23/11/2016	WD1	€536.74	€228.93	MIP
24/11/2016	23/11/2016	EA2	€1,000	€373.29	MIP
29/11/2016	29/11/2016	WD1	€541.87	€541.87	MIP
30/11/2016	29/11/2016	EA2	€552.76	€181.28	MIP
30/11/2016	29/11/2016	EP1	€541.87	€270.18	MIP
01/12/2016	30/11/2016	EP1	€541.59	€207.75	MIP
04/12/2016	30/11/2016	EP2	€541.59	€207.75	MIP
06/12/2016	07/12/2016	EA1	€1,000	€111.24	MIP
08/12/2016	08/12/2016	WD1	(€100)	€191.23	MIP
08/12/2016	09/12/2016	EA1	€940.08	€213.49	MIP
08/12/2016	09/12/2016	EA2	€1,000	€227.15	MIP
09/12/2016	09/12/2016	WD1	€544.89	€226.90	MIP
12/12/2016	13/12/2016	EP1	€550.08	€550.08	MIP
13/12/2016	14/12/2016	EA2	€1,000	€221.53	MIP
15/12/2016	16/12/2016	EA2	€1,000	€97.99	MIP
15/12/2016	14/12/2016	EP1	€551.72	€257.90	MIP
15/12/2016	14/12/2016	EP1	€577.68	€557.94	MIP
16/12/2016	12/12/2016	EP2	€564.56	€550.08	MIP
18/12/2016	14/12/2016	EP2	€551.72	€551.72	MIP
20/12/2016	16/12/2016	EP2	€1,000	€551.25	MIP
21/12/2016	22/12/2016	EA2	€1,000	€188.21	MIP
22/12/2016	18/12/2016	EP2	€552.30	€375.21	MIP
01/01/2017	31/12/2016	EP1	€581.16	€238.04	MIP
03/01/2017	04/01/2017	EA2	€1,000	€250.11	MIP
12/01/2017	08/01/2017	EP2	€-100	€-100	MIP
19/01/2017	18/01/2017	EA2	€1,000	€187.49	MIP
23/01/2017	22/01/2017	EP1	€546.36	€111.81	MIP
26/01/2017	27/01/2017	EA2	€1000	€225.25	MIP
26/01/2017	22/01/2017	EP2	€546.36	€101.73	MIP
28/01/2017	27/01/2017	EP1	€544.22	€544.22	MIP
30/01/2017	31/01/2017	EA2	€1000	€236.42	MIP
30/01/2017	29/01/2017	EP1	€553.05	€553.05	MIP
31/01/2017	31/01/2017	WD1	€554.03	€554.03	MIP
31/01/2017	27/01/2017	EP2	€544.22	€544.22	MIP
01/02/2017	28/01/2017	EP2	€553.13	€553.38	MIP
04/02/2017	04/02/2017	WD1	€582.64	€553.37	MIP
04/02/2017	03/02/2017	EP1	€533.92	€547.30	MIP
05/02/2017	04/02/2017	EP1	€564.61	€553.37	MIP
06/02/2017	07/02/2017	EA2	€1,000	€122.43	MIP

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07/02/2017	07/02/2017	WD1	€552.98	€205.26	MIP
08/02/2017	07/02/2017	EP1	€552.98	€552.98	MIP
08/02/2017	04/02/2017	EP2	€553.37	€553.37	MIP
11/02/2017	07/02/2017	EP2	€552.98	€552.98	MIP
13/02/2017	14/02/2017	EA2	€1,000	€264.26	MIP
17/02/2017	16/02/2017	EP1	€542.10	€542.10	MIP
20/02/2017	20/02/2017	WD1	€1,000	€239.91	MIP
19/02/2017	20/02/2017	EA2	€1,000	€103.71	MIP
25/02/2017	25/02/2017	WD1	€543.19	€219.91	MIP
28/02/2017	27/02/2017	EP1	€596.85	€328.07	MIP
12/03/2017	08/03/2017	EP2	€1,000	€183.28	MIP
08/03/2017	09/03/2017	EA2	€1,000	€203.40	MIP
20/03/2017	20/03/2017	WD1	€1,000	€146.90	MIP
20/03/2017	19/03/2017	EP1	€531.42	€420.26	MIP
21/03/2017	21/03/2017	WD1	€559.20	€193.39	MIP
22/03/2017	18/03/2017	EP2	€-100	€69.40	MIP
25/03/2017	24/03/2017	EP1	€531.39	€221.11	MIP
28/03/2017	24/03/2017	EP2	€531.39	€227.68	MIP

**Table 30 - MIP Vs LR Peak Price Comparison**