



Market Operator Monthly Report

December 2015

Table of Contents

1.	EXECUTIVE SUMMARY	4
2.	MONTHLY STATISTICS	5
	TRADING AND SETTLEMENT CODE BREACHES.....	5
	JOINING AND TERMINATING PARTIES AND UNITS	6
	SUSPENSION OF PARTICIPANTS	6
3.	FINANCIAL STATISTICS.....	7
	TOTAL CHARGES FOR EACH CURRENCY	7
	TOTAL PAYMENTS FOR EACH CURRENCY.....	8
	TOTAL BALANCING COSTS	8
	TOTAL CURRENCY COSTS	10
	CUMULATIVE IMPERFECTIONS COSTS VS BUDGET.....	12
	FINANCIAL CHANGES BETWEEN INITIAL SETTLEMENT AND SUBSEQUENT RERUNS	12
	3.1.1 Energy Market.....	13
	3.1.2 Capacity Market.....	16
4.	HELPDESK CALL STATISTICS	21
5.	DISPUTES AND QUERIES	22
	5.1.2 Data Queries.....	22
	5.1.3 Settlement Queries	22
6.	CENTRAL SYSTEMS	23
	6.1 PROPORTION OF DEFAULT DATA USED.....	23
	6.2 PROPORTION OF ESTIMATED METER DATA USED IN INITIAL SETTLEMENT AND RESETTLEMENT.....	23
	6.3 LIST OF SYSTEM ERRORS AND RE-RUNS	23
	6.3.1 Re-Pricing and Resettlement Runs	23
	6.3.2 System Errors	23
	6.4 OPERATIONAL TIMINGS	23
	6.4.1 MSP Postings December 2015	24
	6.4.2 MSP Algorithms.....	29
	6.4.3 Settlement Postings December 2015.....	30
	6.5.1 Release SEM R2.7.0 (Deployed: November 2 nd 2015).....	31
	6.5.2 Release SEM R2.8.0 (TBC May 2015)	31
7.	OCCASIONAL COMPONENTS	32
	7.1 DISASTER RECOVERY/BUSINESS CONTINUITY TESTS.....	32
	7.3 COMMUNICATIONS OR SYSTEMS FAILURES.....	32
	7.4 DENIAL OF SERVICE ATTACKS	32
	7.5 SUBMISSION OF PARAMETERS TO RAs FOR APPROVAL	32
8.	APPENDIX A: DETAIL OF TRADING AND SETTLEMENT CODE BREACHES.....	33
	MARKET PARTICIPANT	33
	DATA PROVIDER	33
	SEMO - PRICING AND SCHEDULING.....	34
	SEMO – SETTLEMENTS	34
	SEMO - FUNDS TRANSFER	34
	SEMO - CREDIT MANAGEMENT	34
	SEMO – OTHER	34
9.	APPENDIX B: LIST OF QUERIES BY TYPE	35
10.	APPENDIX C: LIST OF ALL SYSTEM ERRORS AND FAILURES	36
11.	APPENDIX D: DETAILS OF OPERATIONAL TIMINGS	37
	MARKET SCHEDULE AND PRICE RUNS	37
	SETTLEMENT RUNS.....	38

Market Operator Monthly Report

12. APPENDIX E: IMPERFECTIONS CHARGE	39
13. APPENDIX F: DEFAULT COMMERCIAL OFFER DATA USED	43
14. APPENDIX G: TOTAL CHARGES AND PAYMENTS DATA	47
15. APPENDIX H: FULL BALANCING COSTS.....	50
TRADING MARKET	50
CAPACITY MARKET	50
16. APPENDIX I: MSP ALGORITHMS	51

1. Executive Summary

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

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

166 general queries were received in December 2015. During the same period 175 general queries were resolved.

There were 14 defaults by Participants during December 2015. The largest of these was an Energy Initial invoice for €2494.65 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			
Area		Major	Minor
Data Providers		-	-
Market Participants	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	14	-
	Credit Risk Management	-	-
SEMO	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	-	-
	Credit Risk Management	-	-
	Other	-	-
Total		14	-

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

No parties joined the Market in December 2015.

There were no terminating parties in December 2015.

There were four new units effective in the Market in December 2015.

- PT_400037/ PT_400037_I_RIEWIC - Synergen
- PT_500067/DSU_501380 – Energy Trading Ireland
- PT_500091/SU_500084 – Energy Trading Ireland
- PT_500089/GU_501360 – Monnaboy Wind Farm Limited

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

Suspension of Participants

There have been no Suspension Orders issued by the Market Operator at this time.

3. Financial Statistics

Total Charges for Each Currency

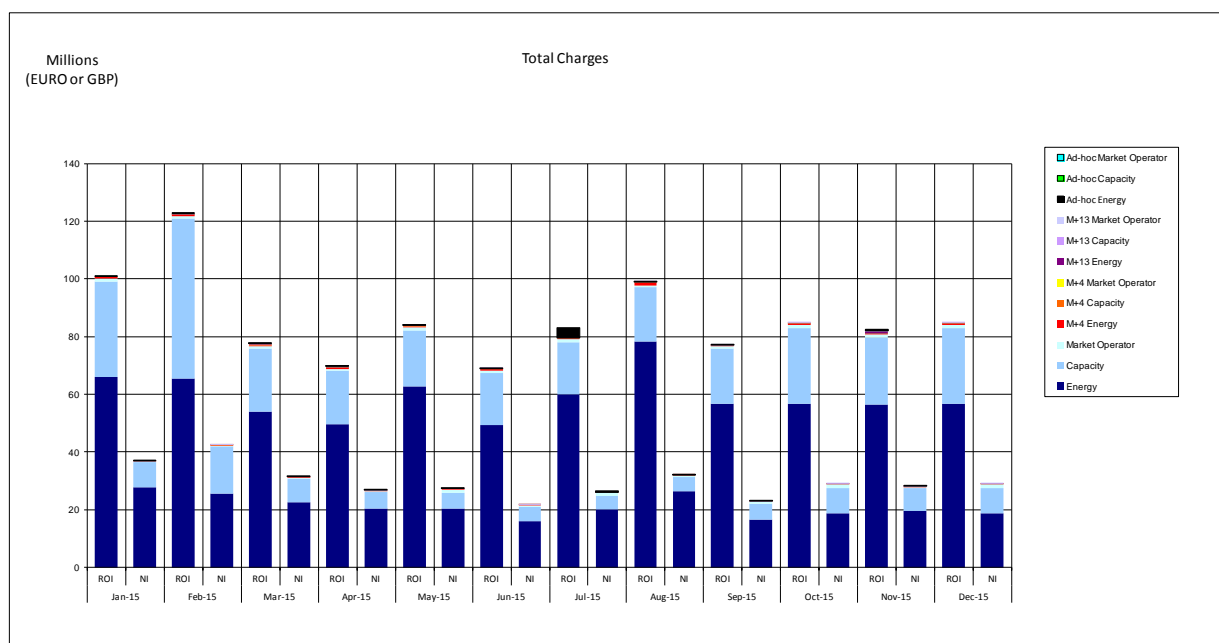


Figure 1 - Total Charges for Each Currency

Market	December 2015	
	ROI	NI
Energy	€56,771,585	£18,807,276
Capacity	€26,115,102	£8,947,273
Market Operator	€1,227,683	£1,177,606
M+4 Energy	€528,057	£132,698
M+4 Capacity	€108,605	£37,389
M+4 Market Operator	€3,427	£908
M+13 Energy	€244,831	£23,860
M+13 Capacity	€43,715	£15,486
M+13 Market Operator	€499	£141
Ad-hoc Energy	€0	£0
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
Total	€85,043,502	£29,142,637

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](#).

Market Operator Monthly Report

Total Payments for Each Currency

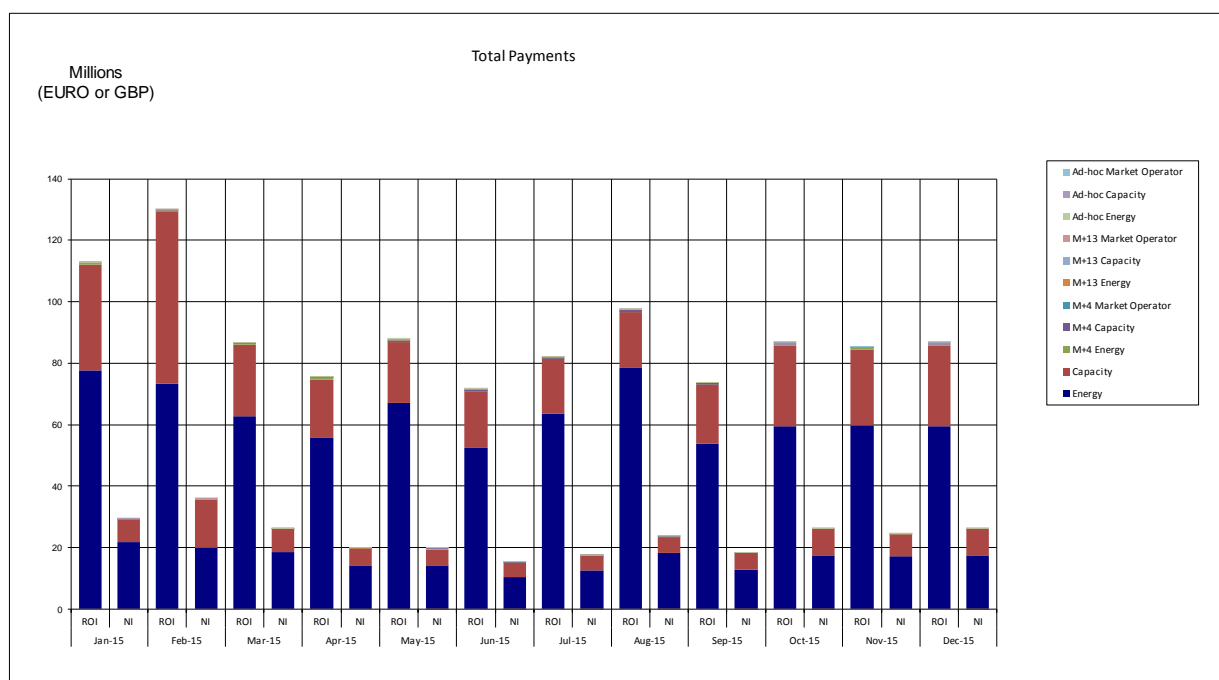


Figure 2 - Total Payments for Each Currency

Market	December 2015	
	ROI	NI
Energy	€59,375,497	£17,357,006
Capacity	€26,508,956	£8,696,074
M+4 Energy	€71,188	£21,112
M+4 Capacity	€529,557	£132,692
M+4 Market Operator	€108,617	£37,360
M+13 Energy	€3,421	-£908
M+13 Capacity	€244,831	£23,860
M+13 Market Operator	€55,957	£6,608
Ad-hoc Energy	€455	£129
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
Total	€86,898,480	€26,273,933

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:

December 2015	
Imbalance (Energy Only)	-€7,684,494.22

Table 4 - Balancing Costs for Energy Settlement

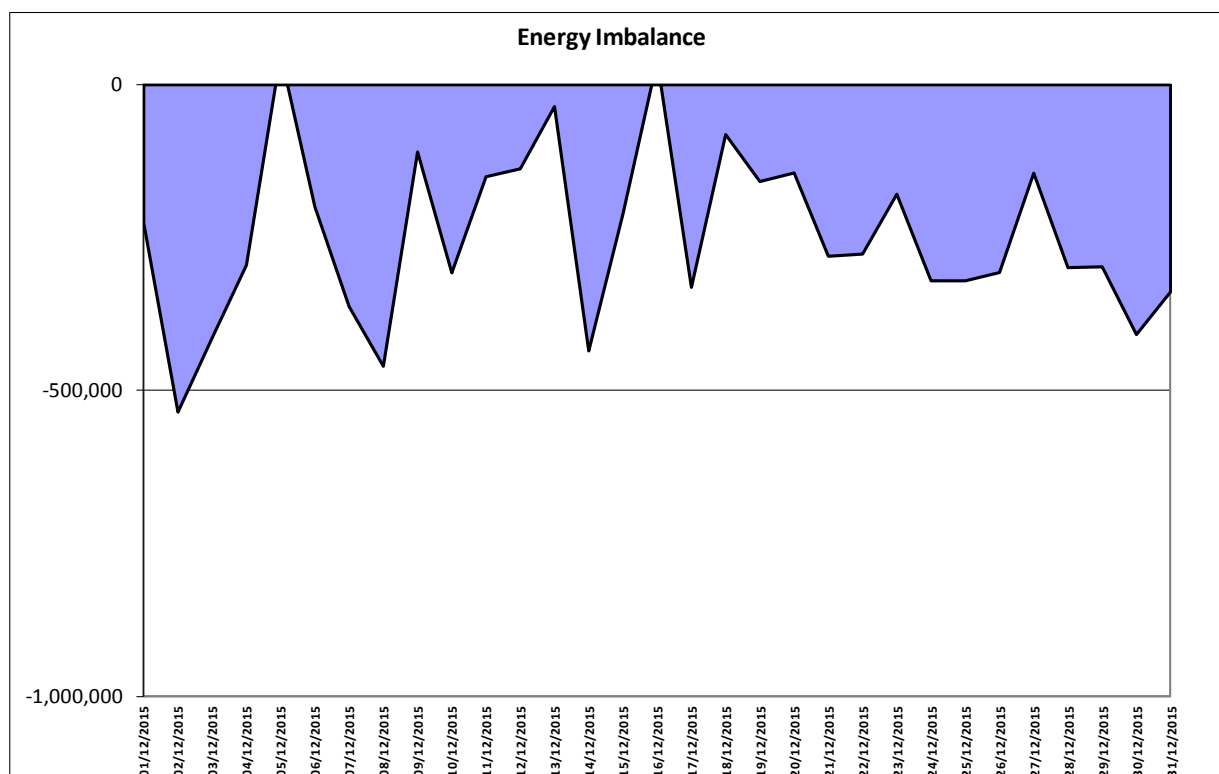


Figure 3 – Energy Imbalances

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.

Market Operator Monthly Report

In tables 5 and 6 below:

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

Date Of Invoice	Week No	SEM Balancing Costs	VAT Balancing Costs
04/12/2015	47	€897,437.38	-€300,749.94
11/12/2015	48	€141,592.08	-€534,740.45
18/12/2015	49	€878,459.85	-€388,379.01
30/12/2015	50	€838,626.05	-€160,949.17

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:

December 2015	
Capacity Charges	-€605,377,99.42
Capacity Payments	€605,373,77.8
Balancing Costs	-€421.62
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:

- 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)

Market Operator Monthly Report

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
28/11/2015	04/12/2015	47	-£429.44	£ -	-£429.44
05/12/2015	11/12/2015	48	£59,242.46	£-	£59,242.46
12/12/2015	18/12/2015	49	£1,034.83	£-	£1,034.83
19/12/2015	30/12/2015	50	-£2,508.04	£-	-£2,508.04

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 £59,242.46 and a cost of £2,508.04. Whether Currency Costs are a cost or benefit to Participants is directly related to whether the currency is rising or falling between the billing period, invoice date and payment dates.

Settlement Reallocation Agreements between the two currency zones continue to present volatility in the Currency Costs that appear in the Energy market each week. The value of these adjustments is detailed separately above in each Billing Period.

The Currency Costs, for the current financial year, with respect to Initial Capacity Settlement are set out below. Figures are shown in Sterling (£).

Date Of Invoice	Capacity Month	Currency Costs For Capacity Settlement
12/01/2016	Dec 2015	£44,877.42

Table 8 - Total Currency Costs for Capacity Payments and Charges

Market Operator Monthly Report

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
€46,742,082.08	-€1,308,206.39	€586,996.48	-€38,180,748.16

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.

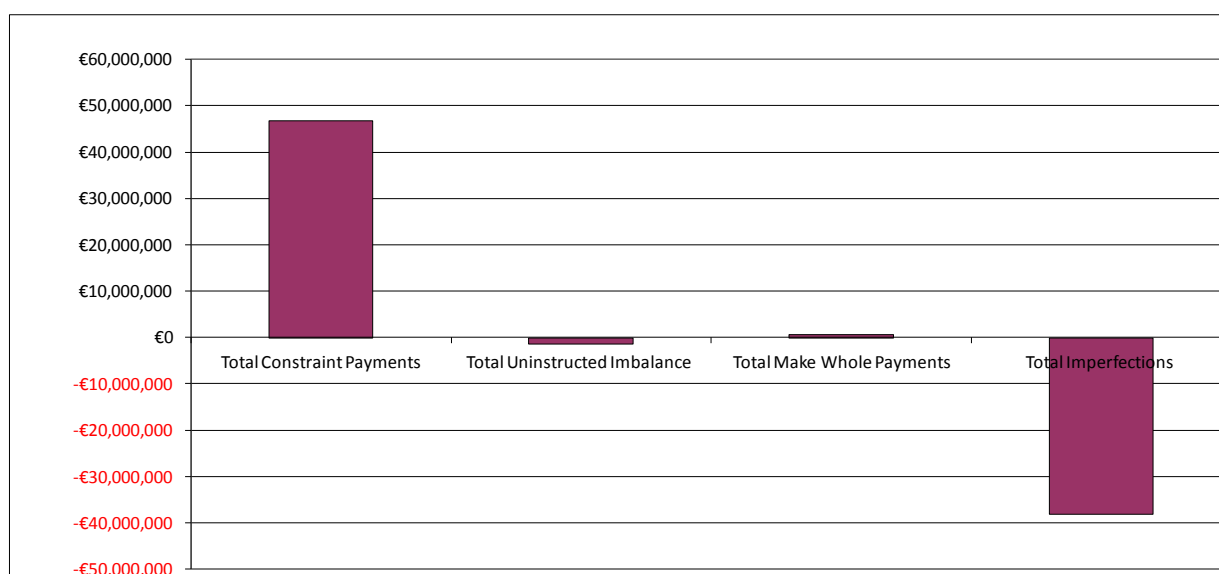


Figure 4 - Cumulative Imperfections Costs Vs Budget

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 August 2015 and M+13 resettlement period of November 2014 for Energy and Capacity.

3.1.1 Energy Market

Note: - For Figure 6, 8, 9, net values are shown.

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

The reverse is true for Figure 7 & 10

M+4 Resettlement

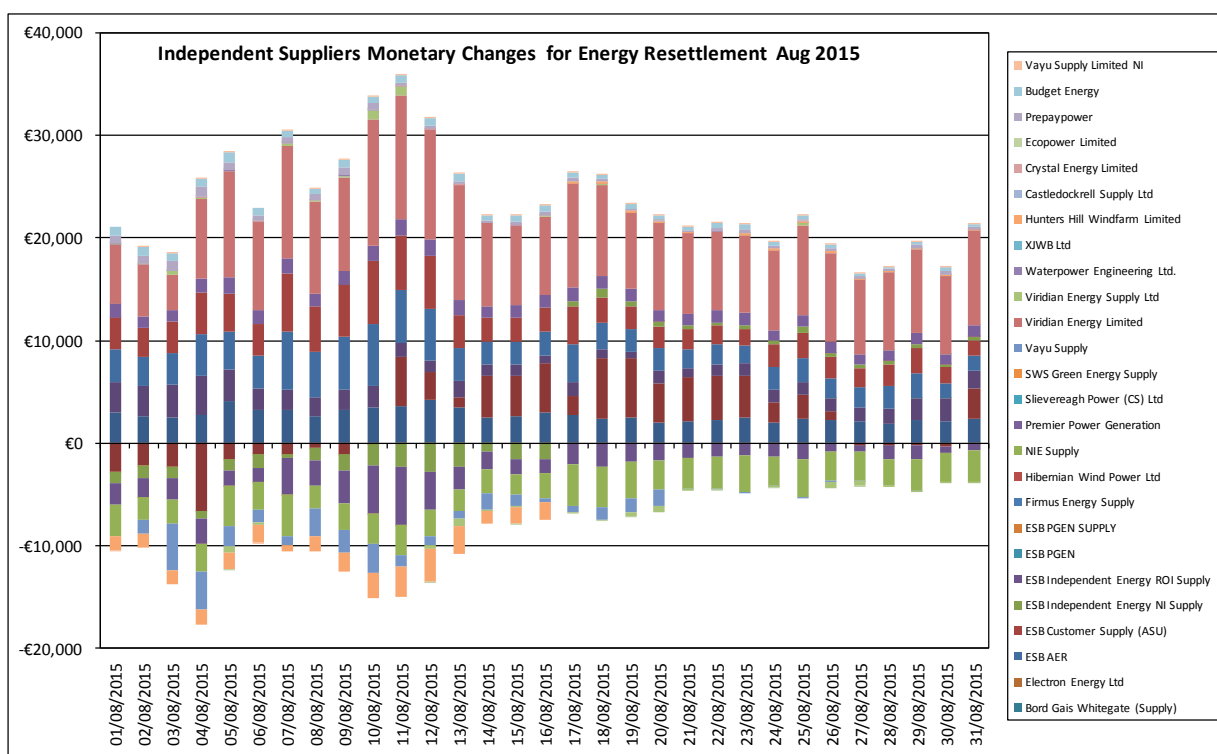


Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement – Aug 2015

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

Market Operator Monthly Report

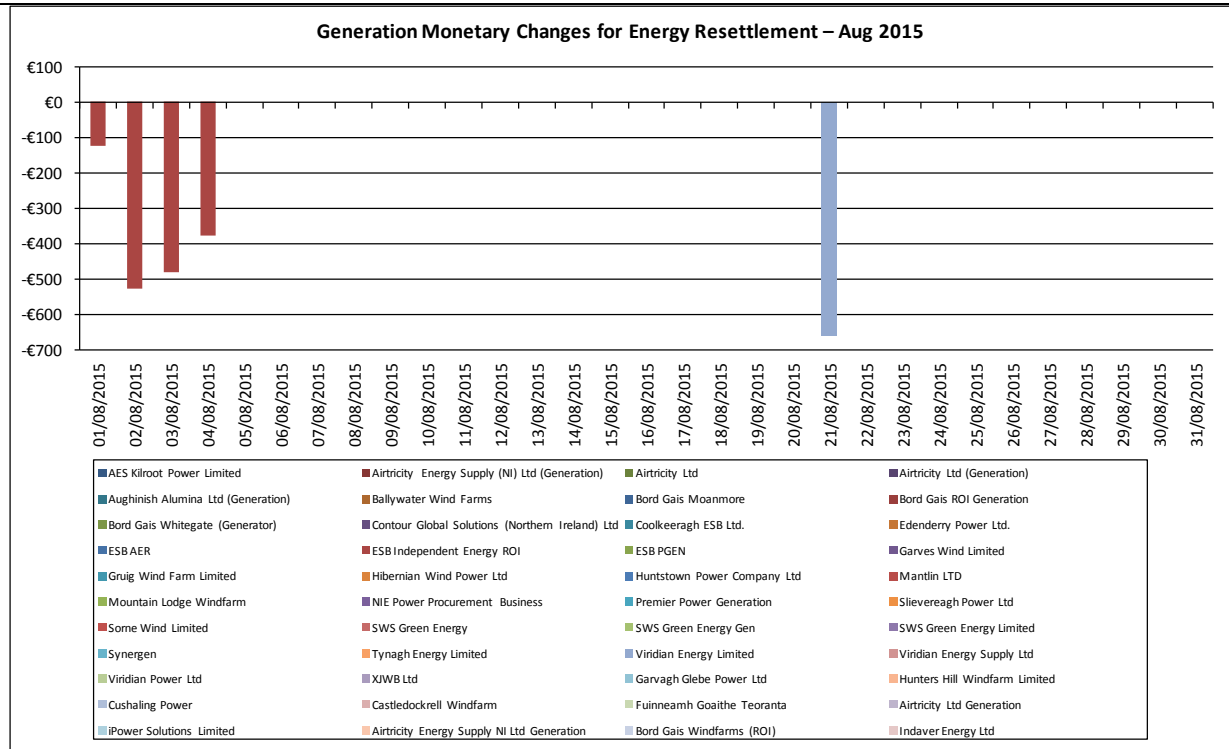


Figure 6 – Generation Monetary Changes for Energy Resettlement – Aug 2015

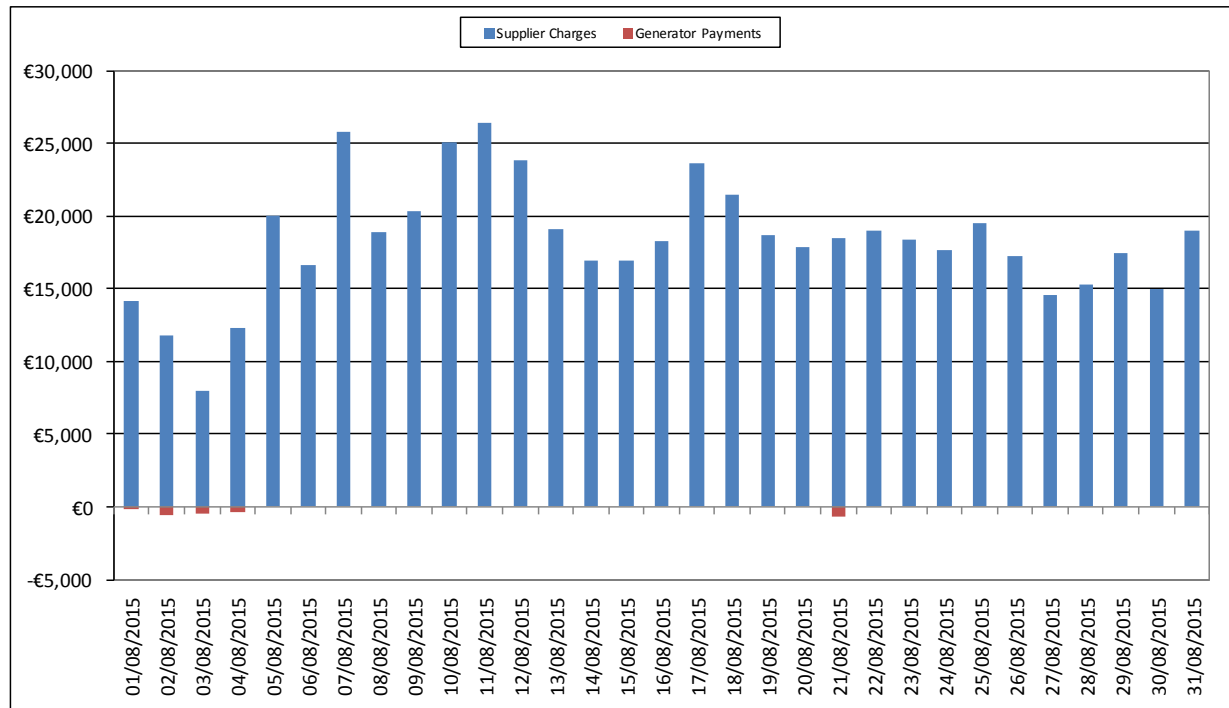


Figure 7 – Total Monetary Changes for Energy Resettlement – Aug 2015

M+13 Resettlement

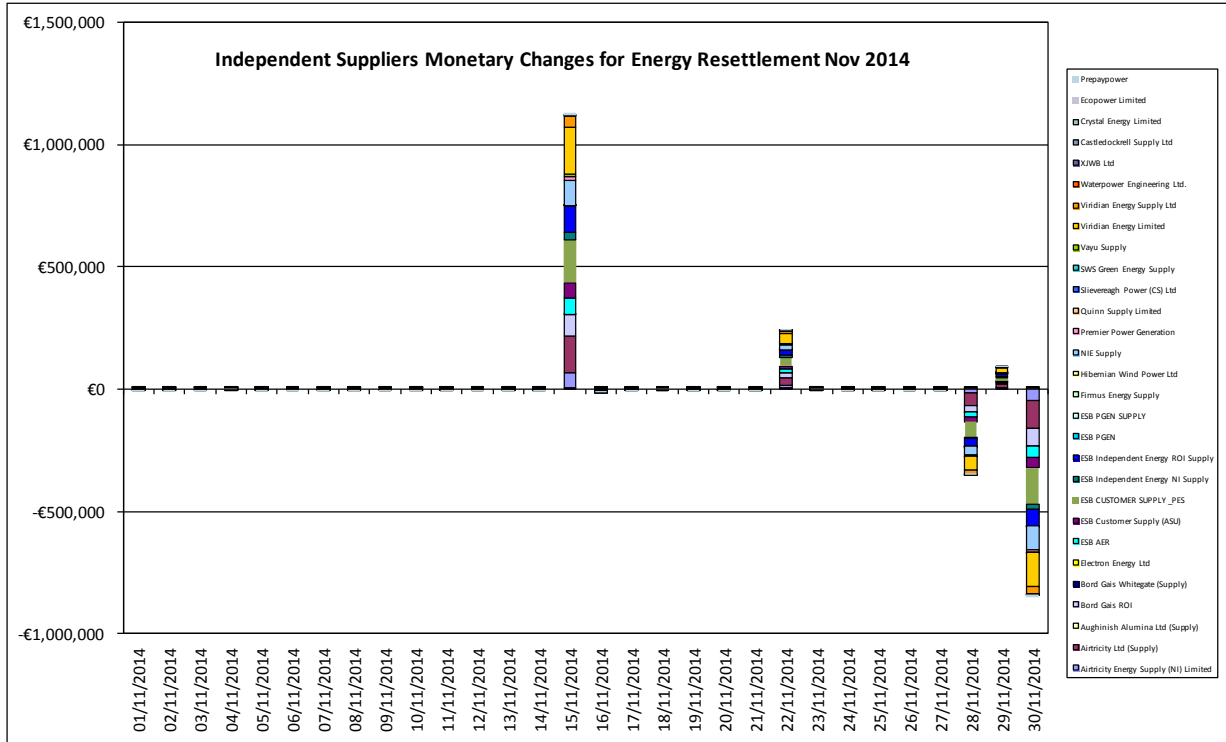


Figure 8 - Independent Suppliers Monetary Changes for Energy Resettlement – Nov 2014

The above variances relates purely to rounding for Participants between M+4 and M+13 Resettlement. Trade Dates 15th, 22nd, 28th and 30th November 2014 were repriced between M+4 and M+13 and this is reflected in these graphs.

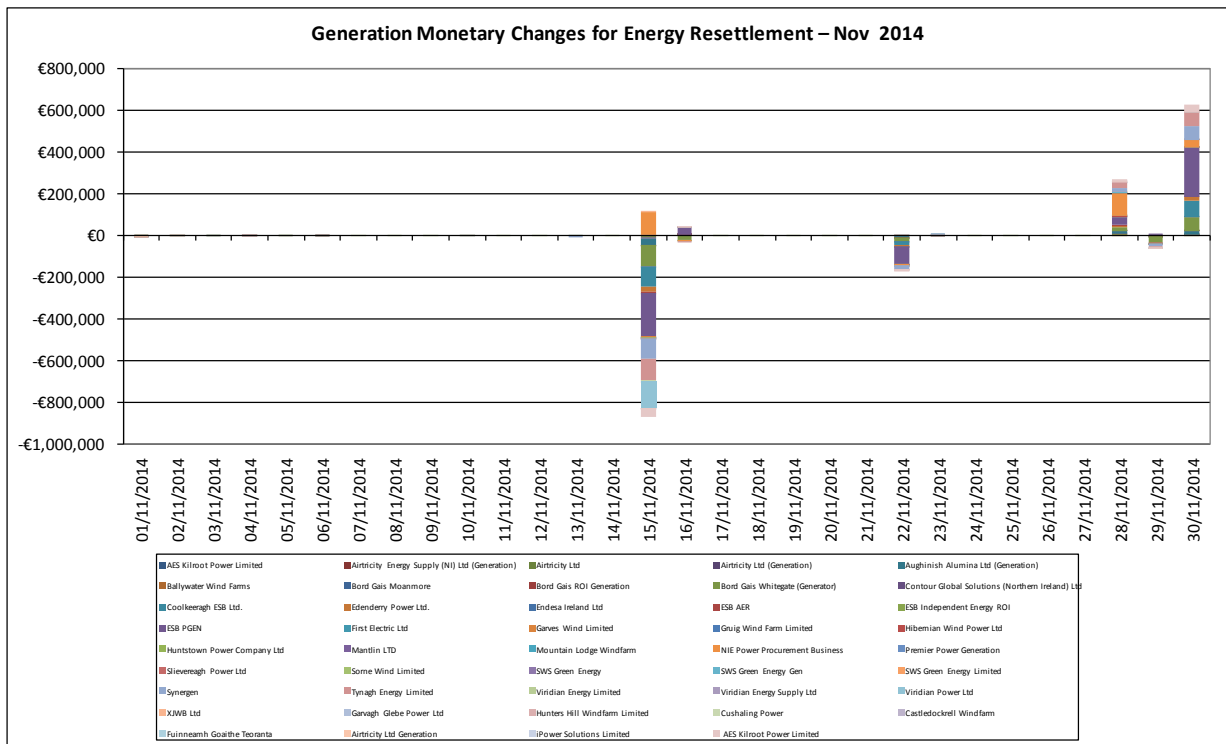


Figure 9 - Generation Monetary Changes for Energy Resettlement – Nov 2014

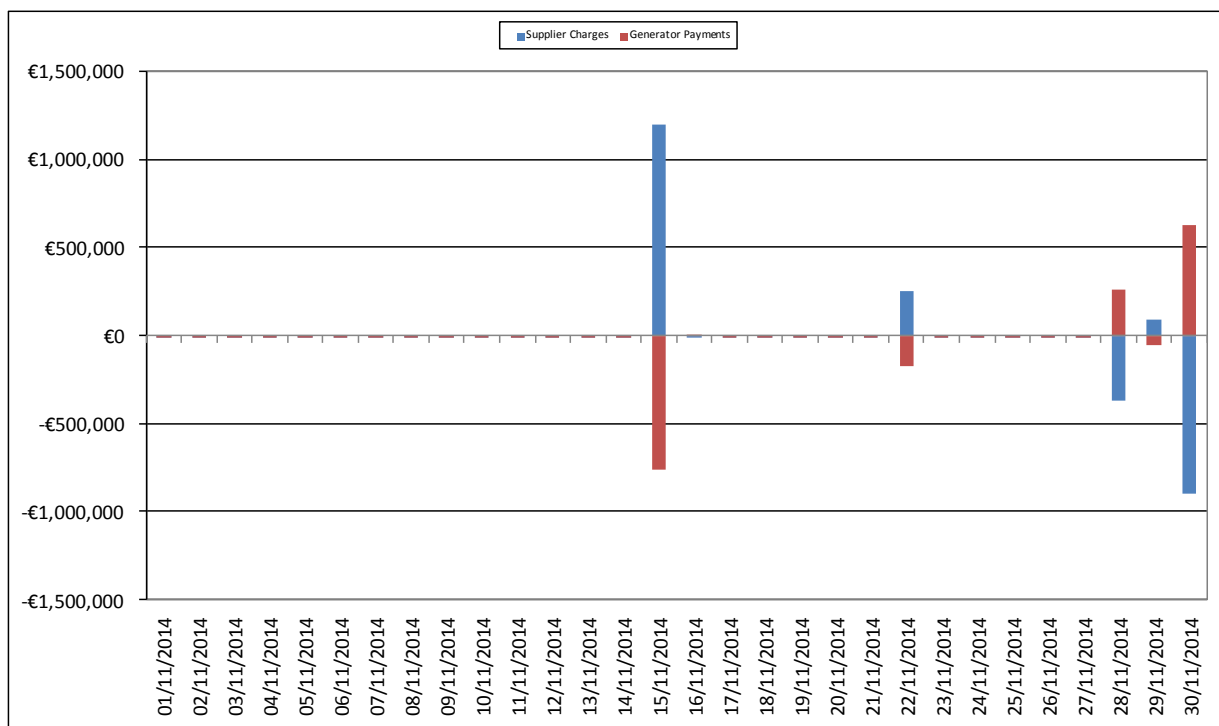


Figure 10 - Total Monetary Changes for Energy Resettlement – Nov 2014

3.1.2 Capacity Market

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

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

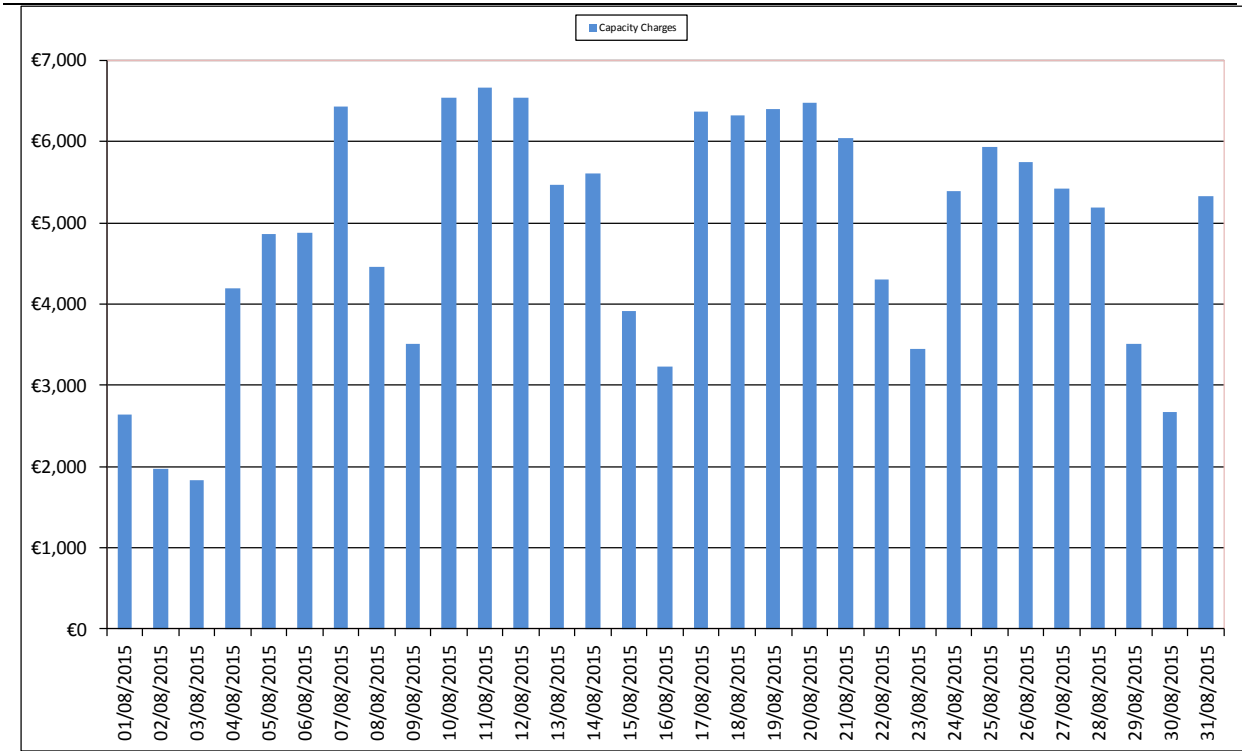


Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement – Aug 2015

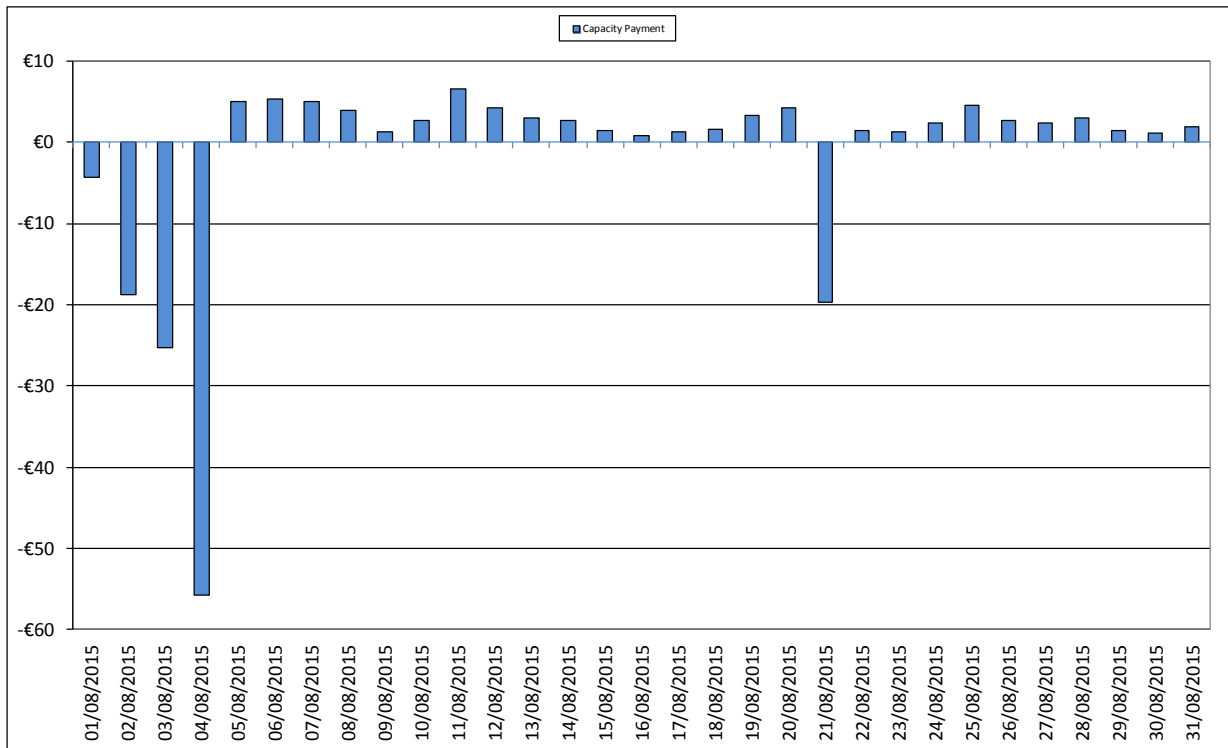


Figure 12 - All Generation Monetary Change for Capacity Resettlement – Aug 2015

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

Market Operator Monthly Report

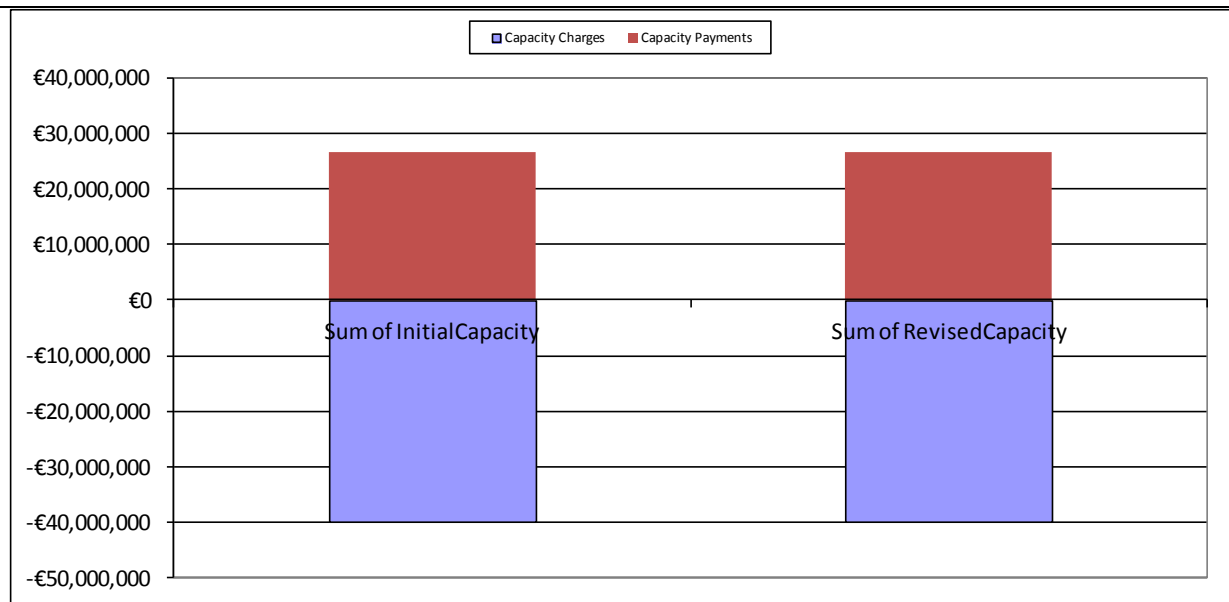


Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement Aug 2015

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

M+13 Resettlement

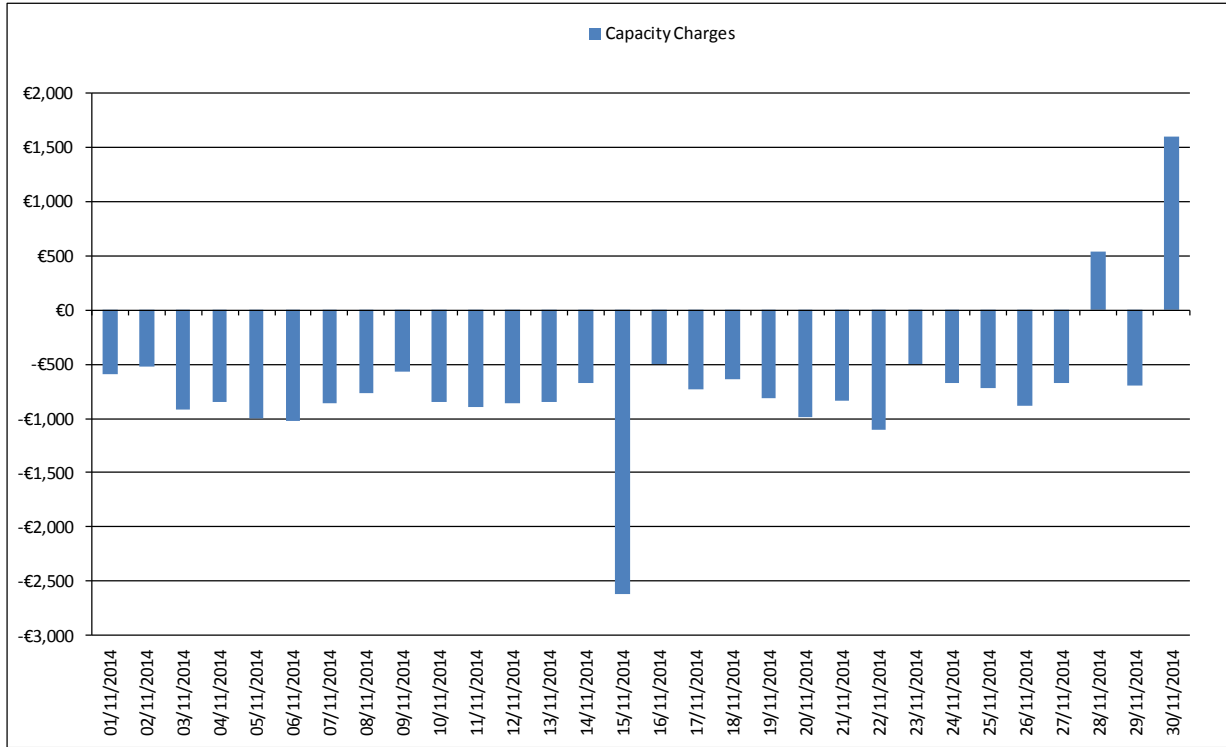


Figure 14 - Independent Suppliers Monetary Changes for Capacity Resettlement – Nov 2014

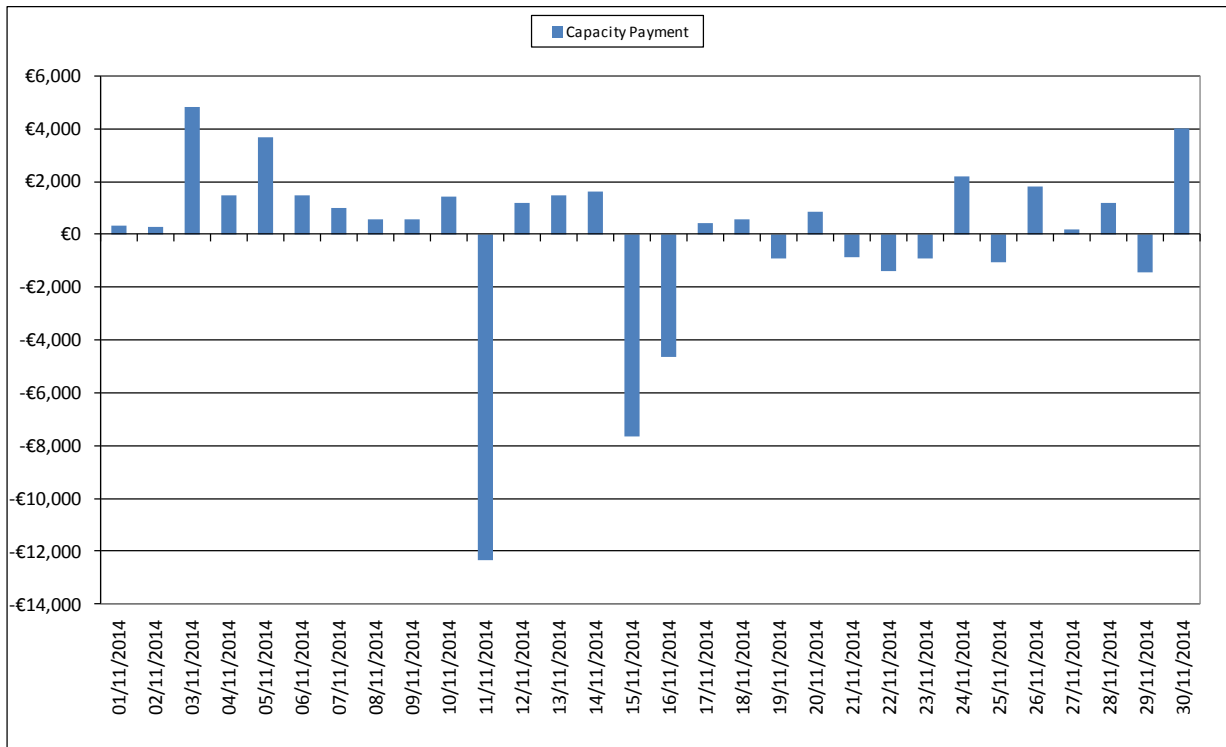


Figure 15 – All Generation Monetary Change for Capacity Resettlement – Nov 2014

Market Operator Monthly Report

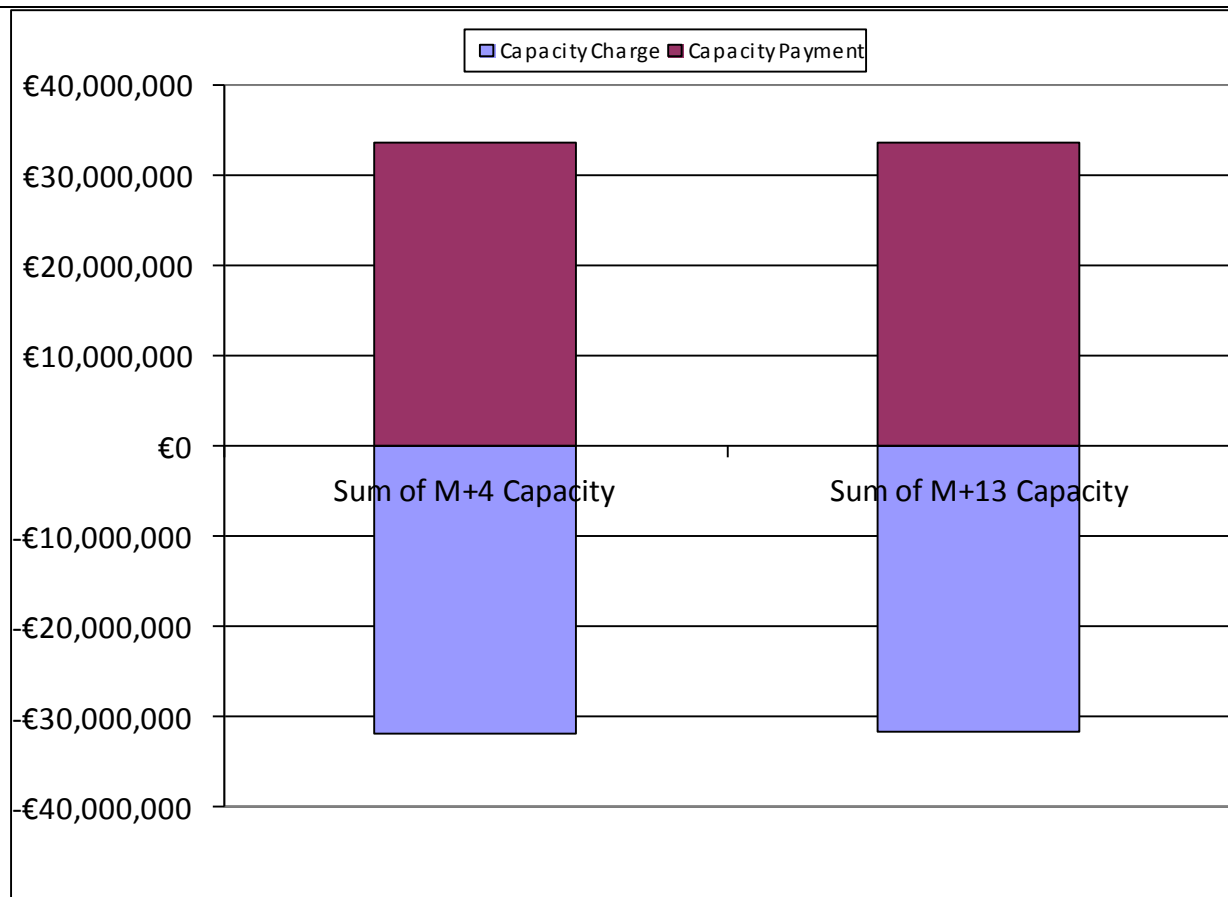


Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – Nov 2014

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

4. Helpdesk Call Statistics

The statistics presented in Table 10 - Helpdesk Call Statistics covers the month of December 2015.

Market Helpdesk Report: 01/12/15 to 31/12/15

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	160	153	7	169	1.07	163
Important	5	5	0	5	1.07	4
Urgent	1	1	0	1	0.00	1
Settlement	11	7	4	10	4.42	10
Credit	0	0	0	0	0.00	0
Dispute	0	0	0	0	0.00	0
Data	0	0	0	0	0.00	0
Total/Average	177	166	11	185	1.31	178

Table 10 – Helpdesk Statistics

Definitions:

- Resolved within the Period refers to queries raised and resolved within the calendar month of December 2015.
- Resolved in the Period refers to queries resolved within December 2015, 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 December 2015.
- Not Resolved refers to queries raised but not resolved within December 2015.
- Urgent are general queries which may have an impact on market operations. SEMO has an internal objective to resolve these within 3 working days; however, this is not mandated service level under the Trading 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 0.59 working days from 0.84 in November 2015 to 1.06 working days in December 2015. SEMO has a metric to resolve General Queries within 20 Working Days. These include queries received over the phone and e-mail. There were no queries logged in December 2015 that took over 20 working days to resolve.

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

5. Disputes and Queries

5.1.1 Disputes

There were no Disputes raised during the month of December 2015.

5.1.2 Data Queries

There were no formal Data Queries raised during the month of December 2015

5.1.3 Settlement Queries

There were eleven formal Settlement Queries raised in December 2015. Ten of the queries were upheld and have all been resolved.

Topic	Number Of Queries
Actual Availability	2
Dispatch Instructions	1
CLAFs	1
Testing Tariffs	1
SO-SO Trades	4
Eligible Availability	1

Table 11 - Upheld Settlement Queries by topic

- Two queries relating to Actual Availabilities were raised. These were deemed to be of low materiality and will be corrected within M+4 Resettlement.
- One query relating to Dispatch Instructions was raised. This was deemed to be of low materiality and will be corrected within M+4 Resettlement.
- One query relating to CLAFs was raised. This was deemed to be of low materiality and will be corrected within M+4 Resettlement.
- One query relating to Eligible Availability was raised. This was deemed to be of low materiality and will be corrected within M+4 Resettlement.
- One query relating to Testing Tariffs was raised. This was deemed to be of low materiality and will be corrected within M+4 Resettlement.
- Four queries relating to SO-SO Trades were raised. These were deemed to be of low materiality and will be corrected within Initial and M+4 Resettlement.

Unresolved Queries

There are no unresolved data queries or settlement queries as of the 11th January 2015.

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

6. Central Systems

6.1 Proportion of Default Data Used

On review of the Commercial Offer Data used in the MSP runs, 69.51% of data used was submitted by Participants through the normal Bid-Offer process. 30.49% 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

6.3.1 Re-Pricing and Resettlement Runs

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

There were no Resettlement runs carried out in December 2015.

6.3.2 System Errors

There were no Market Application defects found in December 2015.

Table 12 – System Errors

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

6.4 Operational Timings

This section lists the operation timings of MSP software runs and Settlement runs.

There are five run types for MSP software,

- Ex-Ante 1 Indicative, run on Trading Day – 1 calendar day,
- Ex-Ante 2 Indicative, run on Trading Day – 1 calendar day,
- With In Day 1 Indicative, run on Trading Day,
- Ex-Post Indicative, run on Trading Day + 1 calendar day, and
- Ex-Post Initial, run on Trading Day + 4 calendar days.

The following tables and graphs provide details for the postings of the MSP for December 2015.

6.4.1 MSP Postings December 2015

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

Table 13 - Operational Timings

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

Table 14 - Operational Timings (% on time)

Market Operator Monthly Report

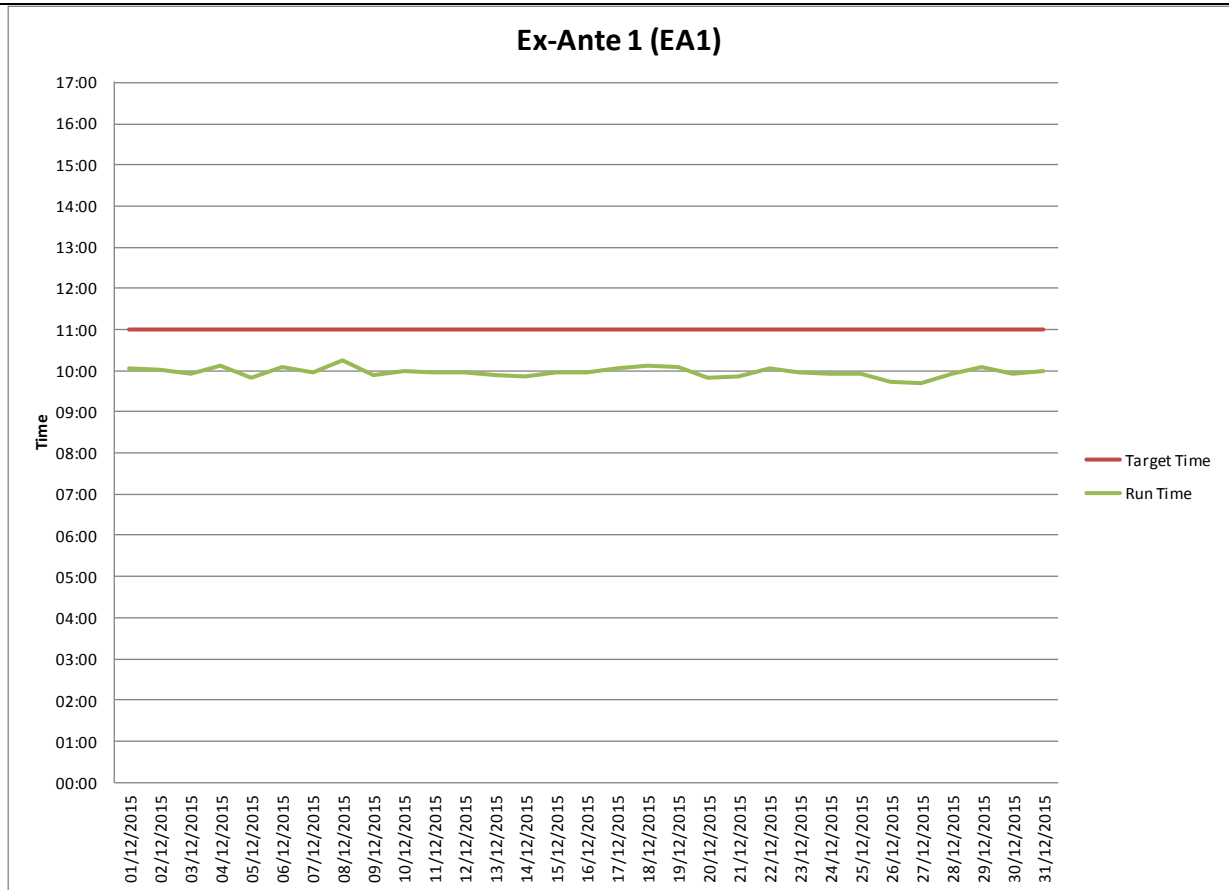


Figure 17 – Ex-Ante 1

Market Operator Monthly Report

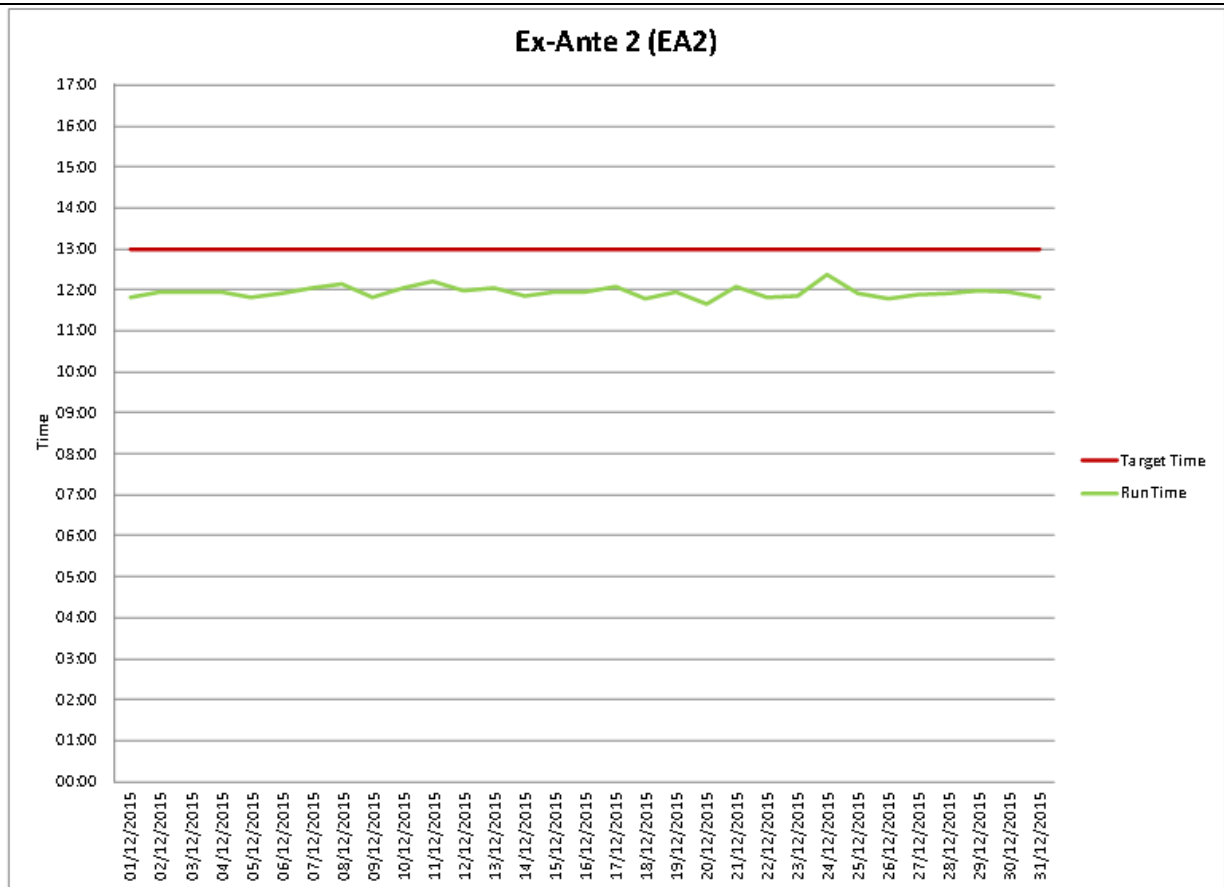


Figure 18 – Ex-Ante 2

Market Operator Monthly Report

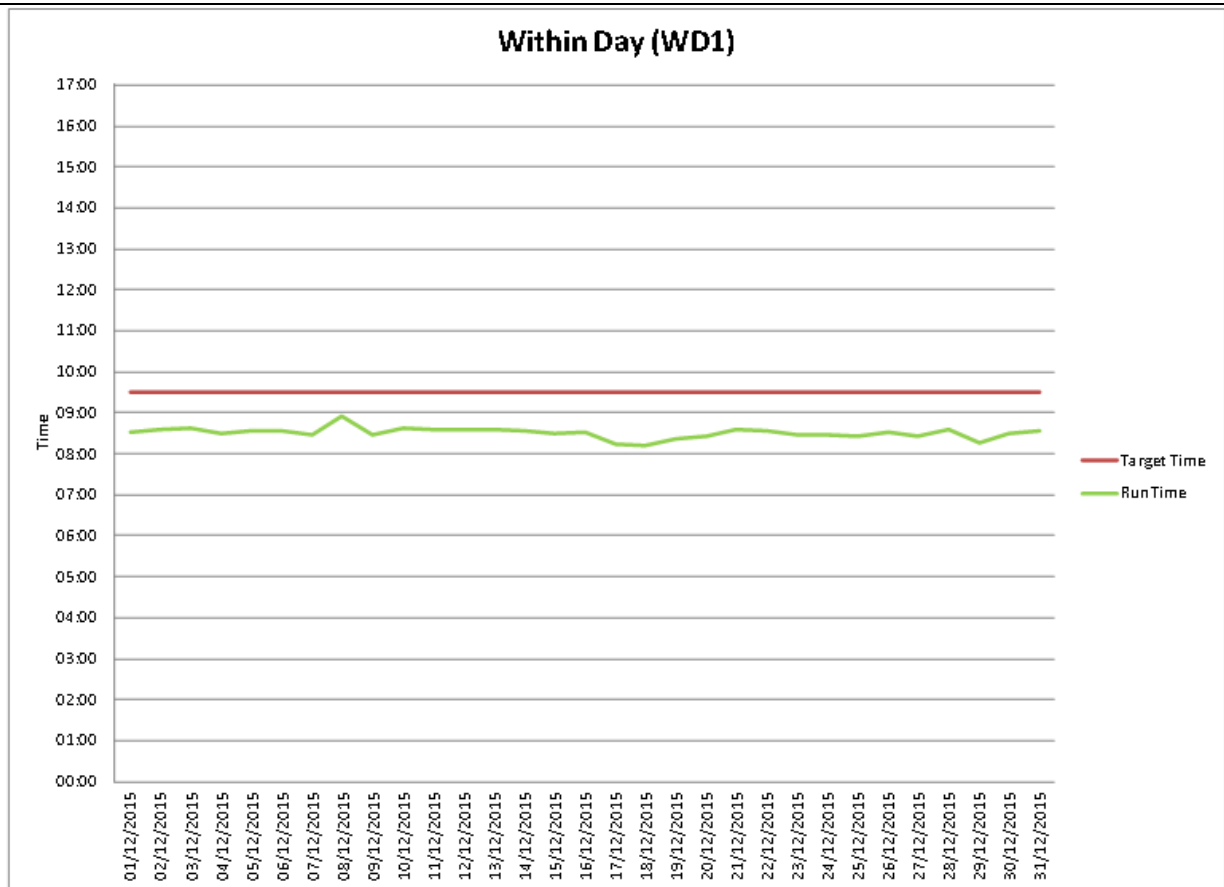


Figure 19 – Within Day 1

Market Operator Monthly Report

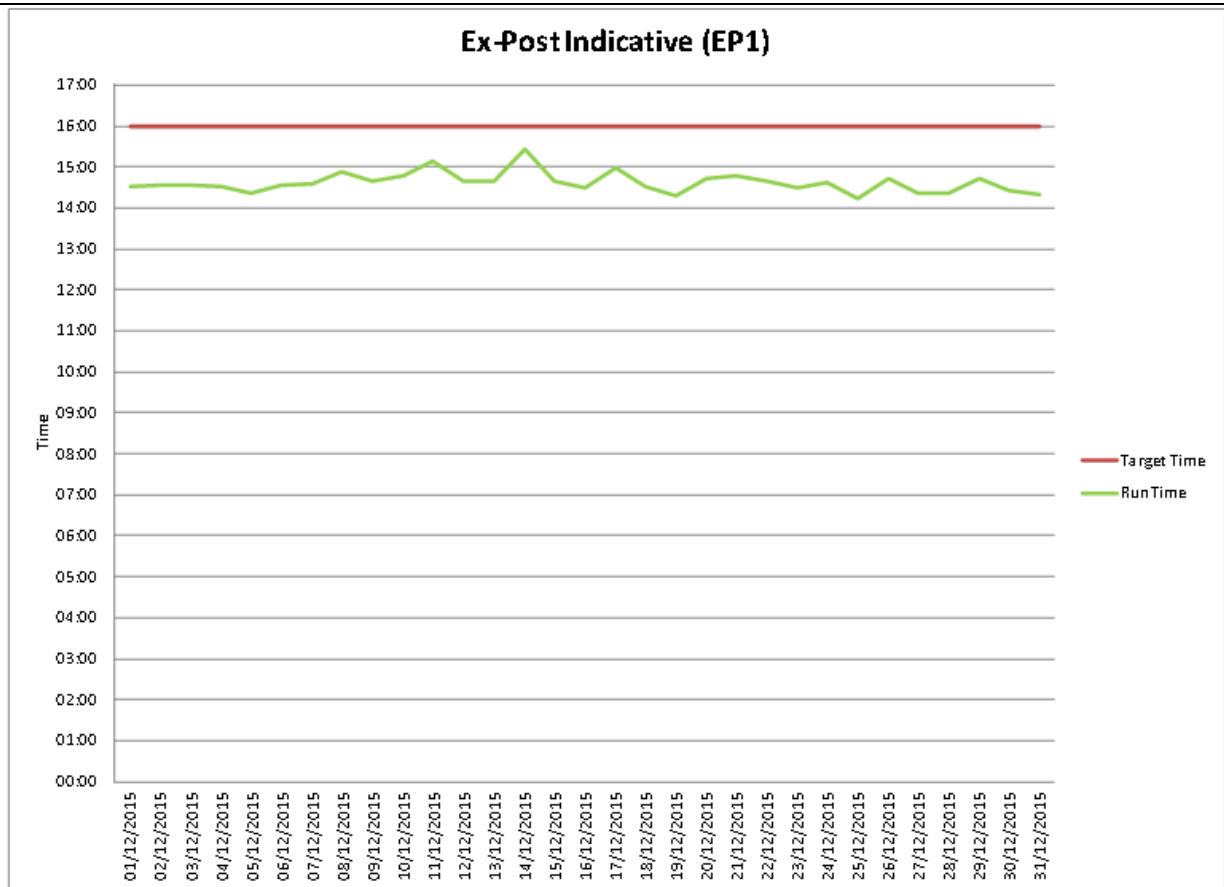


Figure 20 - Ex-Post Indicative

Market Operator Monthly Report

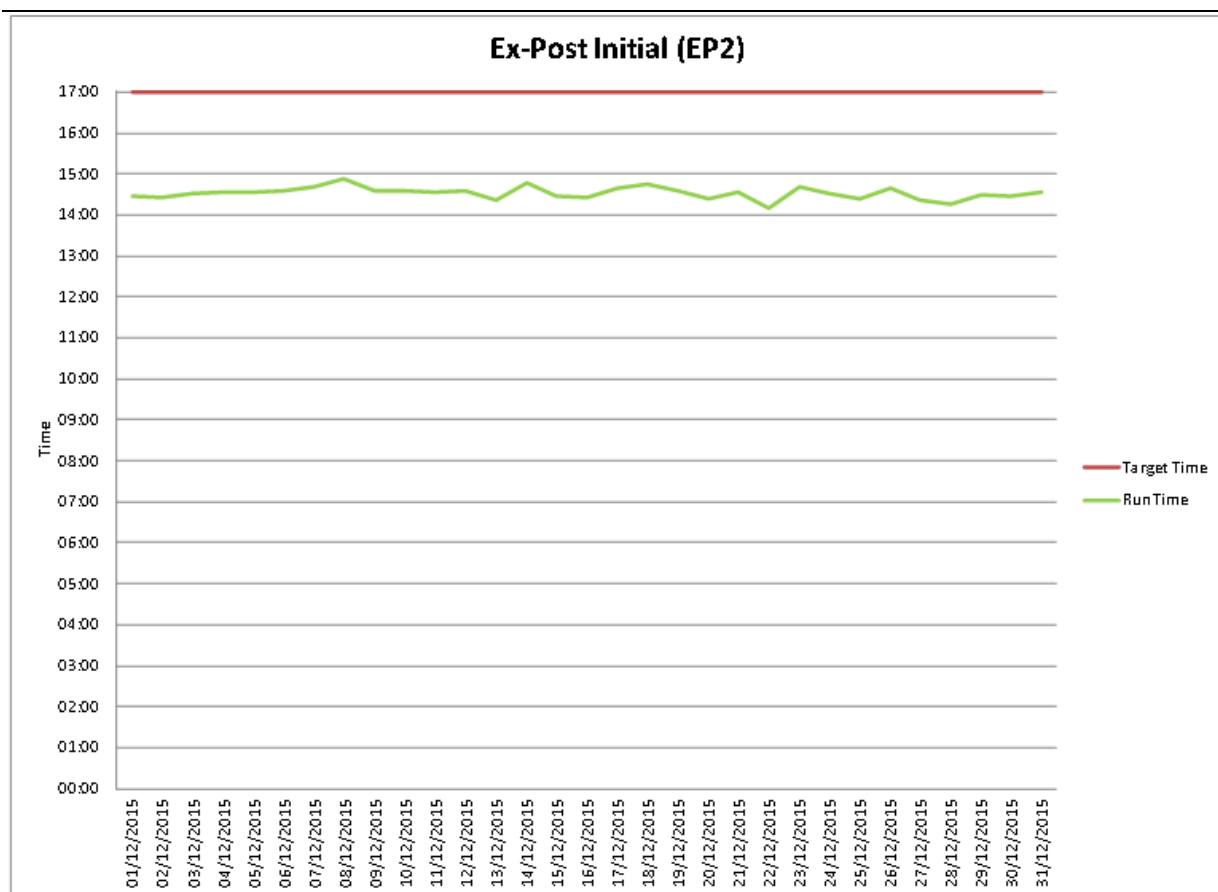


Figure 21 - Ex-Post Initial

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 December 2015, there were 9 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

6.4.3 Settlement Postings December 2015

The publication timings for Settlement runs are provided below.

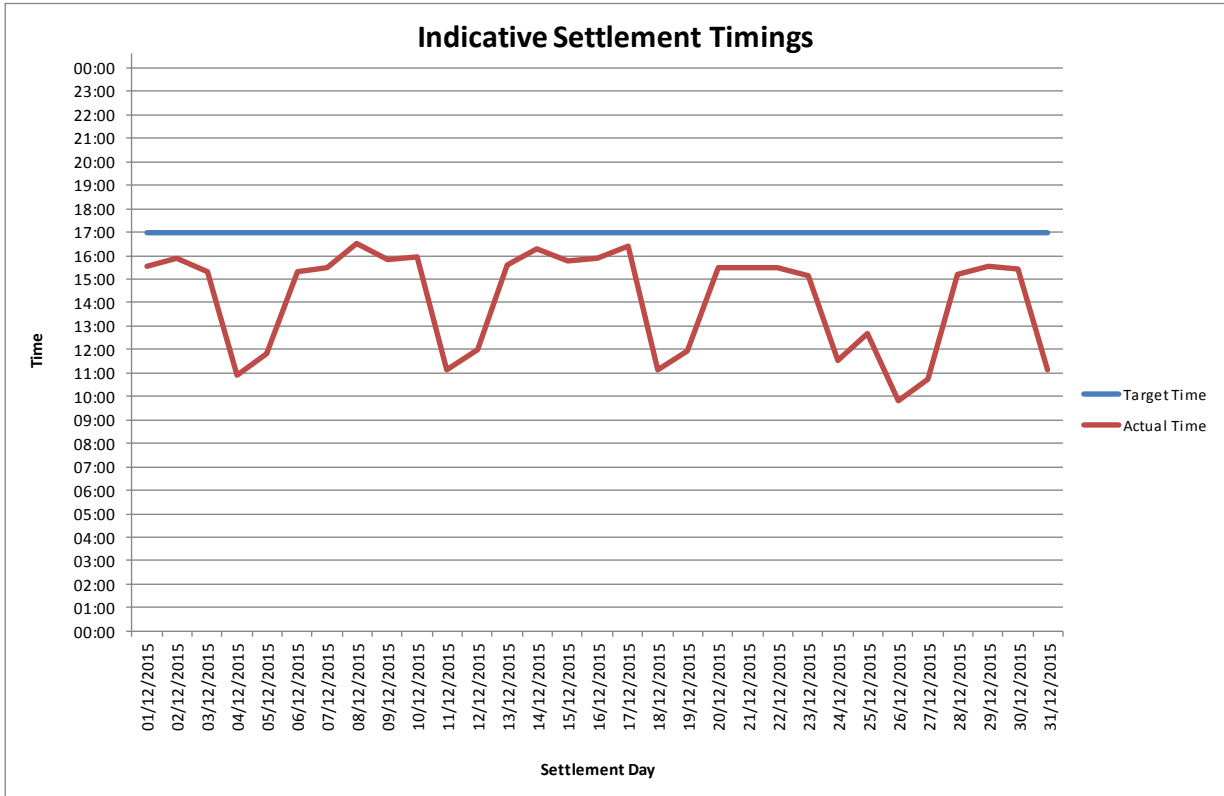


Figure 22 - Indicative Settlement Postings

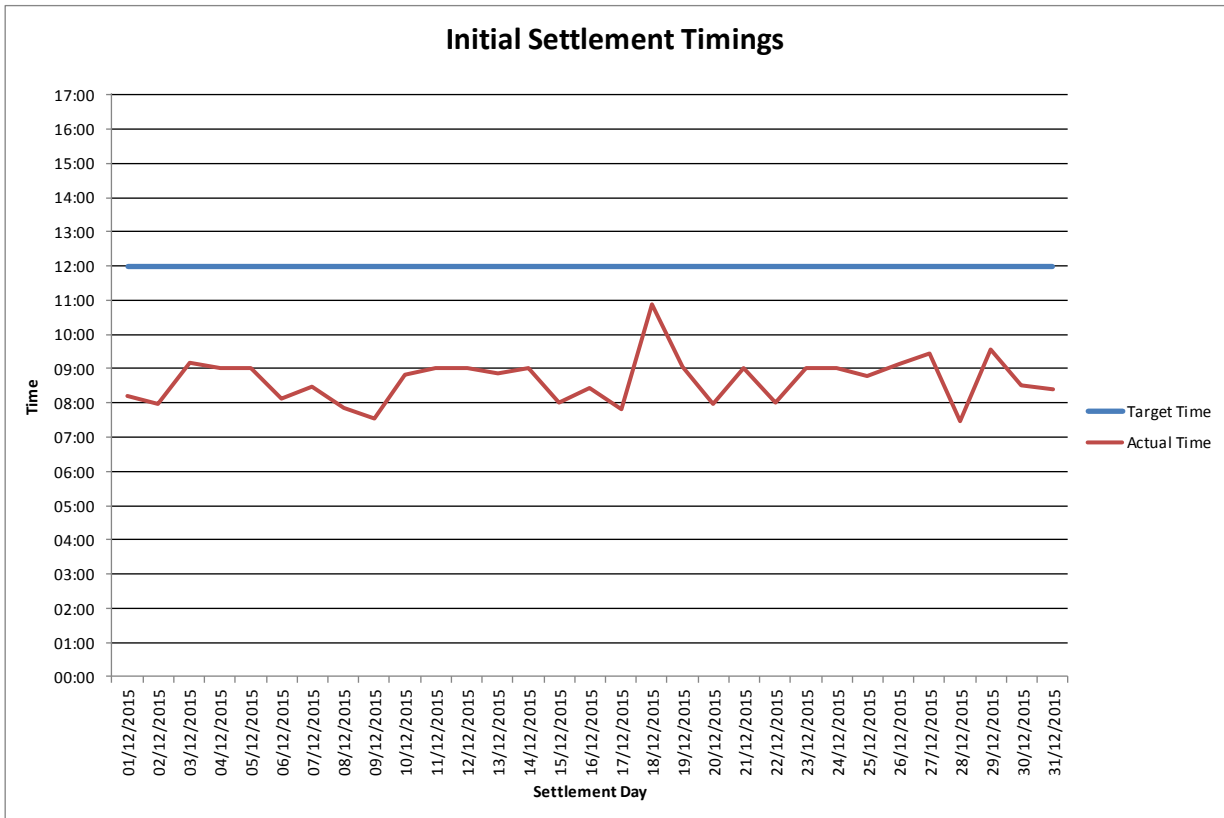


Figure 23 - Initial Settlement Postings

Market Operator Monthly Report

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

6.5.2 Release SEM R2.8.0 (TBC May 2015)

SEM 2.8.0 cut-off date for participants was November 6th 2015:

So far one Change Request has been raised internally

- **CR351 Eligible Availability** - The PRE-ELIGIBLE-AVAIL and ELIGIBLE-AVAIL preprocessing modules in Pomax involve the calculation of a FACTOR value for each interval of the Trading Day. These values are then sorted in decreasing order for later use in the algorithms. The algorithm does not handle the scenario where the FACTOR calculation involves a division by zero. This change request requires that when this scenario occurs, the FACTOR value should be treated as a zero for the purposes of sorting.

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)

7. Occasional Components

7.1 Disaster Recovery/Business Continuity Tests

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

7.3 Communications or Systems Failures

There were no communications or systems failures during December 2015.

7.4 Denial of Service Attacks

There was no Denial of Service Attacks during December 2015.

7.5 Submission of Parameters to RAs for Approval

During the month of December, SEMO was required to provide data to the Regulatory Authorities for the calculation of the Annual Capacity Exchange Rate, which was published on December 15th 2015.

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
02/12/2015	Money In	Timing	Participant	Payment Default	Electricity Exchange Limited (PT_400116) defaulted on a Week 43, 2014 M+13 Energy Invoice.	Participant Error	A default letter was issued to the participant.	Major
09/12/2015	Money In	Timing	Participant	Payment Default	LCC Power Limited (PT_500057) defaulted on a Week 32 2015 M+4 Energy Invoice.	Participant Error	A default letter was issued to the participant.	Major
09/12/2015	Money In	Timing	Participant	Payment Default	The Interconnector Administrator (A_NIMOYLE) defaulted on a Week 47 2015 Initial Energy Invoice.	Participant Error	A default letter was issued to the participant.	Major
11/12/2015	Money In	Timing	Participant	Payment Default	Mantlin Limited (PT_500039) defaulted on a November 2015 FMOC invoice.	Participant Error	A default letter was issued to the participant.	Major
11/12/2015	Money In	Timing	Participant	Payment Default	Contour Global Solutions (Northern Ireland) Ltd (PT_500048) defaulted on a November 2015 FMOC invoice.	Participant Error	A default letter was issued to the participant.	Major
11/12/2015	Money In	Timing	Participant	Payment Default	Quinn Windfarm Limited (PT_400049) defaulted on a November 2015 FMOC invoice.	Participant Error	A default letter was issued to the participant.	Major
14/12/2015	Money In	Timing	Participant	Payment Default	Arden Energy Limited (PT_400149) defaulted on a November 2015 Initial Capacity Invoice.	Participant Error	A default letter was issued to the participant.	Major
23/12/2015	Money In	Timing	Participant	Payment Default	Electricity Exchange Limited (PT_400116) defaulted on a November 2014 M+13 Capacity Invoice and on an August 2015 M+4 Capacity Invoice.	Participant Error	A default letter was issued to the participant.	Major
23/12/2015	Money In	Timing	Participant	Payment Default	iPower Solutions Limited (PT_500053) defaulted on a November 2014 M+13 Capacity Invoice.	Participant Error	A default letter was issued to the participant.	Major
23/12/2015	Money In	Timing	Participant	Payment Default	Sorne Wind Limited (PT_400038) defaulted on an August 2015 M+4 Capacity Invoice.	Participant Error	A default letter was issued to the participant.	Major
23/12/2015	Money In	Timing	Participant	Payment Default	Sorne Wind Limited (PT_400038) defaulted on a Week 48 2014 M+13 Energy Invoice.	Participant Error	A default letter was issued to the participant.	Major
23/12/2015	Money In	Timing	Participant	Payment Default	BRI Green Energy Limited (PT_400151 & PT_400152) defaulted on two August 2015 M+4 Capacity Invoices. BRI Green Energy Generation (PT_400062) defaulted on an August 2015 M+4 Capacity Invoice. BRI Green Energy Supply (PT_400063) defaulted on an August 2015 M+4 Capacity Invoice and on a November 2014 M+13 Capacity Invoice.	Participant Error	A default letter was issued to the participant.	Major
23/12/2015	Money In	Timing	Participant	Payment Default	BRI Green Energy Generation (PT_400062) defaulted on a Week 48 2014 M+13 Energy Invoice.	Participant Error.	A default letter was issued to the participant.	Major
31/12/2015	Money In	Timing	Participant	Payment Default	BRI Green Energy Supply (PT_400063) defaulted on a Week 35 2015 M+4 VMOC Invoice.	Participant Error	A default letter was issued to the participant.	Major

Table 15 – Trading and Settlement Code Breaches – Market Participants

Data Provider

There were no issues to report in December 2015

Market Operator Monthly Report

SEMO - Pricing and Scheduling

There were no issues to report in December 2015

SEMO – Settlements

There were no issues to report in December 2015

SEMO - Funds Transfer

There were no issues to report in December 2015

SEMO - Credit Management

There were no issues to report in December 2015

SEMO – Other

There were no issues to report in December 2015

9. Appendix B: List of Queries by Type

Summary Title	Description	ID	Logged On	Date sent to MP	Type
SO-SO Trades	Statkraft were unable to provide a price or total cost for period 6.1 on Trade date 25/11/2015 on the Moyle	IA_NIMOYLE	2015-12-03	2015-12-07	Settlement
SO-SO Trades	Statkraft revised the cost for one period 5,1 on trade date 28/11/2015 from zero to 29.78 Euro. This has been updated in AMP after the D+3 file was sent. Attachment includes the original D+3 and revised D+3 with the	IA_ROIEWMC	2015-12-03	2015-12-07	Settlement
CLAFs	1. The incorrect Distribution Loss Factor has been applied to Ballymartin 1 (BX1) GU_401710 and Ballymartin 2 (BX2) GU_401760. Incorrect values - Ballymartin 1 0.9557 Day and 0.9527 Night and Ballymartin 2 0.9778 Day	EirGrid	2015-12-08	2015-12-11	Settlement
Capacity	As per discussion with Rochelle on 08-12-15, November 2nd capacity revenue was calculated incorrectly as per previous settlement query	PT_400041	2015-12-11	2015-12-14	Settlement
Actual Availabilities	Following receipt of SSE Airtricity Ltd PT_500021 Initial Energy & Capacity invoices for November 16th 2015, it reported the Capacity/Energy Payments and Capacity Availability for unit GU_501160 are different from expected. On Friday 13th Nov, SSE were made aware by NIE that NIE were planning to undertake some signals	PT_500021	2015-12-14	2015-12-21	Settlement
Actual Availabilities	Incorrect Availability Declarations were sent to the SEM for GU_400430 (Coomagearlaghy Wind Farm Phase 1) on the 30/10/2015.	EirGrid	2015-12-17	2015-12-23	Settlement
Dispatch instructions	Incorrect Dispatch Instructions were sent to the SEM for GU_400430 (Coomagearlaghy Wind Farm Phase 1) on the 30/10/2015. No Dispatch Instructions at all should have been sent to the SEM for GU_400430 (Coomagearlaghy Wind Farm Phase 1) at the following times on the 30/10/2015; 16:10, 18:05, 18:56, 19:16, 20:19 and 20:53. Dispatch Instructions sent D+3 at the following times on the 30/10/2015 are correct; 21:09, 21:44, 21:47 and 23:23	EirGrid	2015-12-22	2015-12-23	Settlement
Capacity	Value for Eligible Availability for PT_500074 is greater than zero, therefore capacity payments should have been made to this wind farm, however Capacity payments were zero	PT_500074	2015-12-23	2016-01-04	Settlement
Testing Tariff	GU_400850 (AD2). Unit under test 23 Nov and 24 Nov. Tariff B should have been applied to this unit, however, Tariff A was applied in error.	PT_400030	2015-12-24	2016-01-04	Settlement
SO-SO Trades	The price direction was incorrect for 4 Periods on 19.11.15, this has been amended in AMP and the data sent to SEM needs to be corrected to match this. The 4 Periods in question are; 10,1 10,2 14,1 and 14,2. Cash Settlement figures for periods 10,1 10,2 14,1 and 14,2 on trade date 19.11.2015 were changed from figures	IA_ROIEWMC	2015-12-24	2016-01-04	Settlement
SO-SO Trades	The price direction was incorrect for 1 of the trades on Period 15,1 on 19.11.15, this has been amended in AMP	IA_NIMOYLE	2015-12-24	2016-01-04	Settlement

Table 16 - Formal Queries

10. Appendix C: List of All System Errors and Failures

The definitions of the statuses used for the List of All System Errors and Failures are:

- In Progress: Fix being identified and implemented.
- Resolved: Fix has been implemented, but reruns have not been performed.
- Closed: Required reruns have been performed and error-failure has been completely rectified.

Note: Items in the List of All System Errors and Failures that have status 'Closed' in this month’s report will not appear in subsequent Monthly Market Operator Reports as they are no longer open issues.

There were no Market Application defects found in December 2015.

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

Table 17 - List of System Errors and Failures

11. Appendix D: Details of Operational Timings

Market Schedule and Price Runs

Trading Day	EA1 Postings		EA2 Postings		WD1 Postings		EP1P Postings		EP 2 Postings	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
01/12/2015	11:00	10:04	13:00	11:49	09:30	08:32	16:00	14:32	17:00	14:28
02/12/2015	11:00	10:02	13:00	11:57	09:30	08:36	16:00	14:34	17:00	14:25
03/12/2015	11:00	09:55	13:00	11:57	09:30	08:37	16:00	14:34	17:00	14:32
04/12/2015	11:00	10:07	13:00	11:57	09:30	08:30	16:00	14:32	17:00	14:34
05/12/2015	11:00	09:49	13:00	11:49	09:30	08:33	16:00	14:22	17:00	14:33
06/12/2015	11:00	10:05	13:00	11:55	09:30	08:34	16:00	14:34	17:00	14:36
07/12/2015	11:00	09:58	13:00	12:02	09:30	08:27	16:00	14:36	17:00	14:41
08/12/2015	11:00	10:16	13:00	12:08	09:30	08:54	16:00	14:52	17:00	14:52
09/12/2015	11:00	09:53	13:00	11:49	09:30	08:28	16:00	14:39	17:00	14:36
10/12/2015	11:00	10:00	13:00	12:03	09:30	08:38	16:00	14:46	17:00	14:35
11/12/2015	11:00	09:58	13:00	12:12	09:30	08:35	16:00	15:08	17:00	14:34
12/12/2015	11:00	09:57	13:00	11:59	09:30	08:36	16:00	14:39	17:00	14:35
13/12/2015	11:00	09:53	13:00	12:03	09:30	08:36	16:00	14:38	17:00	14:22
14/12/2015	11:00	09:52	13:00	11:51	09:30	08:34	16:00	15:26	17:00	14:46
15/12/2015	11:00	09:58	13:00	11:57	09:30	08:30	16:00	14:38	17:00	14:27
16/12/2015	11:00	09:58	13:00	11:57	09:30	08:32	16:00	14:30	17:00	14:25
17/12/2015	11:00	10:03	13:00	12:05	09:30	08:13	16:00	14:59	17:00	14:39
18/12/2015	11:00	10:08	13:00	11:46	09:30	08:11	16:00	14:31	17:00	14:44
19/12/2015	11:00	10:05	13:00	11:56	09:30	08:21	16:00	14:18	17:00	14:35
20/12/2015	11:00	09:49	13:00	11:39	09:30	08:25	16:00	14:42	17:00	14:24
21/12/2015	11:00	09:52	13:00	12:05	09:30	08:36	16:00	14:47	17:00	14:33
22/12/2015	11:00	10:03	13:00	11:49	09:30	08:33	16:00	14:39	17:00	14:10
23/12/2015	11:00	09:58	13:00	11:50	09:30	08:28	16:00	14:29	17:00	14:41
24/12/2015	11:00	09:55	13:00	12:22	09:30	08:27	16:00	14:37	17:00	14:32
25/12/2015	11:00	09:56	13:00	11:55	09:30	08:26	16:00	14:14	17:00	14:24
26/12/2015	11:00	09:43	13:00	11:47	09:30	08:32	16:00	14:43	17:00	14:38
27/12/2015	11:00	09:41	13:00	11:52	09:30	08:26	16:00	14:22	17:00	14:22
28/12/2015	11:00	09:56	13:00	11:55	09:30	08:36	16:00	14:22	17:00	14:16
29/12/2015	11:00	10:05	13:00	11:58	09:30	08:15	16:00	14:42	17:00	14:30
30/12/2015	11:00	09:55	13:00	11:56	09:30	08:29	16:00	14:26	17:00	14:27
31/12/2015	11:00	09:59	13:00	11:49	09:30	08:34	16:00	14:19	17:00	14:34

Table 18 – MSP Runs

Settlement Runs

Trading Day	INDICATIVE				INITIAL			
	Target Date	Actual Date	Target Time	Actual Time	Trading Day	Actual Date	Target Time	Actual Time
01/12/2015	02/12/2015	02/12/2015	17:00	15:33	01/12/2015	08/12/2015	12:00	08:13
02/12/2015	03/12/2015	03/12/2015	17:00	15:52	02/12/2015	09/12/2015	12:00	07:59
03/12/2015	04/12/2015	04/12/2015	17:00	15:19	03/12/2015	10/12/2015	12:00	09:11
04/12/2015	07/12/2015	07/12/2015	17:00	10:56	04/12/2015	11/12/2015	12:00	09:00
05/12/2015	07/12/2015	07/12/2015	17:00	11:49	05/12/2015	11/12/2015	12:00	09:00
06/12/2015	07/12/2015	07/12/2015	17:00	15:20	06/12/2015	11/12/2015	12:00	08:08
07/12/2015	08/12/2015	08/12/2015	17:00	15:29	07/12/2015	14/12/2015	12:00	08:29
08/12/2015	09/12/2015	09/12/2015	17:00	16:30	08/12/2015	15/12/2015	12:00	07:52
09/12/2015	10/12/2015	10/12/2015	17:00	15:49	09/12/2015	16/12/2015	12:00	07:33
10/12/2015	11/12/2015	11/12/2015	17:00	15:57	10/12/2015	17/12/2015	12:00	08:50
11/12/2015	14/12/2015	14/12/2015	17:00	11:07	11/12/2015	18/12/2015	12:00	09:00
12/12/2015	14/12/2015	14/12/2015	17:00	12:01	12/12/2015	18/12/2015	12:00	09:00
13/12/2015	14/12/2015	14/12/2015	17:00	15:36	13/12/2015	18/12/2015	12:00	08:52
14/12/2015	15/12/2015	15/12/2015	17:00	16:17	14/12/2015	21/12/2015	12:00	09:00
15/12/2015	16/12/2015	16/12/2015	17:00	15:46	15/12/2015	22/12/2015	12:00	08:00
16/12/2015	17/12/2015	17/12/2015	17:00	15:52	16/12/2015	23/12/2015	12:00	08:26
17/12/2015	18/12/2015	18/12/2015	17:00	16:24	17/12/2015	24/12/2015	12:00	07:49
18/12/2015	21/12/2015	21/12/2015	17:00	11:09	18/12/2015	24/12/2015	12:00	10:53
19/12/2015	21/12/2015	21/12/2015	17:00	11:56	19/12/2015	29/12/2015	12:00	09:04
20/12/2015	21/12/2015	21/12/2015	17:00	15:28	20/12/2015	30/12/2015	12:00	07:59
21/12/2015	22/12/2015	22/12/2015	17:00	15:31	21/12/2015	30/12/2015	12:00	09:00
22/12/2015	23/12/2015	23/12/2015	17:00	15:31	22/12/2015	31/12/2015	12:00	08:00
23/12/2015	24/12/2015	24/12/2015	17:00	15:10	23/12/2015	31/12/2015	12:00	09:00
24/12/2015	28/12/2015	28/12/2015	17:00	11:32	24/12/2015	31/12/2015	12:00	09:00
25/12/2015	28/12/2015	28/12/2015	17:00	12:41	25/12/2015	04/01/2016	12:00	08:46
26/12/2015	29/12/2015	29/12/2015	17:00	09:50	26/12/2015	04/01/2016	12:00	09:07
27/12/2015	29/12/2015	29/12/2015	17:00	10:45	27/12/2015	04/01/2016	12:00	09:27
28/12/2015	29/12/2015	29/12/2015	17:00	15:11	28/12/2015	05/01/2016	12:00	07:28
29/12/2015	30/12/2015	30/12/2015	17:00	15:34	29/12/2015	05/01/2016	12:00	09:34
30/12/2015	31/12/2015	31/12/2015	17:00	15:27	30/12/2015	06/01/2016	12:00	08:31
31/12/2015	04/01/2016	04/01/2016	17:00	11:08	31/12/2015	07/01/2016	12:00	08:23

Table 19 – Settlement Runs

12. Appendix E: Imperfections Charge

This appendix provides daily data for the Constraint Payments, Uninstructed Imbalance Payments and Imperfections Charges, and as well as the weekly values of Make Whole Payments and Testing Charges.

The following table is updated to take account of the values calculated in the Initial Settlement runs only.

Historical information will be shown in Appendix E until completion of the current financial year. Information prior to that can be found in previous Monthly Market Operator Reports.

Date	Constraint Payments	Uninstructed Imbalance Payments	Imperfections Charges
01/11/2015	€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

Market Operator Monthly Report

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

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

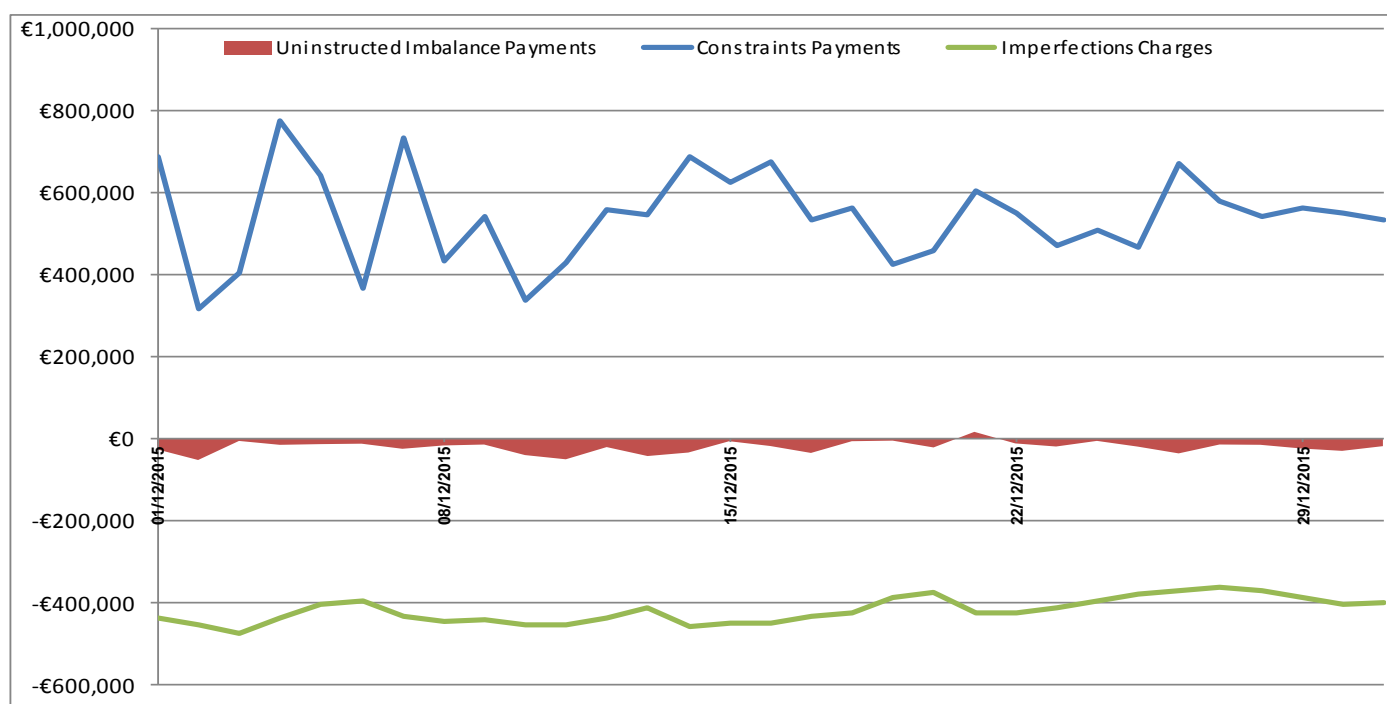


Figure 24 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

Week No	Make Whole Payments
43	€18,614.74
44	€23,589.25
45	€5,513.20
46	€17,624.74
47	€27,403.03
48	€98,619.6
49	€82,787.86
50	€82,380.81

Table 21 - Make Whole Payments

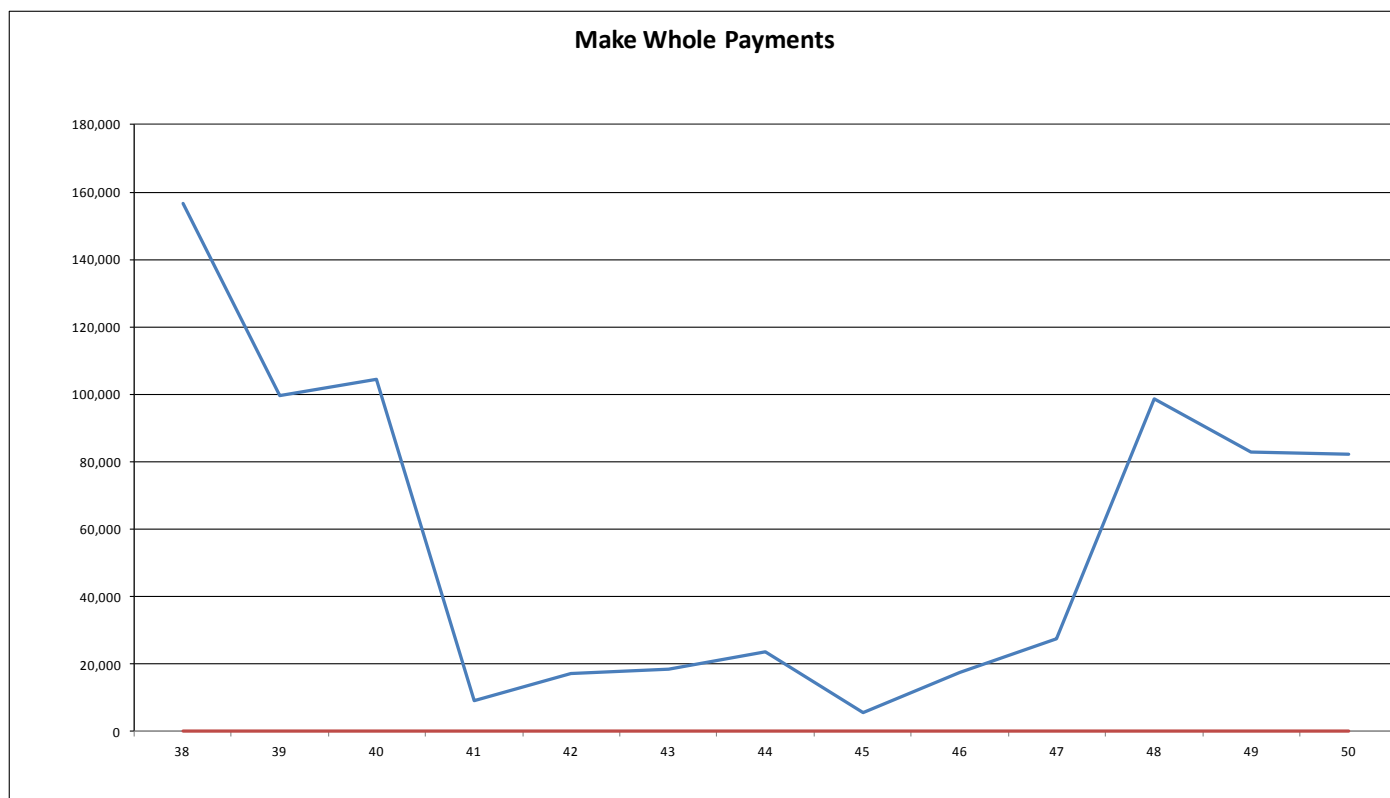


Figure 25 - Make Whole Payments

Week No	Testing Charges
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

Table 22 - Testing Charges

Testing Charges

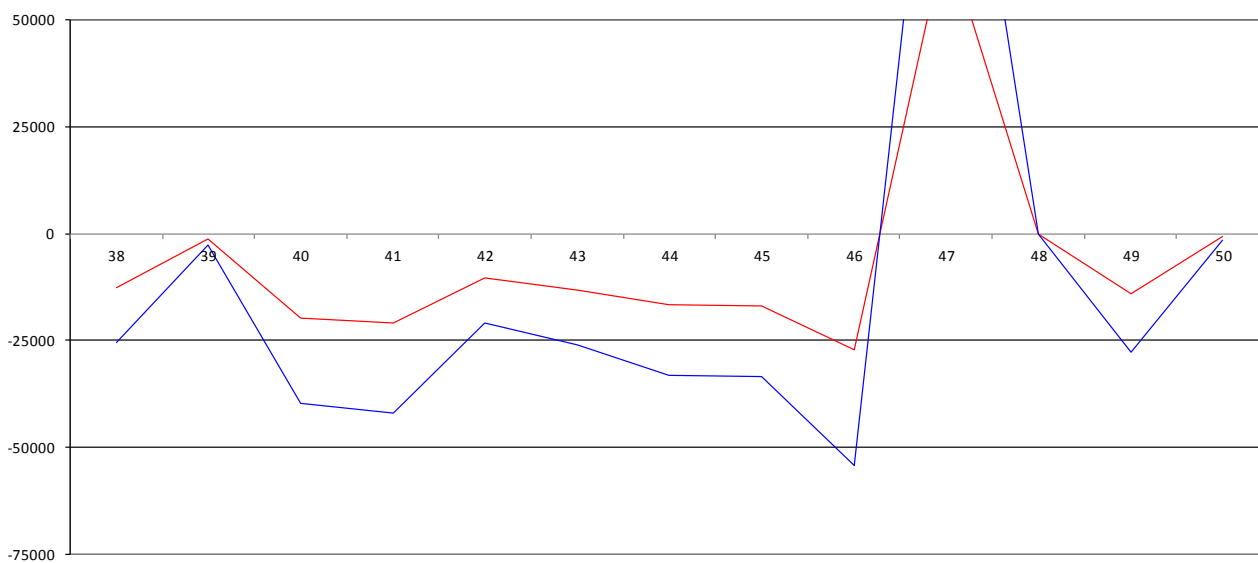


Figure 26 - Testing Charges

13. Appendix F: Default Commercial Offer Data Used

The table below lists for each unit the number of times in operations during December 2015 where the Commercial Offer Data was based on a Participant submission within the Market window, or based on Standing Data or Default Data submitted.

PNAME	RNAME	Manual	Adjusted	Standing	COUNT
PT_400144	DSU_401660			31	31
PT_500078	DSU_501330			31	31
PT_400111	DSU_401390			28	28
PT_400133	DSU_401530			12	12
PT_400138	DSU_401590	31			31
PT_400090	DSU_401610	31			31
PT_400090	DSU_401620	31			31
PT_400116	DSU_401400	31			31
PT_500067	DSU_501380	22			22
PT_400106	DSU_401330	31			31
PT_400090	DSU_401270	31			31
PT_400111	DSU_401390	3			3
PT_400133	DSU_401530	19			19
PT_400124	DSU_401490	31			31
PT_400024	GU_400120	31			31
PT_400024	GU_400121	31			31
PT_400026	GU_400140	31			31
PT_400030	GU_400180	36			36
PT_400030	GU_400181	36			36
PT_400030	GU_400182	36			36
PT_400030	GU_400183	36			36
PT_400030	GU_400200	32			32
PT_400030	GU_400201	32			32
PT_400030	GU_400202	32			32
PT_400030	GU_400203	32			32
PT_400030	GU_400210	33			33
PT_400030	GU_400211	32			32
PT_400030	GU_400220	32			32
PT_400030	GU_400221	32			32
PT_400030	GU_400240	32			32
PT_400030	GU_400250	31			31
PT_400030	GU_400251	32			32
PT_400030	GU_400252	32			32
PT_400030	GU_400260	33			33
PT_400030	GU_400270	35			35
PT_400030	GU_400271	33			33
PT_400030	GU_400272	34			34
PT_400030	GU_400280	32			32
PT_400030	GU_400281	32			32
PT_400030	GU_400290	32			32
PT_400030	GU_400300	36			36
PT_400030	GU_400311	36			36
PT_400030	GU_400323	36			36
PT_400030	GU_400360	32			32
PT_400030	GU_400361	32			32
PT_400030	GU_400362	32			32

Market Operator Monthly Report

PT_400030	GU_400363	32			32
PT_400030	GU_400370	32			32
PT_400030	GU_400850	36			36
PT_400032	GU_400430	28			28
PT_400034	GU_400940	28			28
PT_400034	GU_401090	28			28
PT_400034	GU_401440	28			28
PT_400034	GU_401680	14			14
PT_400035	GU_400480	49			49
PT_400037	GU_400500	33			33
PT_400041	GU_400530	54			54
PT_400044	GU_400540	49			49
PT_400054	GU_400620	28			28
PT_400055	GU_400630	28			28
PT_400064	GU_400750	32			32
PT_400064	GU_400751	32			32
PT_400064	GU_400752	32			32
PT_400064	GU_400753	32			32
PT_400064	GU_400762	32			32
PT_400064	GU_400770	32			32
PT_400064	GU_400771	32			32
PT_400064	GU_400780	32			32
PT_400064	GU_400781	32			32
PT_400066	GU_401540	20			20
PT_400066	GU_401820	19			19
PT_400075	GU_400930	66			66
PT_400077	GU_400950	28			28
PT_400078	GU_401010	31			31
PT_400078	GU_401011	31			31
PT_500024	GU_500040	32			32
PT_500024	GU_500041	31			31
PT_500027	GU_500130	83			83
PT_500027	GU_500131	83			83
PT_500027	GU_500140	83			83
PT_500034	GU_501350	33			33
PT_500040	GU_500280	31			31
PT_500040	GU_500281	31			31
PT_500040	GU_500282	31			31
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	45			45
PT_500050	GU_501040	28			28
PT_500050	GU_501050	28			28
PT_500050	GU_501150	28			28
PT_500050	GU_501190	28			28
PT_500053	GU_501130	32			32
PT_500066	GU_501210	28			28
PT_400021	GU_400021			31	31

Market Operator Monthly Report

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_401600			31	31
PT_400021	GU_401640			31	31
PT_400025	GU_400130			31	31
PT_400032	GU_400430			3	3
PT_400034	GU_400940			3	3
PT_400034	GU_401090			3	3
PT_400034	GU_401440			3	3
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_400054	GU_400620			3	3
PT_400055	GU_400630			3	3
PT_400062	GU_400730			31	31
PT_400062	GU_400731			31	31
PT_400062	GU_400840			31	31
PT_400077	GU_400950			3	3
PT_400082	GU_401100			31	31
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_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

Market Operator Monthly Report

PT_500039	GU_500270			31	31
PT_500044	GU_500720			31	31
PT_500047	GU_500790			31	31
PT_500050	GU_501040			3	3
PT_500050	GU_501050			3	3
PT_500050	GU_501150			3	3
PT_500050	GU_501190			3	3
PT_500061	GU_501170			31	31
PT_500062	GU_501180			31	31
PT_500066	GU_501210			3	3
PT_500073	GU_501230			31	31
PT_500074	GU_501250			31	31
PT_500083	I_NIMOYLE	70			70
PT_400021	I_ROIEWIC	31			31
PT_500075	I_NIMOYLE	35			35
PT_500024	I_NIMOYLE	31			31
PT_500021	I_NIMOYLE	31			31
PT_400163	I_ROIEWIC	92			92
PT_500058	I_NIMOYLE	28			28
PT_500069	I_NIMOYLE	89			89
PT_400157	I_ROIEWIC	27			27
PT_500031	I_NIMOYLE	31			31
PT_400096	I_ROIEWIC	93			93
PT_400113	I_ROIEWIC	30			30
PT_500037	I_NIMOYLE	53			53
PT_400168	I_ROIEWIC	66			66
PT_400136	I_ROIEWIC	46			46
PT_400115	I_ROIEWIC	31			31
PT_500081	I_NIMOYLE	24			24
PT_500070	I_NIMOYLE	62			62
PT_400108	I_ROIEWIC	70			70
PT_400099	I_ROIEWIC	53			53
PT_400030	I_ROIEWIC	31			31
PT_500088	I_NIMOYLE	8			8
	Total	4202	0	1843	6045
	Percentage	69.51%	0.00%	30.49%	100.00%

Table 23 – Commercial Offer Data Used

14. Appendix G: Total Charges and Payments Data

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

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

Market Operator Monthly Report

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-14	ROI	£66,102,607.16	£27,393,747.26	£1,496,376.58	£305,733.65	£76,911.71	£2,819.89	£479,013.35	£22,451.87	£9,128.65	£381,194.91	£0.00	£0.00	96,269,985.03
	NI	£31,130,342.59	£9,846,758.26	£422,869.99	£25,720.60	£3,900.39	£240.37	£187,918.65	£15,303.03	£942.92	£235.51	£0.00	£0.00	41,634,232.31
Mar-14	ROI	£70,041,213.49	£26,285,336.21	£1,449,159.95	£261,906.17	£61,216.38	£2,226.19	£92,283.95	£30,407.22	£960.16	£0.00	£0.00	£0.00	98,224,709.72
	NI	£30,175,818.70	£9,293,564.48	£406,620.40	£46,940.79	£7,639.04	£408.77	£52,408.32	£11,933.67	£470.83	£0.00	£0.00	£0.00	39,995,805.00
Apr-14	ROI	£62,098,778.40	£21,155,742.39	£1,388,175.41	£528,104.58	£142,466.39	£4,901.73	£242,053.48	£38,030.86	£1,783.00	£0.00	£0.00	£0.00	85,600,036.24
	NI	£26,448,426.91	£9,644,850.74	£386,840.18	£307,948.88	£77,962.26	£2,649.15	£53,805.05	£9,613.13	£381.03	£0.00	£0.00	£0.00	36,932,477.33
May-14	ROI	£68,945,192.38	£22,029,381.87	£1,615,436.17	£629,905.18	£213,410.99	£7,659.07	£192,421.65	£21,030.53	£1,110.05	£429,407.30	£0.00	£0.00	94,084,955.19
	NI	£28,649,957.73	£7,313,397.03	£439,831.96	£149,812.37	£34,908.87	£997.82	£58,386.93	£9,959.93	£468.77	£0.03	£0.00	£0.00	36,657,721.44
Jun-14	ROI	£52,841,750.77	£17,596,854.80	£1,312,068.35	£423,771.26	£115,750.72	£4,162.65	£89,169.46	£18,685.28	£1,014.73	£28,526.30	£0.00	£0.00	72,431,754.32
	NI	£21,944,762.06	£6,361,219.34	£345,120.63	£120,971.43	£44,784.33	£1,003.03	£41,125.48	£9,461.42	£415.67	£2,532.18	£0.00	£0.00	28,871,395.57
Jul-14	ROI	£48,255,770.91	£22,988,780.17	£1,292,701.68	£332,606.61	£88,357.34	£2,943.28	£85,242.72	£17,526.18	£1,047.39	£0.00	£0.00	£0.00	73,064,976.28
	NI	£16,832,807.07	£5,122,118.14	£325,108.62	£91,338.63	£25,719.39	£870.76	£34,166.04	£7,520.83	£436.14	£0.00	£0.00	£0.00	22,440,085.62
Aug-14	ROI	£75,858,678.54	£17,424,467.63	£1,576,396.05	£255,748.90	£41,217.98	£1,835.23	£112,980.92	£0.00	£1,327.55	£123,147.19	£0.00	£0.00	73,064,976.28
	NI	£20,792,697.59	£5,164,101.59	£404,571.34	£73,223.02	£16,729.14	£695.03	£40,446.87	£0.00	£491.99	£10.52	£0.00	£0.00	22,440,085.62
Sep-14	ROI	£73,166,499.86	£17,774,079.00	£1,638,145.68	£285,506.09	£62,431.70	£3,367.28	£92,320.83	£30,020.38	£728.19	£0.00	£0.00	£0.00	93,053,099.01
	NI	£24,828,028.32	£5,414,449.74	£421,681.34	£62,719.19	£15,276.27	£566.66	£41,391.12	£13,194.54	£660.78	£0.00	£0.00	£0.00	30,797,967.96
Oct-14	ROI	£24,219,443.57	£5,293,829.01	£290,759.61	£62,719.19	£15,276.27	£15,188.14	£796.75	£32,076.91	£6,465.54	£355.27	£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	£126,364.21	£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	£100,068.41	£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	£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
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

Table 24 - 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-14	ROI	€78,679,881.12	€26,819,095.36	€304,687.52	€76,805.50	€2,536.46	€531,739.65	€29,343.21	€10,349.43	€443,421.38	€0.00	€106,897,859.63
	NI	€29,747,186.53	€10,347,544.45	€37,918.21	€4,082.15	€214.26	€179,315.25	€9,737.45	€350.80	€3.55	€0.00	€40,326,352.65
Mar-14	ROI	€75,149,006.14	€26,180,620.54	€259,644.98	€60,397.08	€2,170.67	€127,303.70	€28,200.28	€960.40	€0.00	€0.00	€101,808,303.79
	NI	€29,749,446.42	€9,292,032.85	€46,950.40	€8,326.93	€408.65	€52,017.29	€13,760.80	€471.08	€0.00	€0.00	€39,163,414.42
Apr-14	ROI	€65,482,679.64	€21,981,963.17	€549,302.08	€147,627.43	€4,399.40	€259,726.57	€38,566.49	€1,783.33	€0.00	€0.00	€88,466,048.11
	NI	€25,517,456.45	€8,979,409.88	€303,950.50	€73,719.22	€2,138.60	€56,294.66	€9,188.57	€381.08	€0.00	€0.00	€34,942,538.96
May-14	ROI	€68,502,489.93	€22,405,052.21	€652,683.44	€210,307.65	€7,807.32	€249,029.58	€16,425.79	€1,110.17	€9,581.32	€0.00	€92,054,487.41
	NI	€27,515,054.00	€7,036,489.15	€150,145.26	€37,452.65	€999.79	€81,713.52	€13,718.04	€468.77	€3.89	€0.00	€34,836,045.07
Jun-14	ROI	€53,863,542.49	€16,268,861.66	€424,333.36	€121,415.36	€4,245.54	€106,227.35	€17,318.53	€1,014.63	€10,805.33	€0.00	€70,817,764.25
	NI	€18,301,490.12	€7,464,864.99	€121,134.45	€40,186.30	€1,005.32	€50,770.87	€10,564.39	€415.66	€29.76	€0.00	€25,990,461.86
Jul-14	ROI	€50,929,138.15	€21,772,067.06	€326,631.36	€82,858.43	€2,938.18	€123,130.56	€17,118.42	€1,016.51	€0.00	€0.00	€73,254,898.67
	NI	€12,936,147.70	€6,035,816.09	€91,479.13	€29,875.87	€983.16	€67,310.27	€7,807.37	€427.29	€0.00	€0.00	€19,169,676.88
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	€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	€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	€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	€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	€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	€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	€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	€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	€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	€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	€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	€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	€129,901,837.07
	NI	€19,828,437.97	€18,954,828.70	€108,022.71	€15,945.69	€367.07	€16,957.65	€4,432.19	€141.23	€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	€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	€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	€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	€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	€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	€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	€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	€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	€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	€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	€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	€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	€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	€18,348,050.15
Oct-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	€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	€26,273,933.17
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	€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	€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	€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	€26,273,933.17

Table 25 - Total Payments by Month

15. Appendix H: Full Balancing Costs

Historical figures for full Balancing Costs of both the Trading and Capacity Markets, for the current financial year (November 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
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	€897,437.38	-€300,749.94
11/12/2015	48	€141,592.08	-€534,740.45
18/12/2015	49	€878,459.85	-€388,379.01
30/12/2015	50	€838,626.05	-€160,949.17

Table 26 – 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
November 2015	-€386.53	€20,938.81
December 2015	-€421.62	€0

Table 27 - Balancing Costs for Capacity Settlement

Note: SEM Capacity Balancing Costs and VAT Balancing Costs are provided based on Annual Capacity exchange rate. VAT Balancing costs exclude Currency Cost related VAT.

16. Appendix I: MSP Algorithms

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

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

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

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>January 2015</u>	<u>06/01/2015</u>	<u>12/01/2015</u> <u>15/01/2015</u> <u>21/01/2015</u> <u>23/01/2015</u>	<u>03/01/2015</u>	<u>28/01/2015</u>	<u>16/01/2015</u>
<u>February 2015</u>	-	<u>06/02/2015</u> <u>07/02/2015</u> <u>09/02/2015</u> <u>13/02/2015</u> <u>18/02/2015</u> <u>23/02/2015</u>	<u>24/02/2015</u>	<u>28/02/2015</u>	<u>05/02/2015</u> <u>10/02/2015</u>
<u>March 2015</u>	-	-	-	<u>15/03/2015</u>	<u>24/03/2015</u>
<u>April 2015</u>	-	-	<u>20/04/2015</u>	<u>20/04/2015</u>	<u>25/04/2015</u>
<u>May 2015</u>	-	<u>13/05/2015</u>	<u>03/05/2015</u>	-	-
<u>June 2015</u>	-	<u>01/07/2015</u>	<u>22/06/2015</u>	<u>26/06/2015</u>	<u>11/06/2015</u>
<u>August 2015</u>	-	-	<u>23/07/2015</u>	-	-

Market Operator Monthly Report

Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>August 2015</u>	-	-	<u>11/08/2015</u>	<u>11/08/2015</u>	<u>07/08/2015</u> <u>31/08/2015</u>
<u>September 2015</u>	-	<u>18/09/2015</u>	-	<u>10/09/2015</u>	-
<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>	-

Table 28 - MIP Algorithms

Operational Date	Trade Date	Run Type	LR Peak SMP	MIP Peak SMP	Published
03/01/2015	02/01/2015	EP1	€560.46	€244.25	MIP
06/01/2015	07/01/2015	EA1	€550.32	€230.74	MIP
12/01/2015	13/01/2015	EA2	€1000	€162.06	MIP
15/01/2015	16/01/2015	EA2	€1000	€210.05	MIP
16/01/2015	16/01/2015	WD1	€557.82	€176.01	MIP
21/01/2015	22/01/2015	EA2	€554.69	€183.59	MIP
23/01/2015	24/01/2015	EA2	€1000	€361.30	MIP
28/01/2015	24/01/2015	EP2	€1000	€358.00	MIP
05/02/2015	05/02/2015	WD1	€583.65	€461.14	MIP
06/02/2015	07/02/2015	EA2	€1000	€201.17	MIP
07/02/2015	08/02/2015	EA2	€1000	€238.69	MIP
09/02/2015	10/02/2015	EA2	€1000	€211.44	MIP
10/02/2015	10/02/2015	WD1	€1000	€206.00	MIP
13/02/2015	14/02/2015	EA2	€1000	€920.77	MIP
18/02/2015	19/02/2015	EA2	€1000	€475.15	MIP
23/02/2015	24/02/2015	EA2	€1000	€239.26	MIP
24/02/2015	23/02/2015	EP1	€1000	€206.00	MIP
28/02/2015	24/02/2015	EP2	€1000	€418.22	MIP
15/03/2015	11/03/2015	EP2	€1000	€740.26	MIP
24/03/2015	24/03/2015	WD1	€586.24	€195.68	MIP
21/04/2015	20/04/2015	EP1	€589.68	€79.45	MIP
25/04/2015	24/04/2015	WD1	€1,000	€162.18	MIP
24/04/2015	20/04/2015	EP2	€589.68	€80.11	MIP

Market Operator Monthly Report

12/05/2015	13/05/2015	EA2	€590.61	€221.99	MIP
04/05/2015	03/05/2015	EP1	€574.30	€313.07	MIP
11/06/2015	11/06/2015	WD1	€576.50	€206.00	MIP
23/06/2015	22/06/2015	EP1	€579.41	€76.14	MIP
30/06/2015	26/06/2015	EP2	€578.16	€285.24	MIP
30/06/2015	01/07/2015	EA2	€574.22	€110.58	MIP
23/07/2015	22/07/2015	EP1	€1,000	€86.14	MIP
07/08/2015	07/08/2015	WD1	€579.12	€71.44	MIP
12/08/2015	11/08/2015	EP1	€567.94	€76.52	MIP
15/08/2015	11/08/2015	EP2	€576.94	€76.52	MIP
31/08/2015	31/08/2015	WD1	€1,000	€66.29	MIP
14/09/2015	10/09/2015	EP2	-€100	€85.93	MIP
17/09/2015	18/09/2015	EA2	€1,000	€86.51	MIP
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

Table 29 - MIP Vs LR Peak Price Comparison