



Market Operator Monthly Report

September 2017

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Executive Summary

This Single Electricity Market Operator's (SEMO) report covers the month of operation of September 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 September 2017, there were no late Settlement publications as per the Trading and Settlement code.

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

There were 19 defaults by Participants during September 2017. The largest of these was an Initial Capacity August 2017 invoice for € 215,967.21 which was remedied on the same day.

There were 2 Credit Cover Increase defaults during September 2017 as per the Trading and Settlement code timelines.

199 general queries were received in September 2017. During the same period 191 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		-	4
Market Participants	Pricing & Scheduling	-	-
	Settlement	-	-
	Funds Transfer	19	-
	Credit Risk Management	2	-
SEMO	Pricing & Scheduling	-	1
	Settlement	-	-
	Funds Transfer	-	-
	Credit Risk Management	-	-
	Other	-	-
Total		21	5

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.

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Joining and Terminating Parties and Units

1 Party joined the Market in September 2017.

- PY_000191 Brookfield Renewable Supply 4 Limited

There were no terminating parties in September 2017.

The following units went effective in the Market in September 2017

- PT_400138_Viridian Energy Limited - DSU_402040 VEL DSU
- PT_500021_SSE Airtricity Energy Supply NI Ltd - GU_501670 Brockaghboy Windfarm
- PT_400116_Electricity Exchange Limited - DSU_402090 EE-SSE DSU
- PT_400116_Electricity Exchange Limited - DSU_402100 Electricity Exchange DSU 3
- PT_400116_Electricity Exchange Limited - DSU_402120 Electricity Exchange DSU 4
- PT_400117_Electricity Exchange Limited - SU_400213 EE-SSE TSSU
- PT_400117_Electricity Exchange Limited - SU_400214 Electricity Exchange TSSU 3
- PT_400117_Electricity Exchange Limited - SU_400215 Electricity Exchange TSSU 4
- PT_400147_Cnoc Energy Supply Limited - GU_401670 Cnoc Windfarms
- PT_400212_Rathmacan Trading Limited - GU_402140 Ballybay Windfarm
- PT_400213_Rathmacan Trading Limited - SU_400217 Rathmacan Trading Ltd
- PT_400216_Beal na mBlath - SU_400219 Beal na mBlath

No units de-registered from the Market in September 2017.

Suspension of Participants

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

Financial Statistics

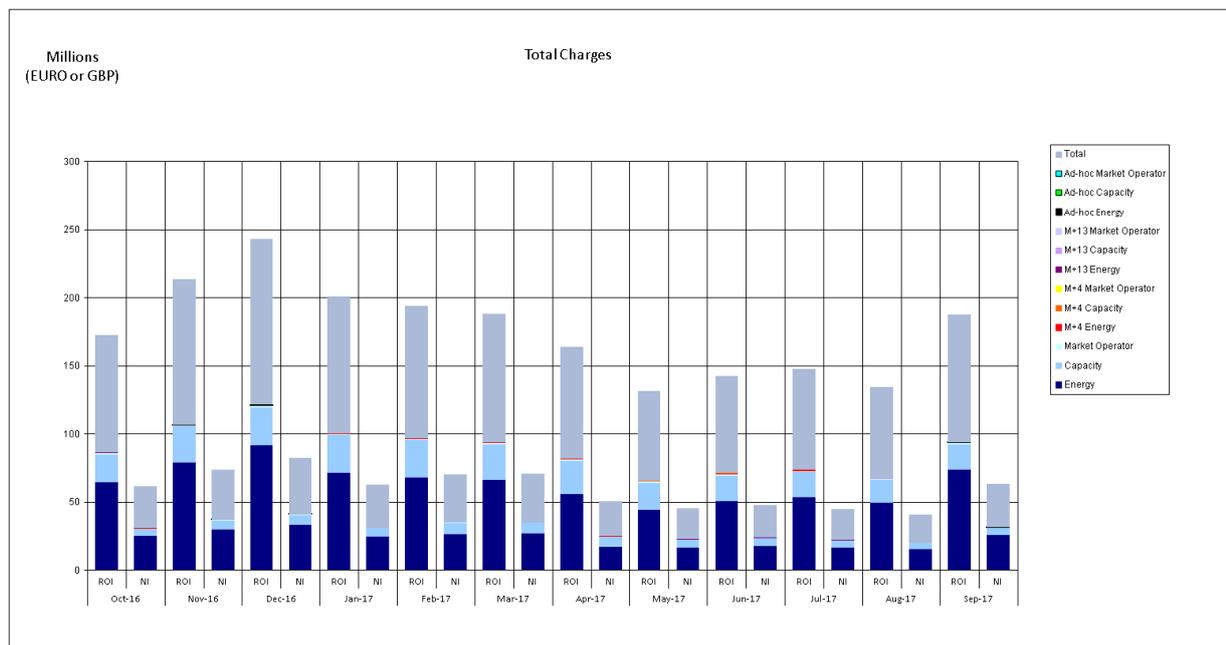


Figure 1 - Total Charges for Each Currency

Market	Sept-17	
	ROI	NI
Energy	€74,262,007	£26,213,019
Capacity	€18,246,287	£5,128,327
Market Operator	€871,978	£230,351
M+4 Energy	€297,530	£81,360
M+4 Capacity	€58,164	£23,139
M+4 Market Operator	€2,322	£500
M+13 Energy	€47,978	£13,331
M+13 Capacity	€13,496	£6,512
M+13 Market Operator	€504	£298
Ad-hoc Energy	€163,227	£140,679
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€0	£0
Total	€93,963,494	£31,837,516

Table 2 - Total Charges for Each Currency

Notes relating to Table 2 and 3:

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

Total Payments for Each Currency

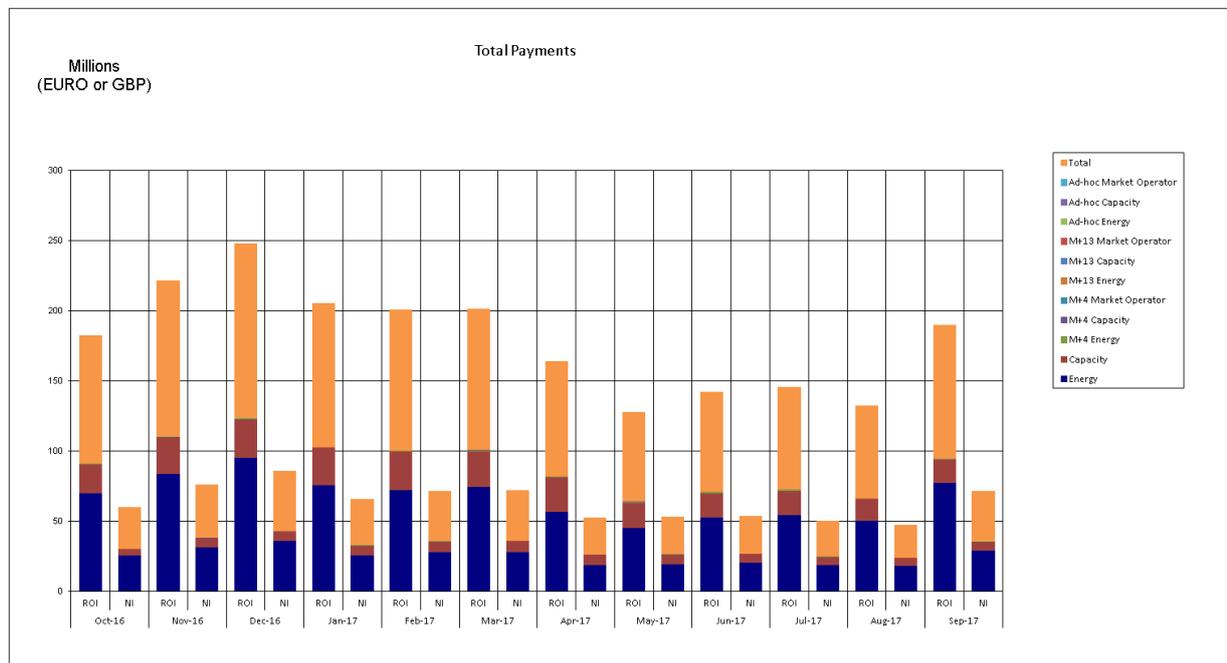


Figure 2 - Total Payments for Each Currency

Market	Sept-17	
	ROI	NI
Energy	€77,198,040	£29,090,989
Capacity	€16,935,824	£6,342,523
M+4 Energy	€297,316	£81,308
M+4 Capacity	€58,064	£23,116
M+4 Market Operator	€2,316	£615
M+13 Energy	€36,227	£24,626
M+13 Capacity	€14,579	£5,539
M+13 Market Operator	€480	£178
Ad-hoc Energy	€329,749	£254,051
Ad-hoc Capacity	€0	£0
Ad-hoc Market Operator	€737	£4
Total	€94,873,332	£35,822,950

Table 3 - Total Payments for Each Currency

Total Balancing Costs

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

Although, it is intended the Energy Payments and Energy Charges should be balanced through the mechanism of the Error Supplier Unit in each jurisdiction, because Energy Payments are made against Market Schedule Quantities while the Error Supplier Unit volumes are calculated against Metered Generation, the different application of Loss Factors means that there is frequently an imbalance between the Energy Payments and Energy Charges.

With regard to the Energy Settlement, the Balancing Costs have been calculated as follows for the entire month:

September 2017	
Imbalance (Energy Only)	€3,958,429.28

Table 4 - Balancing Costs for Energy Settlement

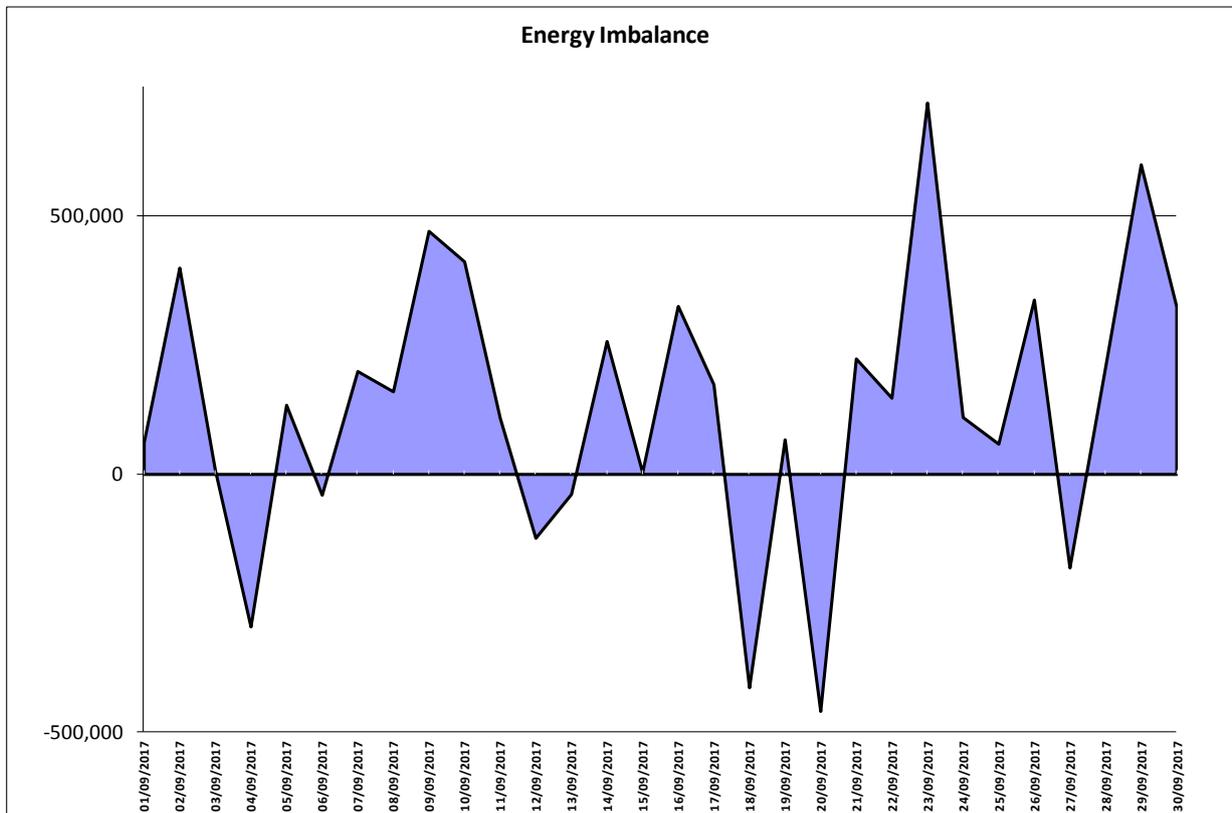


Figure 3 – Energy Imbalances

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The full Balancing Cost of the SEM is determined by the summation of the daily payment amounts for Energy Imbalance, Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges combined with the weekly Make Whole Payments and Testing Charges.

Historical values for testing charges have been provided in [Appendix E](#) .

The figures for the full Balancing Cost of the SEM since the last Market Operator report are shown below, as well as the VAT Balancing Costs.

In tables 5 and 6 below:

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

Date Of Invoice	Week No	SEM Balancing Costs	VAT Balancing Costs
01/09/2017	34	€2,353,112.14	€0
08/09/2017	35	€1,149,375.39	€0
15/09/2017	36	€2,329,555.11	€0
22/09/2017	37	€2,521,672.31	€0
29/09/2017	38	€2,014,636.26	€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:

September 2017	
Capacity Charges	€35,927,808.01
Capacity Payments	€35,927,575.68
Balancing Costs	-€232.33
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) 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
26/08/2017	01/09/2017	34	£25,263.55	£0	£25,263.55
02/09/2017	08/09/2017	35	-£15,931.41	£0	-£15,931.41
09/09/2017	15/09/2017	36	-£35,579.85	£0	-£35,579.85
16/09/2017	22/09/2017	37	-£80,370.30	£0	-£80,370.30
23/09/2017	28/09/2017	38	-£5,394.17	£0	-£5,394.17

Table 7 - Total Currency Costs for Trading Payments and Charges

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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 £25,263.55 and a loss of up to £80,370.30. Whether Currency Costs are a cost or benefit to Participants is directly related to whether the currency is rising or falling between the billing period, invoice date and payment dates.

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

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

Date Of Invoice	Capacity Month	Currency Costs For Capacity Settlement
11/09/2017	Aug-17	£87,405.54

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.

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Total Constraint Payments	Total Uninstructed Imbalance	Total Make Whole Payments	Total Imperfections
€168,144,492.09	-€4,132,906.44	€3,587,920.71	-€68,333,501.40

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.

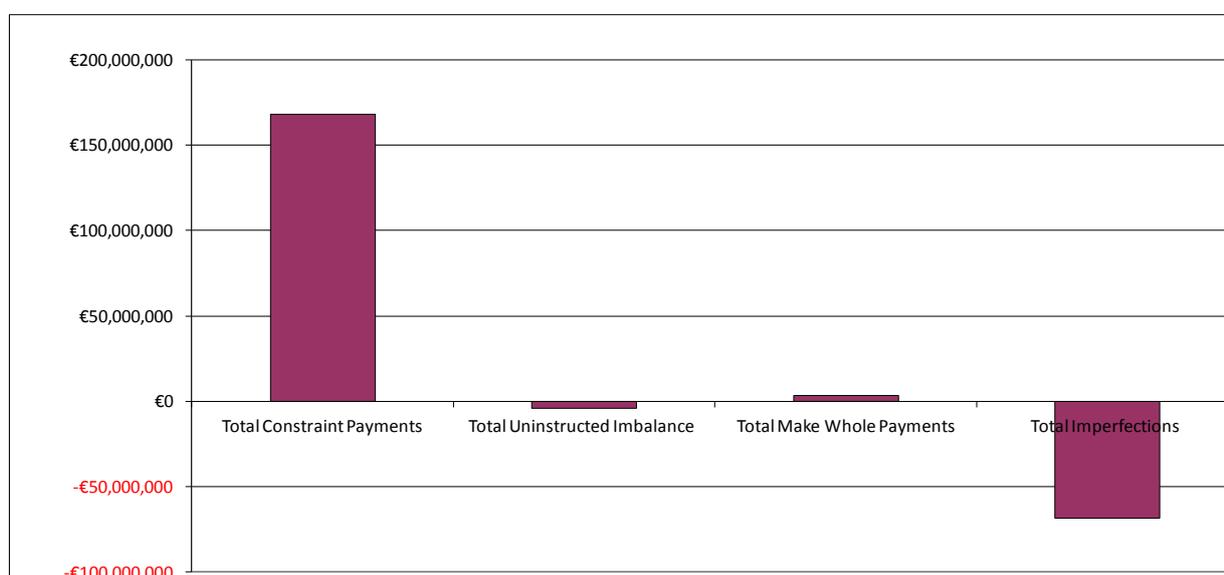


Figure 4 - Cumulative Imperfections Costs Vs Budget

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 May 2017 and M+13 resettlement period of August 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

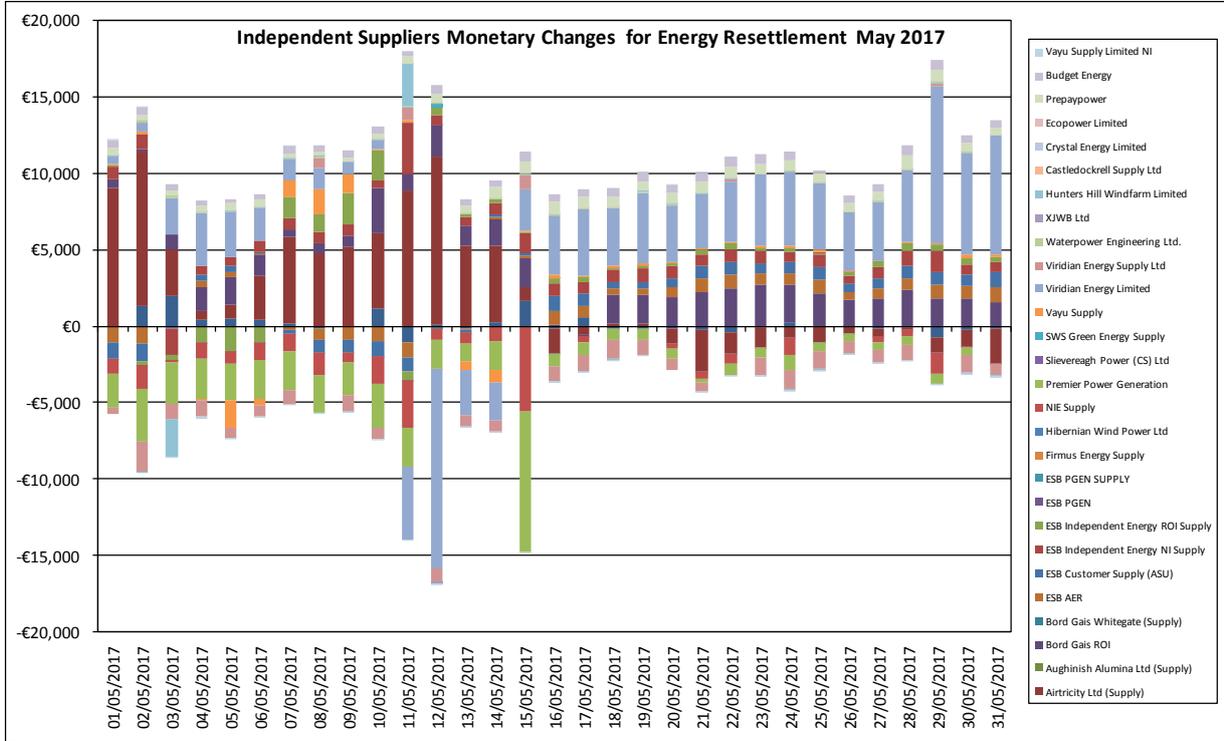


Figure 5 – Independent Suppliers Monetary Changes for Energy Resettlement – May 2017

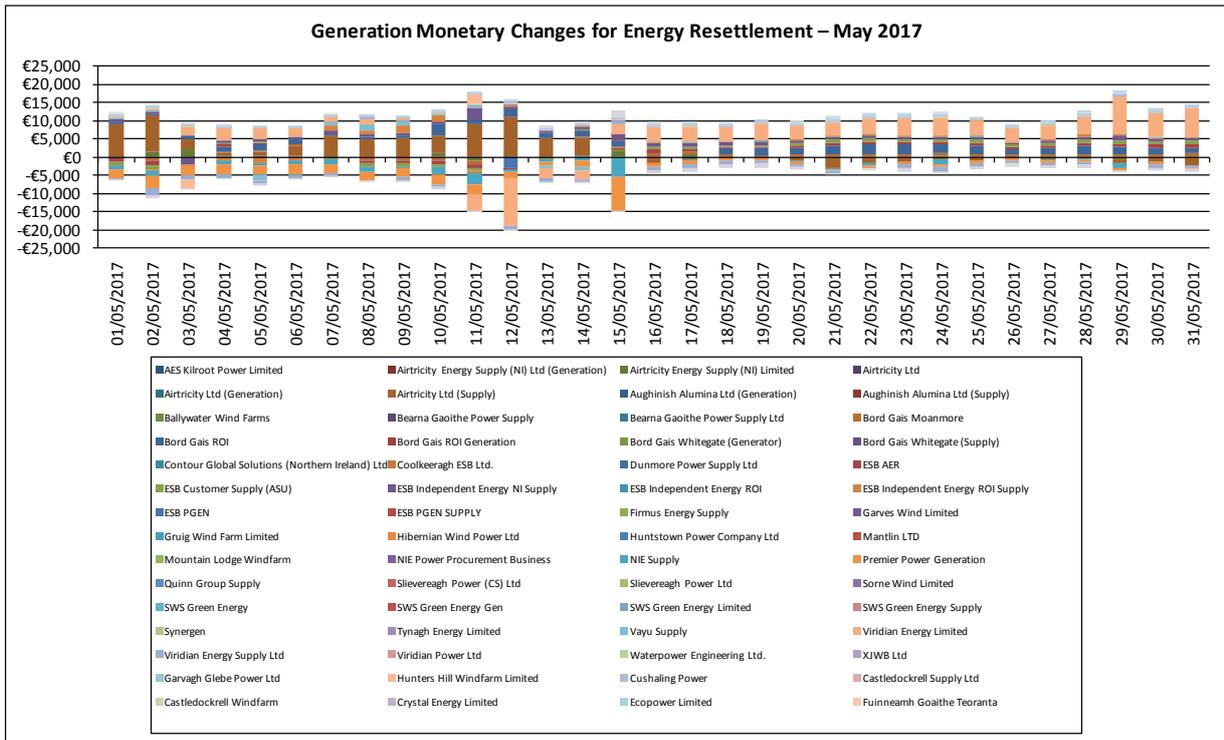


Figure 6 – Generation Monetary Changes for Energy Resettlement – May 2017

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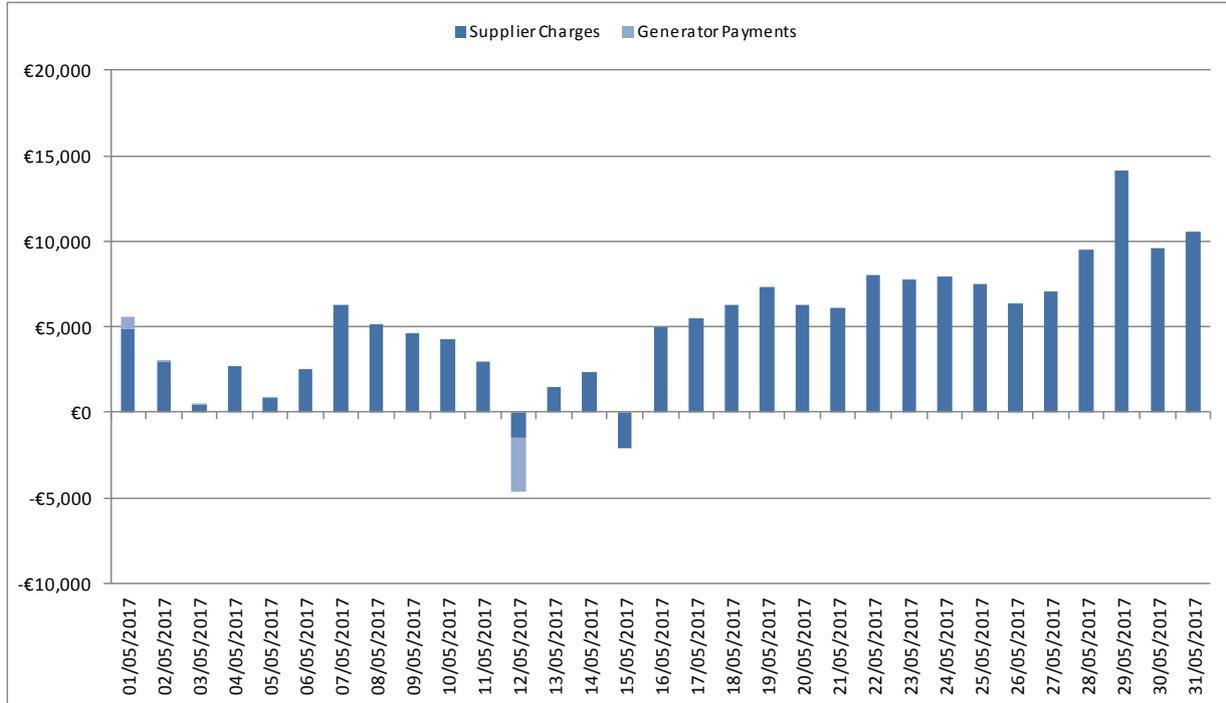


Figure 7 – Total Monetary Changes for Energy Resettlement – May 2017

M+13 Resettlement

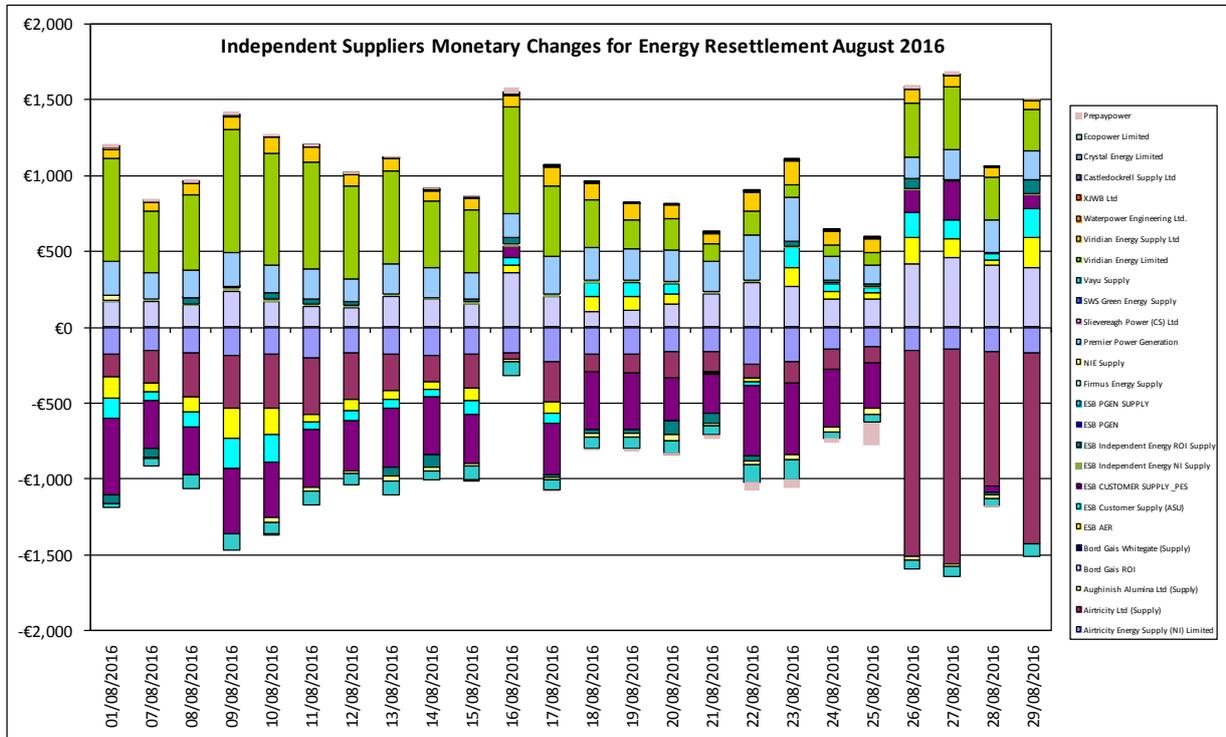


Figure 8 - Independent Suppliers Monetary Changes for Energy Resettlement – August 2016

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

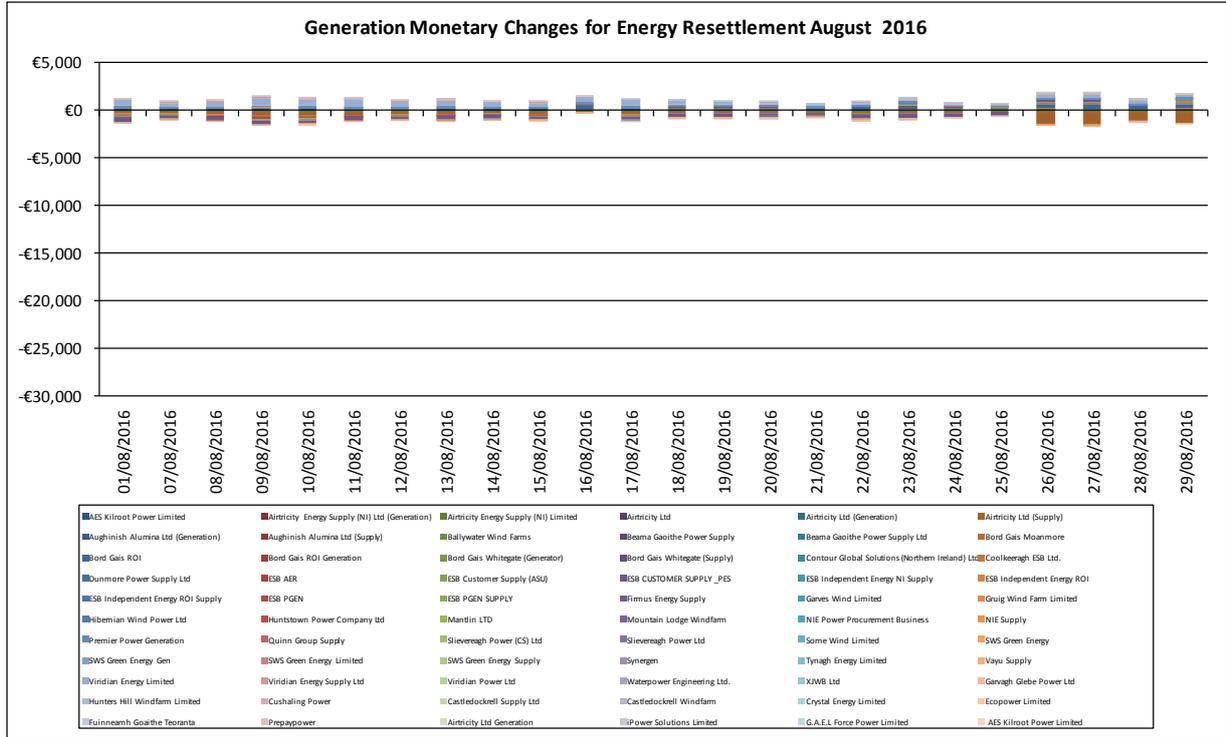


Figure 9 - Generation Monetary Changes for Energy Resettlement – August 2016

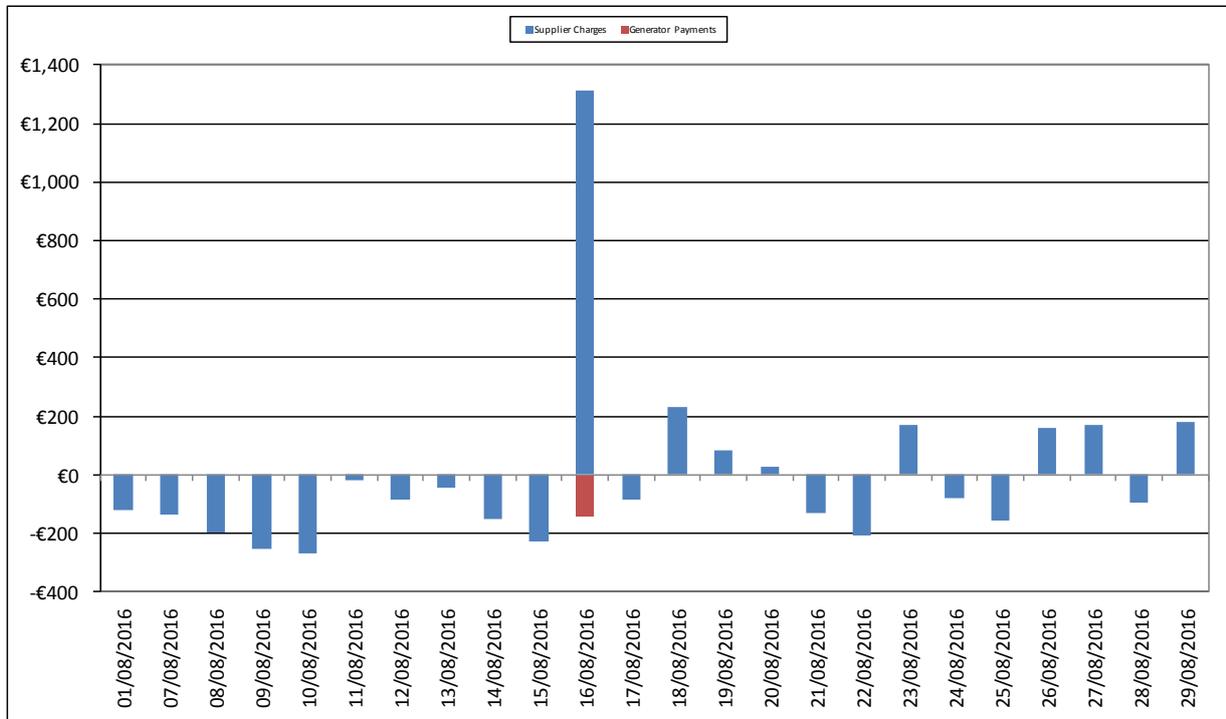


Figure 10 - Total Monetary Changes for Energy Resettlement – August 2016

The above change in Generator payments on 16/08/2016 are due to an upheld query where updated metering was provided for GU_401000.

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

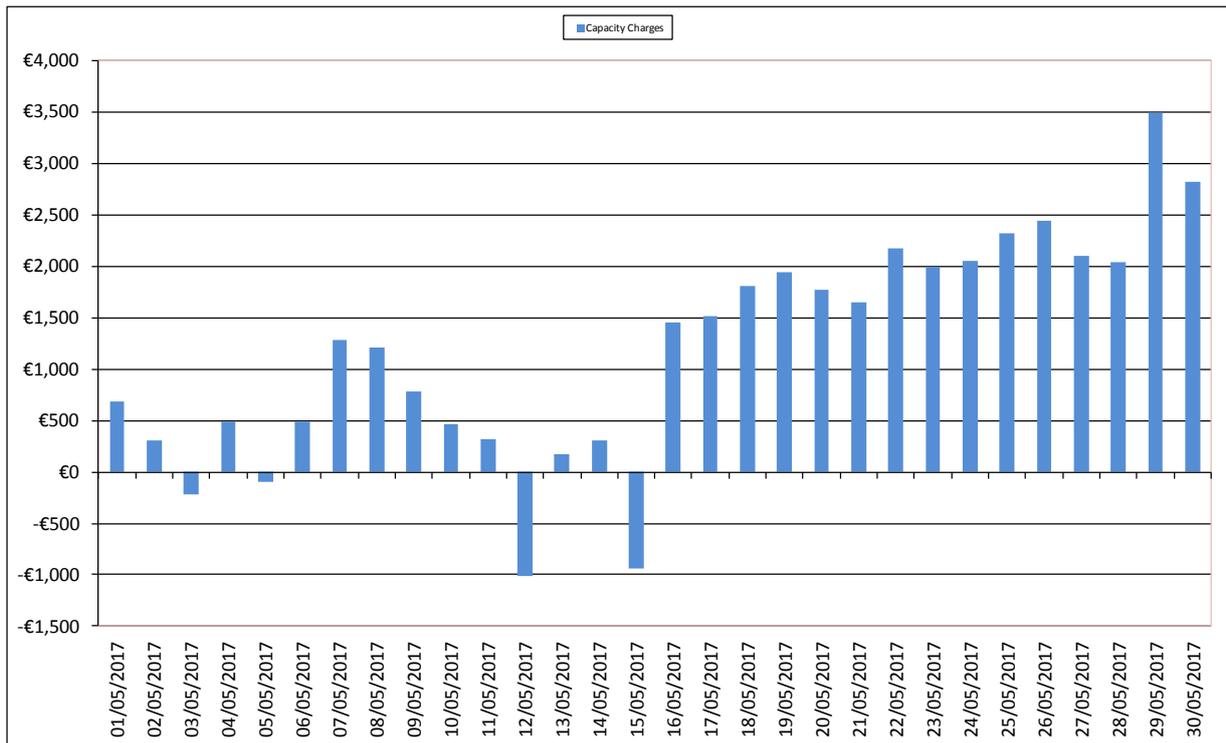


Figure 11 - Independent Suppliers Monetary Changes for Capacity Resettlement – May 2017

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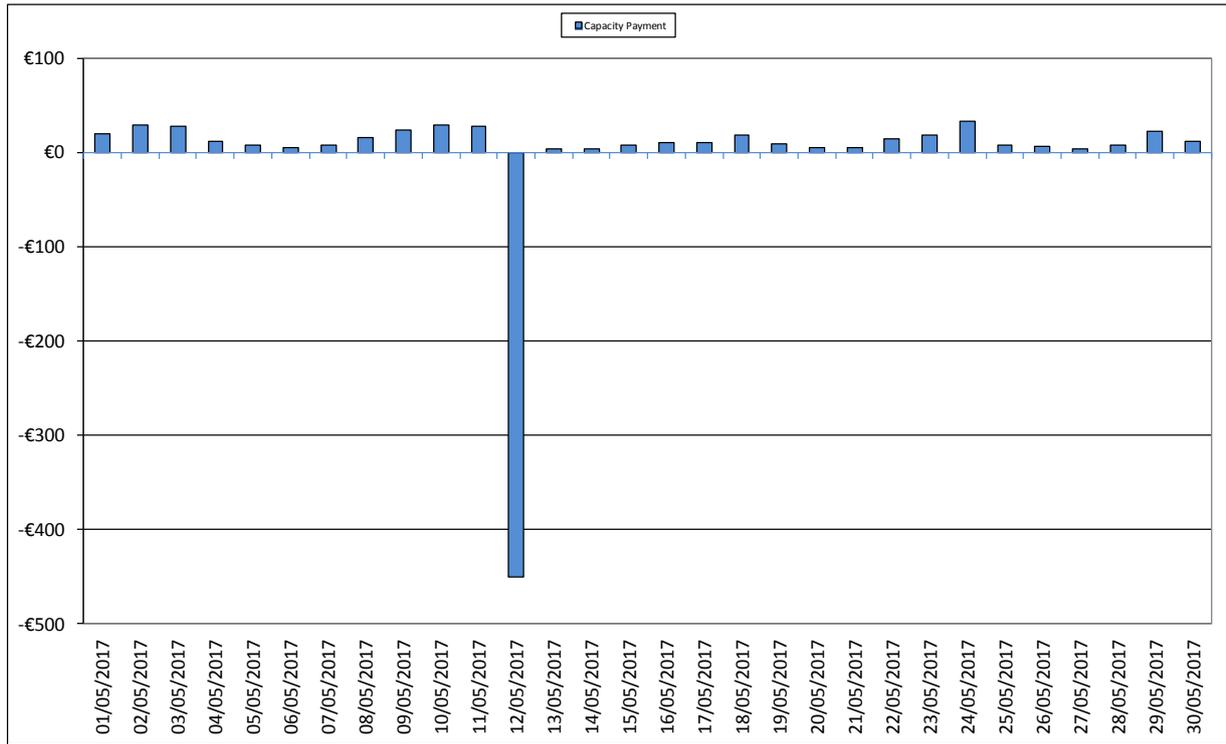


Figure 12 - All Generation Monetary Change for Capacity Resettlement – May 2017

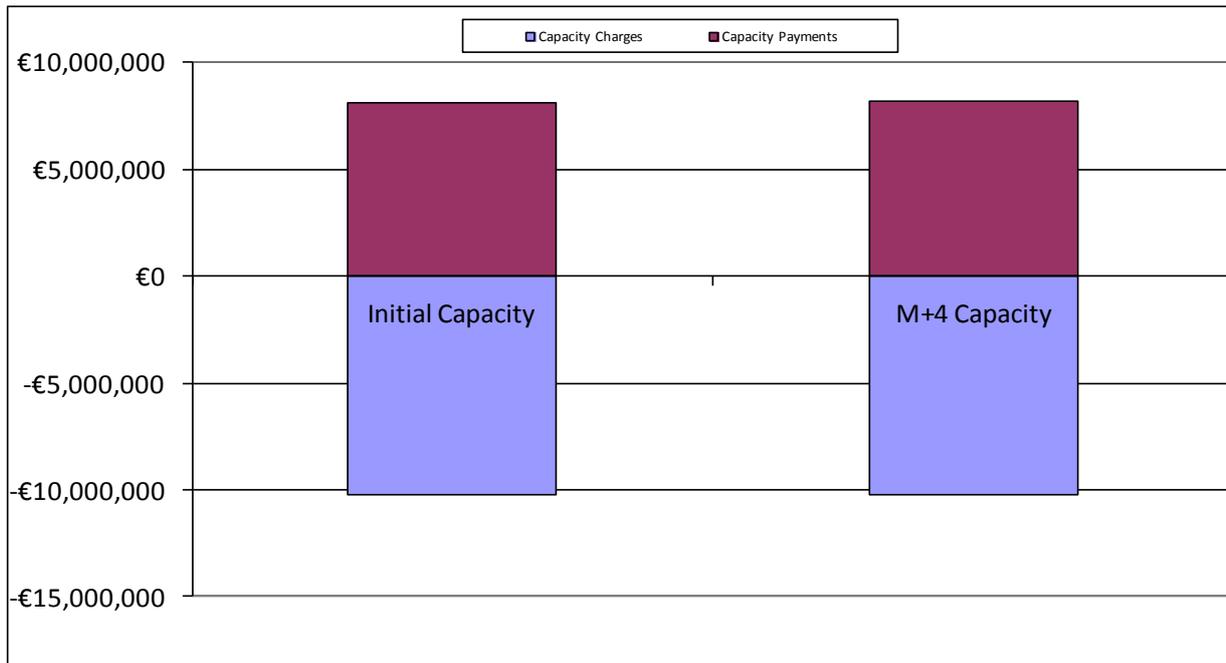


Figure 13 - Comparison of Distribution of Monetary Amounts between Capacity Initial and Resettlement May 2017

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

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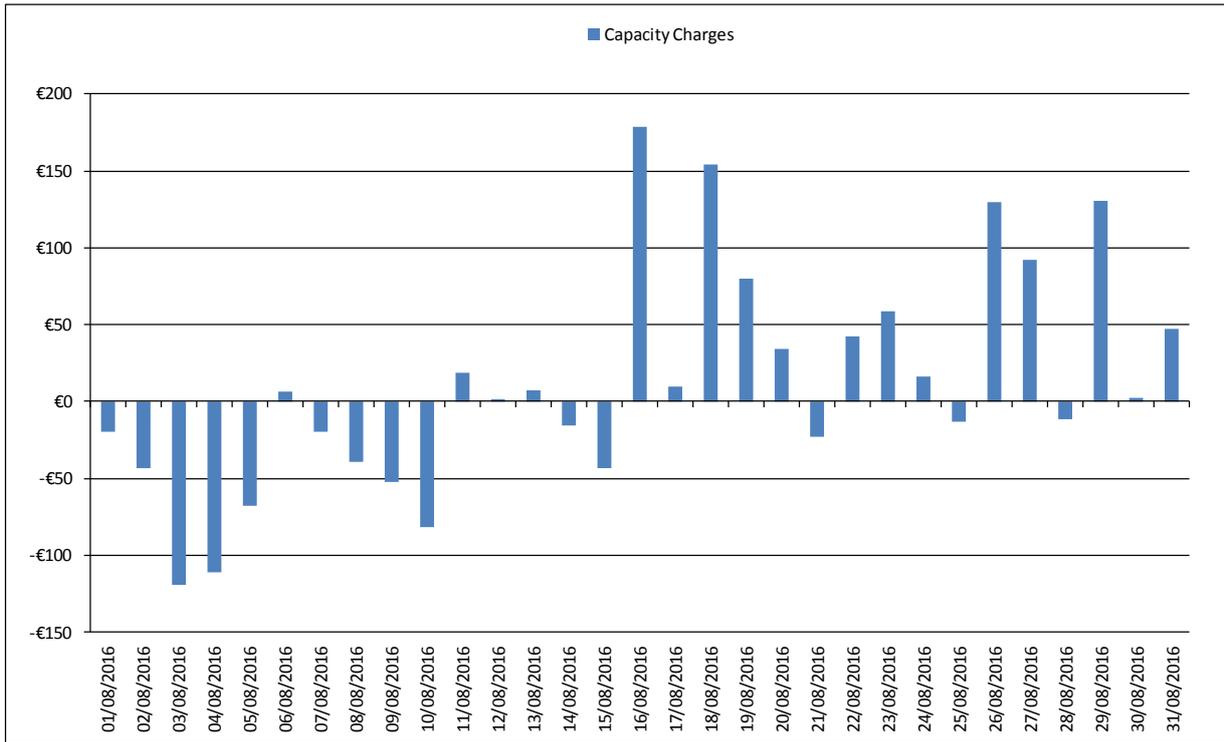


Figure 14 - Independent Suppliers Monetary Changes for Capacity Resettlement – Aug 2016

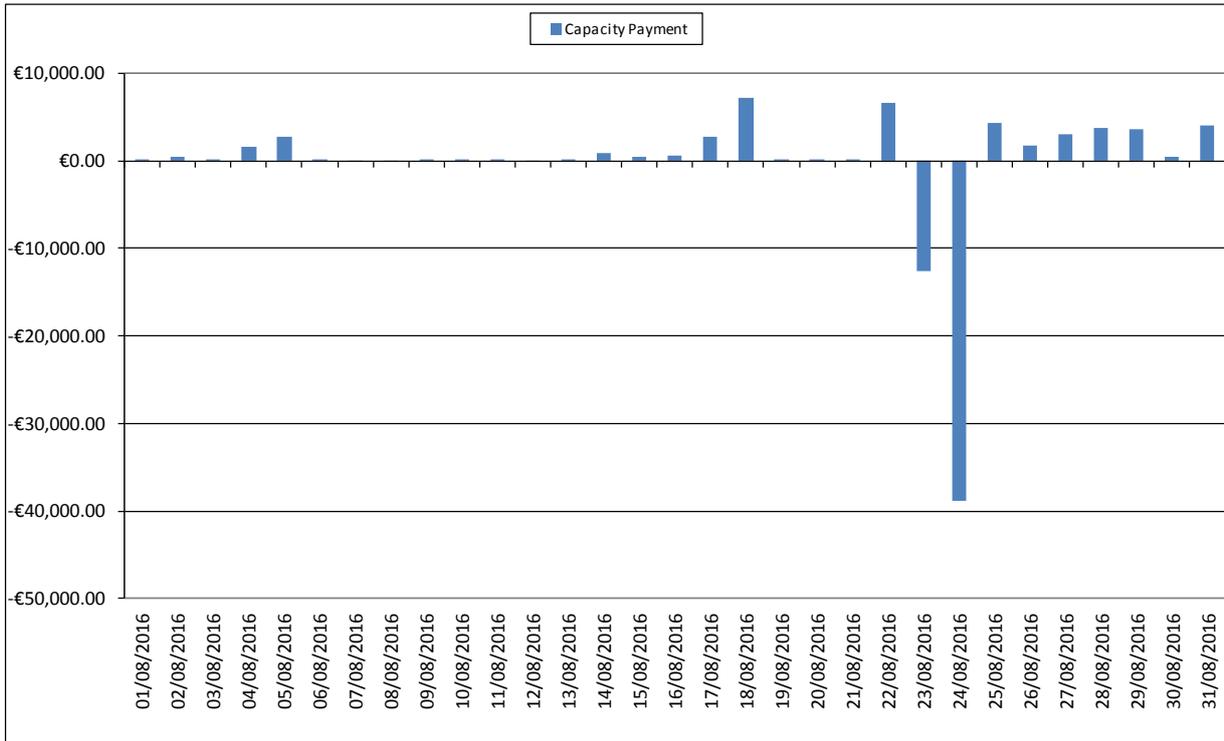


Figure 15 – All Generation Monetary Change for Capacity Resettlement – Aug 2016

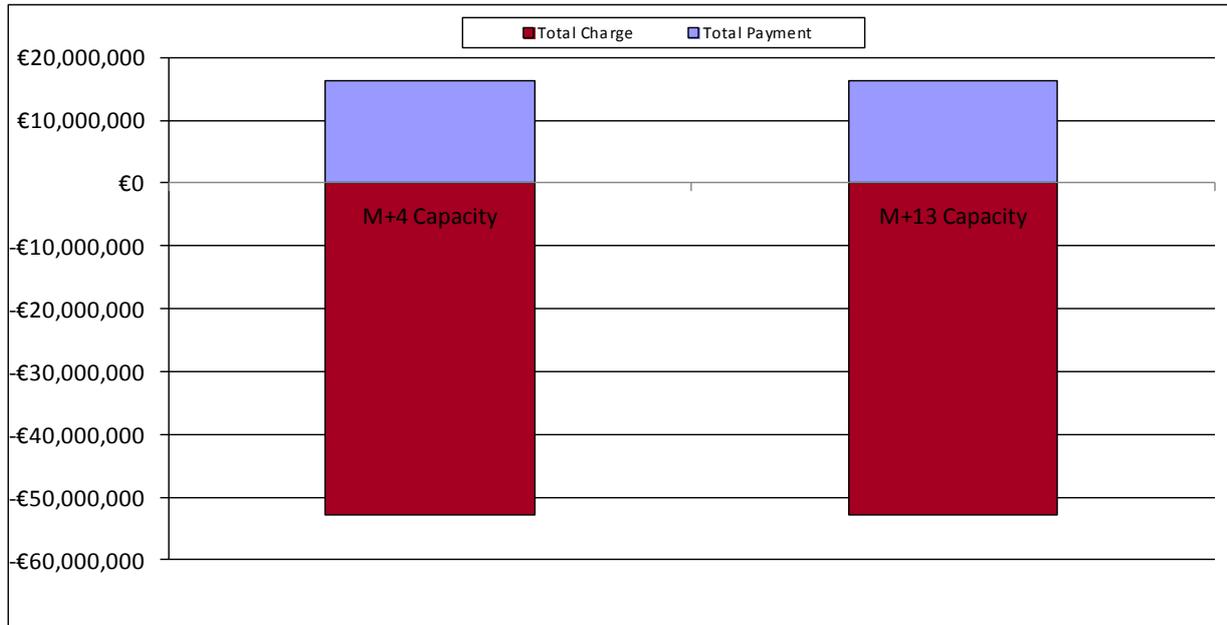


Figure 16 - Comparison of Distribution of Monetary Amounts between M+4 Capacity Resettlement and M+13 Capacity Resettlement – Aug 2016

Helpdesk Call Statistics

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

Market Helpdesk Report: 01/09/17 to 30/09/17

	Received	Resolved within the period	Not Resolved	Resolved in the period	Resolution Time (Working Days)	Resolved On Time
Normal	192	165	27	184	0.93	180
Important	0	0	0	0	0.00	0
Urgent	7	7	0	7	0.20	7
Settlement	9	9	0	15	6.09	15
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	208	181	27	206	1.44	202

Table 10 – Helpdesk Statistics

Definitions:

- Resolved within the Period refers to queries raised and resolved within the calendar month of September 2017.
- Resolved in the Period refers to queries resolved within September 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 September 2017.
- Not Resolved refers to queries raised but not resolved within September 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 remained the same at 0.90 working days in both August and September. 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 September 2017 with regard to formal Settlement Queries.

Disputes and Queries

5.1.1 Disputes

No disputes were raised during the month of September 2017.

Topic	Number Of Queries

Table 11– Upheld Dispute Queries by Topic

5.1.2 Data Queries

No formal data queries were raised during the month of September 2017.

Topic	Number Of Queries

Table 12– Upheld Data Queries by Topic

5.1.3 Settlement Queries

There were ten formal Settlement queries raised in September 2017. All ten queries were upheld and have since been resolved.

Topic	Number Of Queries
Meter Generation	6
Dispatch Instructions	4

Table 13 – Upheld Settlement Queries by Topic

- One query relating to Meter Generation was raised. These are to be corrected within M+13 resettlement. The query was deemed to be of Low Materiality.
- Four queries relating to Dispatch Instructions were raised. These are to be corrected within An Ad-Hoc resettlement. The four queries were deemed to be of Low Materiality.
- Five queries relating to Meter Generation were raised. These are to be corrected within M+4 resettlement. The query was deemed to be of Low Materiality.

Unresolved Queries

There are two unresolved settlement queries as of the 17th September 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, 66.73% of data used was submitted by Participants through the normal Bid-Offer process. 33.27% 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 September 2017.

There were 3 Ad hoc Re-Settlement runs carried out in September 2017.

There was a delay to the publication of EA1 MIUNs for Trade Date 05/09/2017.

There was a delay to the publication of WD1 MIUNs for Trade Date 07/09/2017.

6.3.2 System Errors

There were no Market Application defects found in September 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.

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

1.4.1 MSP Postings September 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	1
Post EP1	30-30	0	0	0
Post EP2	30-30	0	0	0

Table 14 - 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	97%	0%	0%	3%
Post EP1	100%	0%	0%	0%
Post EP2	100%	0%	0%	0%

Table 15 - Operational Timings (% on time)

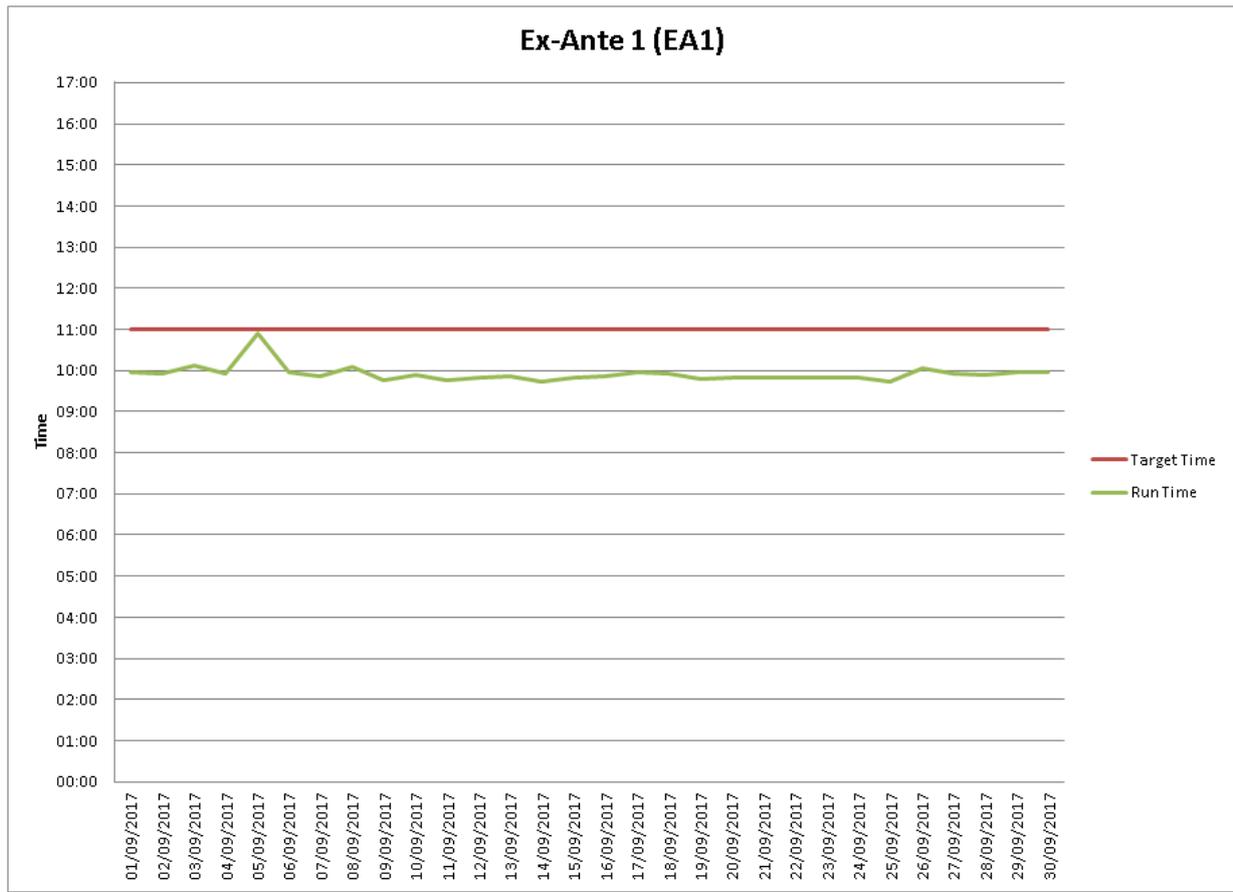


Figure 17 – Ex-Ante 1

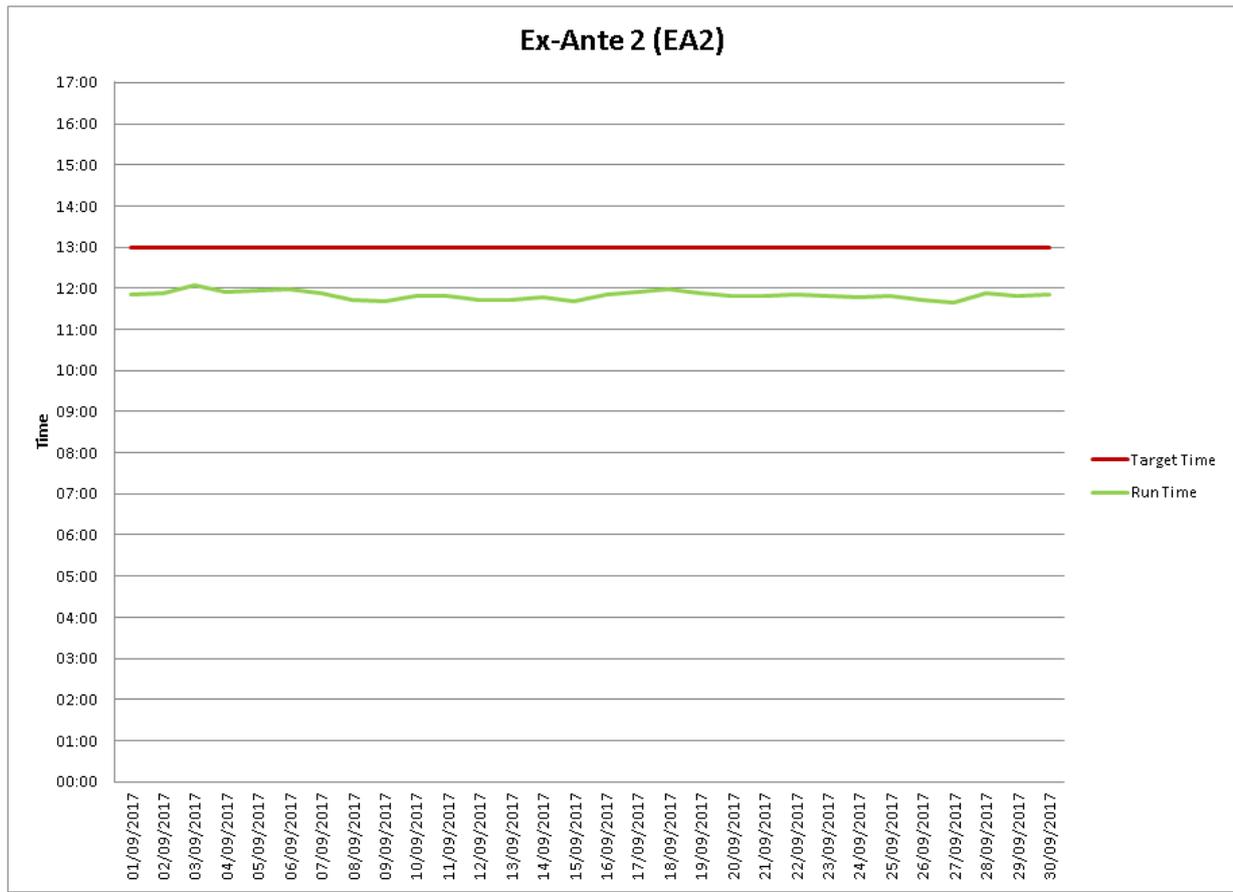


Figure 18 – Ex-Ante 2

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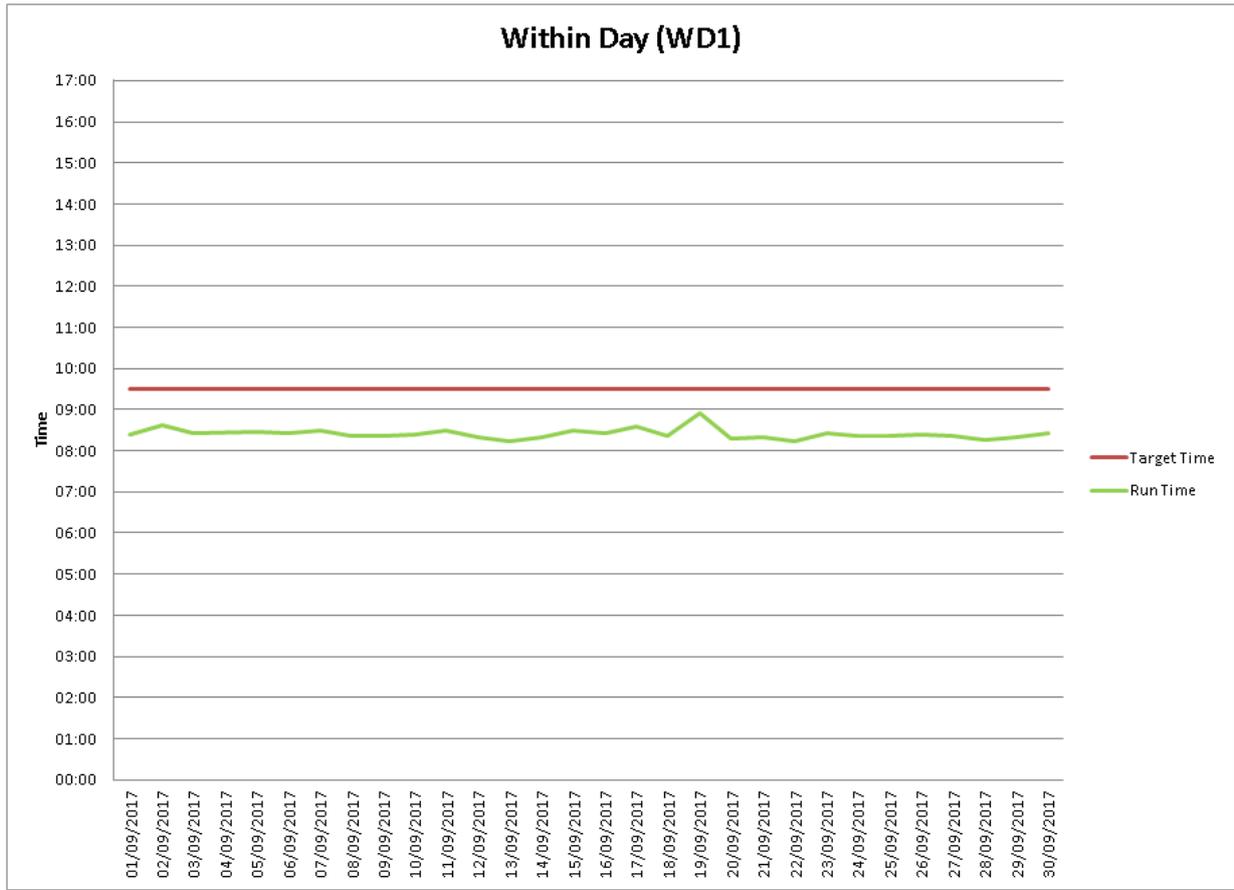


Figure 19 – Within Day 1

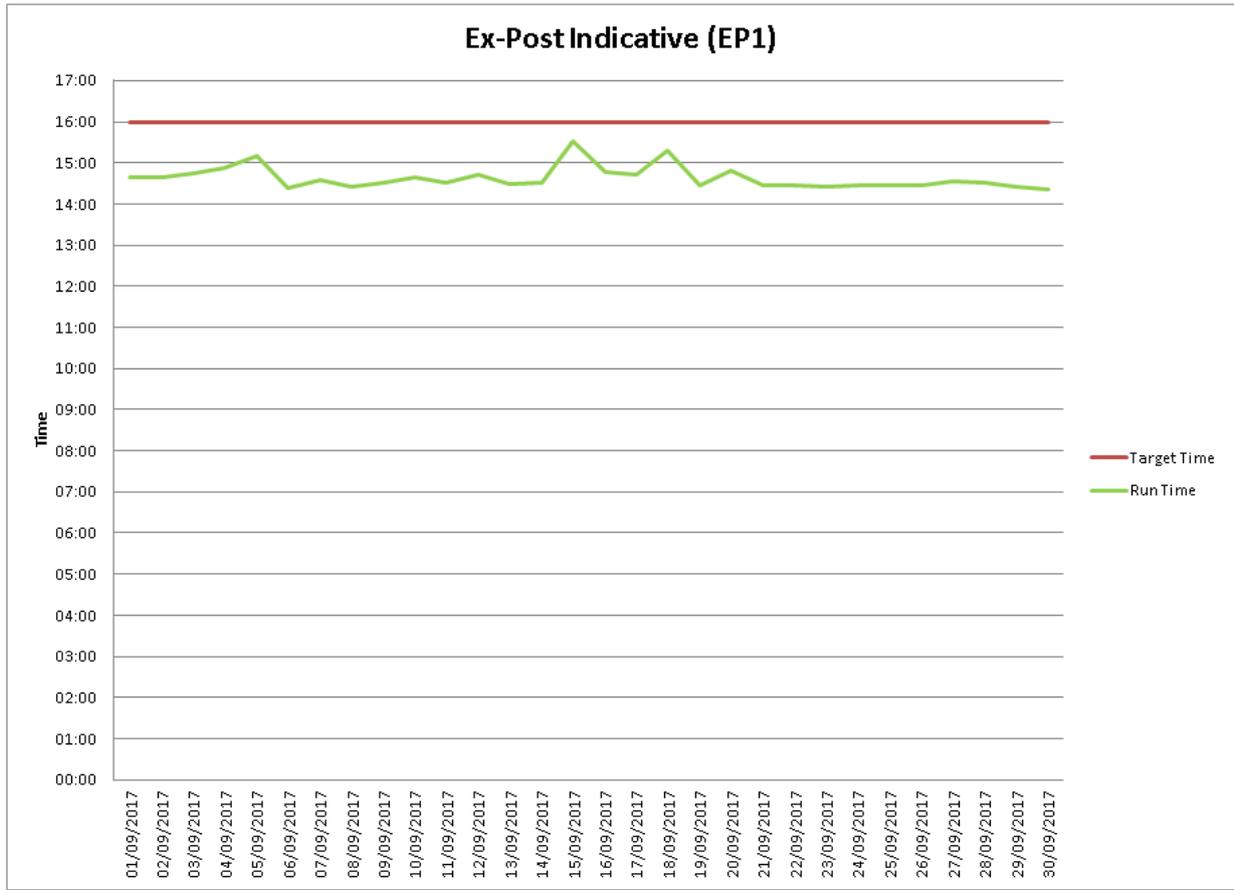


Figure 20 - Ex-Post Indicative

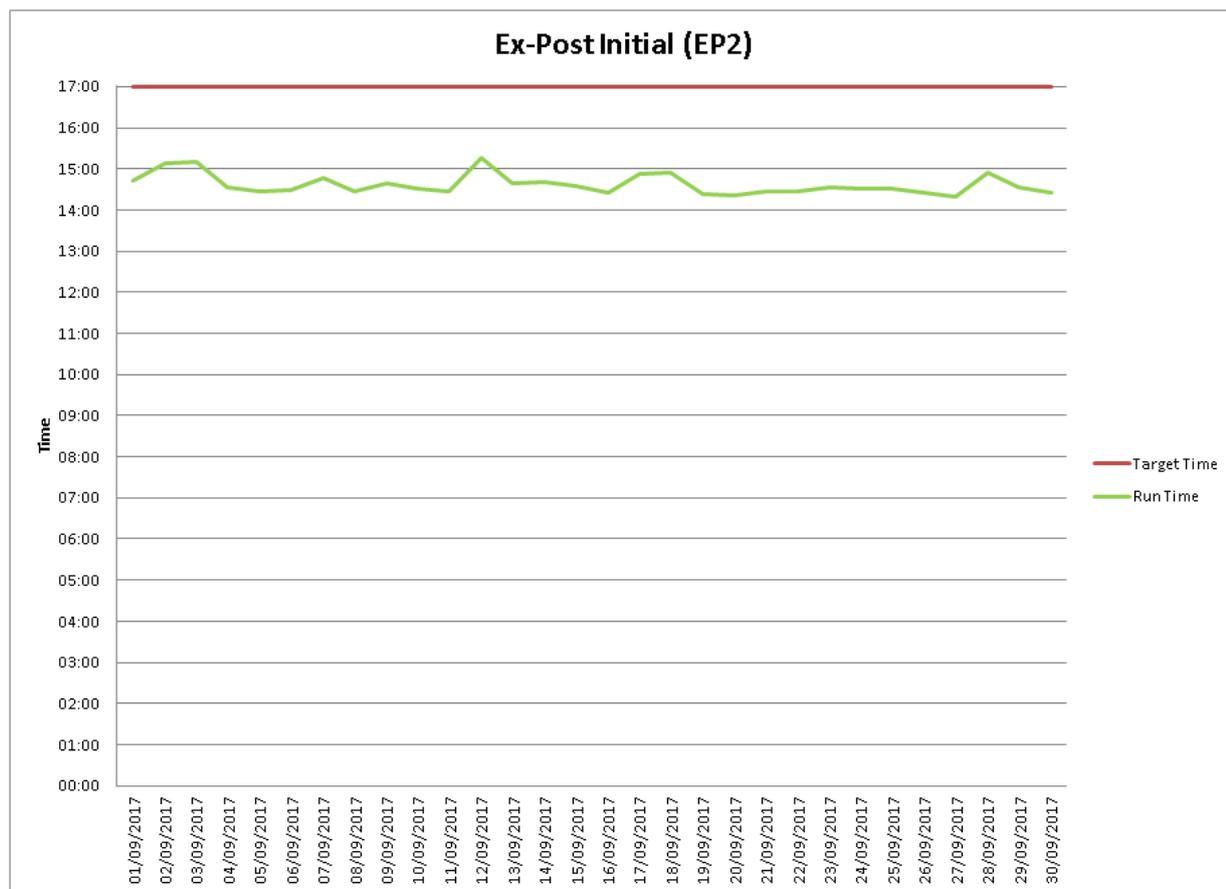


Figure 21 - Ex-Post Initial

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 maybe selected for publishing. An updated policy document on the use of MIP has been published and is available on the SEMO website [here](#).

In September 2017, there were 5 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](#).

1.4.1 Settlement Postings September 2017

The publication timings for Settlement runs are provided below.

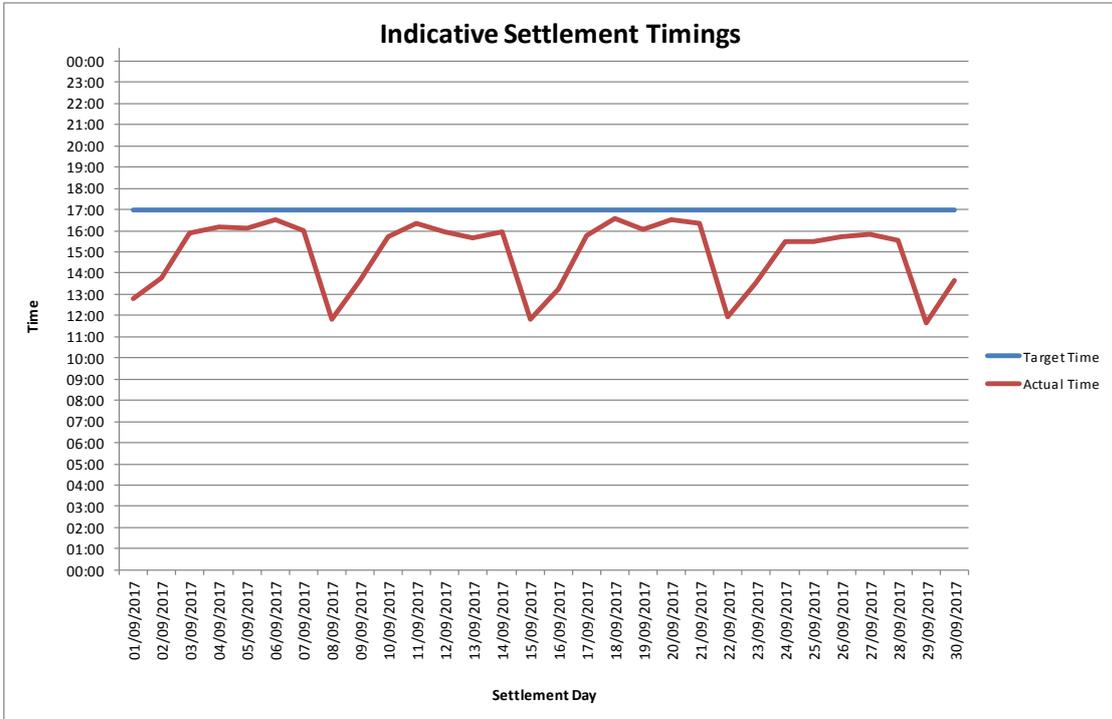


Figure 22 - Indicative Settlement Postings

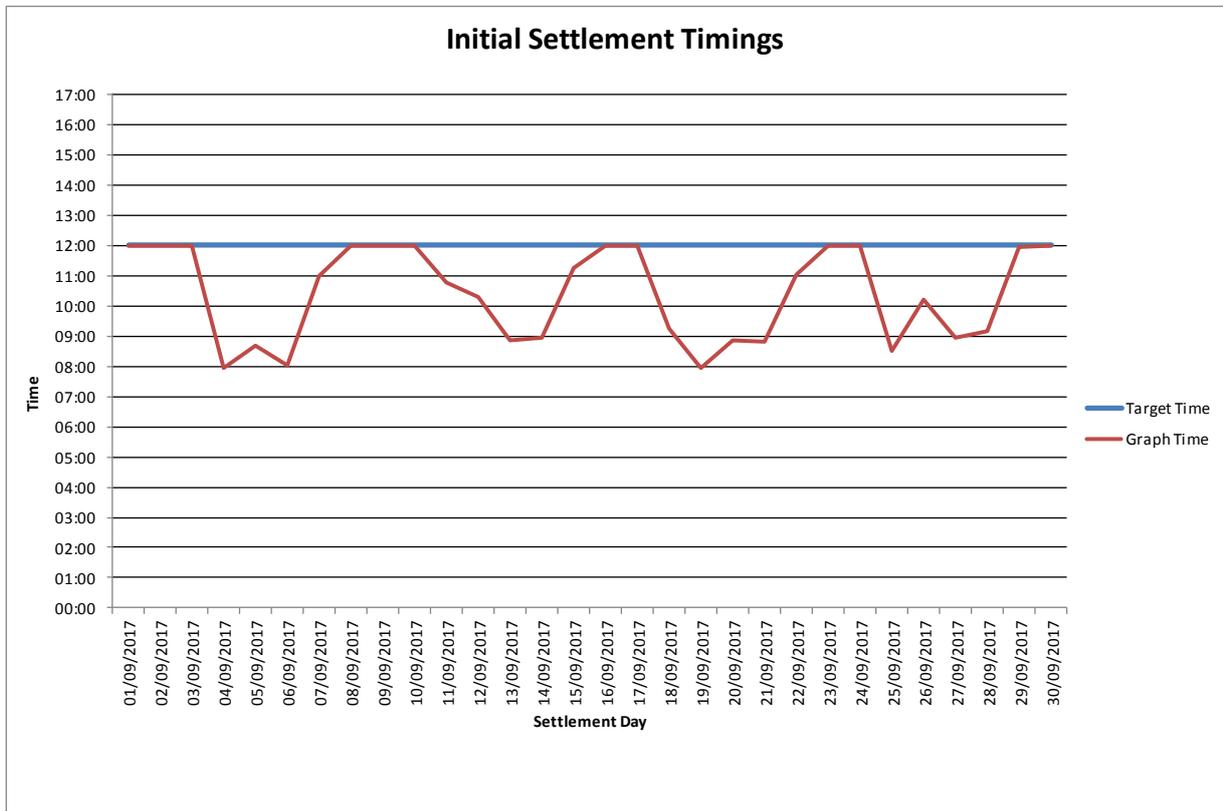


Figure 23 - Initial Settlement Postings

Further details of any delays noted above are provided in [Appendix A](#)

6.5. – No update for September 2017

Occasional Components

7.1 Disaster Recovery/Business Continuity Tests

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

7.3 Communications or Systems Failures

There was one communication failure on Monday 4th September due to a power issue in the Dublin data centre.

7.4 Denial of Service Attacks

There was no Denial of Service Attacks during September 2017.

7.5 Submission of Parameters to RAs for Approval

There has been no requirement for submission of parameters in September 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
04/09/2017	EA1	Timing	EirGrid TSO	File Submission	There was a delay to the publication of the Ex-Ante 1 (EA1) Market Schedule for Trading Day 05/09/2017.	The SONI & EirGrid Wind and Load Forecast files for Trading Day 05/09/2017 were not received by the submission deadline of 09:30 for EA1.	The EA1 Market Schedule was published at 11:09 on 04/09/2017.	Minor
06/09/2017	EP1	Timing	EWIC IA	File Submission	The Interconnector Administrator (IA) failed to submit the System Operator Interconnector Trades (SO_INTCON_TRADES) file by 14:00 on 06/09/2017 for the Ex-Post Indicative Pricing & Scheduling (P&S) run for 05/09/2017.	This was caused due to the Regular Gate being closed at 14:00 for Trade Date 05/09/2017 and no communication being received.	The Ex-Post Indicative for Trading Day 05/09/2017 was run without the file. The file will be resubmitted to be included in the Ex-Post Initial run.	Minor
07/09/2017	SE2	Timing	MRSO MDP	File Submission	The MRSO failed to submit the Non Price Effective Meter Generation (NPEG) file by 17:00 on the fourth Day (D+4). This metering is required for our Initial Settlement run.	This was caused as MRSO did not issue any communication as to why the file was not received.	The MRSO resubmitted the file at 08:30 on 07/09/2017.	Minor
16/09/2017	EP1	Timing	EirGrid MDP	File Submission	The EWIC SO_INTCON_TRADES data feed for 15/09/2017 was not received by 13:55 gate window closure (GWC) on operational data 16/09/2017 for the Ex Post Indicative pricing run for Trading Day 15/09/2017.	The Interconnector Administrator's digital certificate for the Auction Management Platform (AMP) had expired causing the Interconnector Administrator to not be able to send the EWIC SO_INTCON_TRADES for the 15/09/2017.	IS issued a new certificate to allow the SO_INTCON_TRADES for the 15/09/2017 to be sent at 16:28 on 16/09/2017. These were not included in the Ex Post Indicative pricing run as the publication deadline was 16:00.	Minor

Table 16 – Trading and Settlement Code Breaches – Data Provider

Market Participant

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
04/09/2017	Money In	Timing	Participant	Payment Default	Dan Twomey Waterpower Engineering Ltd (PT_400045) defaulted on an VMOC Week 33 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
06/09/2017	Money In	Timing	Participant	Payment Default	Lantianier Ltd (PT_400194) defaulted on an Energy Week 18 2017 M+4 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
07/09/2017	CRM	Timing	Participant	Credit	Open Electric (CP_500082) defaulted on a CCIN issued on 07/09/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN is open and not resolved.	Major
13/09/2017	Money In	Timing	Participant	Payment Default	Electricity Exchange (PT_400116) defaulted on an Energy Week 19 2017 M+4 invoice.	Participant Error	A default letter was issued to the participant.	Major
13/09/2017	Money In	Timing	Participant	Payment Default	Glencarby Company Supply Limited (PT_400191) defaulted on an Energy Week 35 2017 Initial Invoice.	Participant Error	A default letter was issued to the participant.	Major
14/09/2017	Money In	Timing	Participant	Payment Default	Erova Energy Ltd (PT_400163) defaulted on a Capacity August 2017 Initial Invoice.	Participant Error	A default letter was issued to the Participant.	Major
14/09/2017	Money In	Timing	Participant	Payment Default	Templederry Renewable Energy Supply Ltd (PT_400129) defaulted on a Capacity August 2017 Initial Invoice.	Participant Error	A default letter was issued to the participant.	Major
14/09/2017	Money In	Timing	Participant	Payment Default	NEAS Energy A/S (PT_500092) defaulted on a Capacity August 2017 Initial Invoice.	Participant Error	A default letter was issued to the participant.	Major
15/09/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a VMOC Week 32 2016 M+13.	Participant Error	A default letter was issued to the Participant.	Major
15/09/2017	Money In	Timing	Participant	Payment Default	Electricity Exchange (PT_400116) defaulted on two FMOC August 2017 invoice's.	Participant Error	A default letter was issued to the participant.	Major
15/09/2017	Money In	Timing	Participant	Payment Default	Just Energy (Ireland) Limited (PT_400211) defaulted on an FMOC August 2017 Invoice.	Participant Error	A default letter was issued to the participant.	Major
15/09/2017	Money In	Timing	Participant	Payment Default	New Measured Power Limited TA Pinery (PT_400173) defaulted on a VMOC Week 35 2017 Initial invoice.	Participant Error	A default letter was issued to the participant.	Major
15/09/2017	Money In	Timing	Participant	Payment Default	Dublin Waste to Energy Supply Limited (PT_400198) defaulted on an FMOC August 2017 invoice.	Participant Error	A default letter was issued to the participant.	Major
15/09/2017	Money In	Timing	Participant	Payment Default	Endeco Technology Limited (PT_400133) defaulted on an FMOC August 2017 invoice.	Participant Error	A default letter was issued to the participant.	Major
15/09/2017	Money In	Timing	Participant	Payment Default	Quinn Windfarm Limited (PT_400049) defaulted on an FMOC August 2017 invoice.	Participant Error	A default letter was issued to the participant.	Major
15/09/2017	Money In	Timing	Participant	Payment Default	G.A.E.L Force Power Ltd (PT_400069) defaulted on an FMOC August 2017 invoice.	Participant Error	A default letter was issued to the participant.	Major
20/09/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a VMOC Week 33 2016 M+13 Invoice.	Participant Error	A default letter was issued to the Participant.	Major
20/09/2017	Money In	Timing	Participant	Payment Default	Just Energy (Ireland) Limited (PT_400211) defaulted on an Energy Week 36 2017 Initial.	Participant Error	A default letter was issued to the participant.	Major
22/09/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on a VMOC Week 33 2016 M+13 invoice.	Participant Error	A default letter was issued to the Participant.	Major
26/09/2017	CRM	Timing	Participant	Credit	Gurteen Energy Supply (CP_400187) defaulted on a CCIN issued on 26/09/2017.	CCIN was not resolved within the T&SC timeframe.	CCIN was closed on 29/09/2017.	Major
27/09/2017	Money In	Timing	Participant	Payment Default	Open Electric Ireland (PT_500082) defaulted on an Energy Week 34 2016 M+13 invoice.	Participant Error	A default letter was issued to the participant.	Major

Table 17 – Trading and Settlement Code Breaches – Market Participants

Market Operator Monthly Report

SEMO - Pricing and Scheduling

Ops Date Identified	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T and SC Breach
07/09/2017	WD1	Timing	SEMO	System	There was a delay to the publication of Within Day (WD1) Modified Interconnector Unit Nominations (MIUNs) for Trading Day 07/09/2017.	There was an issue with the SmartFTP application that transfers the files over to the calculator. When the WD1 run was DSP'd for 07/09/2017 the files were not transferred to the calculator.	The MIUNs were published at 09:57 on 07/09/2017.	Minor

Table 18 – Trading and Settlement Code Breaches – Pricing and Scheduling

SEMO – Settlements

There were no issues to report in September 2017.

SEMO - Funds Transfer

There were no issues to report in September 2017.

SEMO - Credit Management

There were no issues to report in September 2017.

SEMO – Other

There were no issues to report in September 2017.

Appendix B: List of Queries by Type

Summary Title	Description	ID	Logged On	Date sent to MP	Type
Meter Generation	Kilroot unit 2 (K2) - GU_500823 21/08/17 - Metering data missing. Metering used in the initial settlement is different to that used for the indicative settlement. Metering data for unit GU_500823 missing from period 5.2 - 24.2 on 21/08/2017.	PT_500045	2017-09-01	2017-09-18	Settlement
Dispatch Instructions	Data query to correct dispatch instructions due to issues from 21 July and over the weekend with datacentre kit and metering connection issues. Generator units effected - wind farms between periods 1-48 (00:30-00:00) noted below. SEM_ID EDIL Name GU_501570 AKN GU_501580 CDN GU_501190 CKT GU_501480 CNR GU_501390 CNY GU_501050 CRO GU_501150 CLR GU_501280 DBG GU_501250 DMR GU_501440 EGL GU_500720 GAR SEM_ID EDIL Name GU_501530 GFB GU_500790 GRU GU_501040 HJN GU_501540 LMT GU_501360 MBY GU_501300 MYM GU_501520 ORA GU_501400 SRN GU_501550 SV1 GU_500010 TAP GU_501500 TMA GU_501290 TNG	TSO_SONI	2017-09-04	2017-09-12	Settlement

Summary Title	Description	ID	Logged On	Date sent to MP	Type
Meter Generation	Data query to correct meter data due to ongoing issues from 21 July and over the weekend with datacentre kit and metering connection issues. Generator units effected - MDP wind farms between periods 1-48 (00:30-00:00). Metering affected GU_501350, GU_500211, GU_5501050, GU_501150, GU_500720, GU_501040, GU_500220, GU_501310, GU_501120, GU_500740, GU_501160, GU_500270, GU_500010	TSO_SONI	2017-09-04	2017-09-12	Settlement
Meter Generation	The 0830 values for GT31 and GT32 appear to be the split values, and not the combined values I've attached the combined metering data file and I think there is an error in it. The 0830 values for GT31 and GT32 appear to be the split values, and not the combined values that should be here. Can you take a look please?	PT_500027	2017-09-07	1900-01-00	Settlement
Meter Generation	Kilroot unit 2 (K2) - GU_500823 21/08/17 - Metering data missing. Metering used in the initial settlement is different to that used for the indicative settlement. Metering data for unit GU_500823 missing from period 5.2 - 24.2 on 21/08/2017.	F0074010	2017-09-01	2017-09-18	Settlement

Summary Title	Description	ID	Logged On	Date sent to MP	Type
Dispatch Instructions	Data query to correct dispatch instructions due to issues from 21 July and over the weekend with datacentre kit and metering connection issues. Generator units effected - wind farms between periods 1-48 (00:30-00:00) noted below. SEM_ID EDIL Name GU_501570 AKN GU_501580 CDN GU_501190 CKT GU_501480 CNR GU_501390 CNY GU_501050 CRO GU_501150 CLR GU_501280 DBG GU_501250 DMR GU_501440 EGL GU_500720 GAR SEM_ID EDIL Name GU_501530 GFB GU_500790 GRU GU_501040 HJN GU_501540 LMT GU_501360 MBY GU_501300 MYM GU_501520 ORA GU_501400 SRN GU_501550 SV1 GU_500010 TAP GU_501500 TMA GU_501290 TNG	F0074027	2017-09-04	2017-09-12	Settlement
Meter Generation	Data query to correct meter data due to ongoing issues from 21 July and over the weekend with datacentre kit and metering connection issues. Generator units effected - MDP wind farms between periods 1-48 (00:30-00:00). Metering affected GU_501350, GU_500211, GU_5501050, GU_501150, GU_500720, GU_501040, GU_500220, GU_501310, GU_501120, GU_500740, GU_501160, GU_500270, GU_500010	F0074027	2017-09-04	2017-09-12	Settlement
Meter Generation	The 0830 values for GT31 and GT32 appear to be the split values, and not the combined values I've attached the combined metering data file and I think there is an error in it. The 0830 values for GT31 and GT32 appear to be the split values, and not the combined values that should be here. Can you take a look please?	F0074089	2017-09-07	1900-01-00	Settlement

Market Operator Monthly Report

Summary Title	Description	ID	Logged On	Date sent to MP	Type
Meter Generation	SCADA and Backstop were sent to the SEM on D+1 and D+3 for GU_401000, Ballincollig Hill Wind Farm Phase 1, for 16/08/16 as the meters were not contactable due to a transmission system outage. The delta between the initially published values and the actual metering has been assessed and the data for the exceeds the +/- 1MWh tolerance set out in section 2.1 of Agreed Procedure 16.	F0074110	2017-09-08	2017-09-08	Settlement
Meter Generation	GU_402150 (Cappawhite Windfarm). GU went live on the 29th August (export production confirmed by station) but we are seeing no MW data in our settlement system. As a result no energy payments have been received to date.	F0074147	2017-09-11	2017-09-14	Settlement
Dispatch Instructions	Units Ballylumford B31 & B32 (GU_500130 & GU_500131) 8th September 2017: from 2035 hrs DI exceeds availability (240 MW vs 232 MW). DI Should be no higher than declared availability. Dis should be reduced to match max availability from 2035 hrs to 2053 hrs. Please let know when to resubmit the feeds.	F0074179	2017-09-12	2017-09-13	Settlement
Dispatch Instructions	We feel that at least some of the DG data for B10, B31 and B32 could be incorrect for 10th and 11th Aug. The DG does not change for all units after PE 1130, but in fact dispatch instructions were sent to all units during the rest of the day which were responded to. B10 de-synced in PE 1330, and both B31 and B32 were dispatched up and then down over tea-time peak. This continues into the 11th for all units - B10 is affected for the whole day while B31 and B32 until around 08:30. This error has resulted in significant uninstructed imbalance charges on these units when in fact they were following their dispatch instructions.	F0074224	2017-09-13	2017-09-15	Settlement
Dispatch Instructions	GU_500040 (Coolkeeragh). There are missing dispatch instructions for this unit from 13:21 on 10th August upto 08:30 on 11th August. As a result the unit is incurring high uninstructed imbalances for this period. The dispatch instruction on 10th August at 11:23 (380mw/s) appears to have applied upto 08:30 on 11th, however, there were a number of other dispatch instructions during this period.	F0074294	2017-09-18	2017-09-18	Settlement
Meter Generation	Due to metering issues SONI submitted incorrect values for this generating unit. The meter issues have been resolved and the meter data is now available for re-submission to the market systems.	F0074379	2017-09-21	2017-09-26	Settlement

Table 19- Formal Queries

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 September 2017.

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

Table 20 - 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								
01/09/2017	11:00	09:58	13:00	11:51	09:30	08:23	16:00	14:38	17:00	14:43
02/09/2017	11:00	09:56	13:00	11:53	09:30	08:38	16:00	14:39	17:00	15:08
03/09/2017	11:00	10:07	13:00	12:04	09:30	08:25	16:00	14:45	17:00	15:10
04/09/2017	11:00	09:56	13:00	11:54	09:30	#N/A	16:00	14:52	17:00	14:33
05/09/2017	11:00	10:55	13:00	11:56	09:30	08:28	16:00	15:11	17:00	14:27
06/09/2017	11:00	09:57	13:00	11:59	09:30	08:25	16:00	14:24	17:00	14:30
07/09/2017	11:00	09:51	13:00	11:53	09:30	08:29	16:00	14:35	17:00	14:47
08/09/2017	11:00	10:06	13:00	11:43	09:30	08:21	16:00	14:25	17:00	14:27
09/09/2017	11:00	09:45	13:00	11:42	09:30	08:22	16:00	14:32	17:00	14:38
10/09/2017	11:00	09:54	13:00	11:49	09:30	08:23	16:00	14:39	17:00	14:31
11/09/2017	11:00	09:46	13:00	11:48	09:30	08:29	16:00	14:31	17:00	14:27
12/09/2017	11:00	09:50	13:00	11:43	09:30	08:19	16:00	14:43	17:00	15:16
13/09/2017	11:00	09:52	13:00	11:43	09:30	08:14	16:00	14:30	17:00	14:39
14/09/2017	11:00	09:43	13:00	11:47	09:30	08:20	16:00	14:31	17:00	14:40
15/09/2017	11:00	09:49	13:00	11:41	09:30	08:30	16:00	15:32	17:00	14:36
16/09/2017	11:00	09:51	13:00	11:50	09:30	08:25	16:00	14:46	17:00	14:26
17/09/2017	11:00	09:58	13:00	11:55	09:30	08:35	16:00	14:42	17:00	14:52
18/09/2017	11:00	09:56	13:00	11:59	09:30	08:22	16:00	15:19	17:00	14:54
19/09/2017	11:00	09:48	13:00	11:53	09:30	08:54	16:00	14:28	17:00	14:23
20/09/2017	11:00	09:50	13:00	11:48	09:30	08:18	16:00	14:49	17:00	14:22
21/09/2017	11:00	09:50	13:00	11:48	09:30	08:19	16:00	14:27	17:00	14:28
22/09/2017	11:00	09:49	13:00	11:51	09:30	08:14	16:00	14:27	17:00	14:27
23/09/2017	11:00	09:49	13:00	11:49	09:30	08:25	16:00	14:25	17:00	14:33
24/09/2017	11:00	09:49	13:00	11:46	09:30	08:21	16:00	14:28	17:00	14:31
25/09/2017	11:00	09:44	13:00	11:48	09:30	08:22	16:00	14:28	17:00	14:31
26/09/2017	11:00	10:04	13:00	11:44	09:30	08:23	16:00	14:28	17:00	14:25
27/09/2017	11:00	09:55	13:00	11:39	09:30	08:21	16:00	14:33	17:00	14:19
28/09/2017	11:00	09:53	13:00	11:52	09:30	08:16	16:00	14:32	17:00	14:54
29/09/2017	11:00	09:57	13:00	11:48	09:30	08:20	16:00	14:25	17:00	14:34
30/09/2017	11:00	09:57	13:00	11:50	09:30	08:25	16:00	14:22	17:00	14:25

Table 21 – 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
01/09/2017	04/09/2017	17:00	12:47	01/09/2017	08/09/2017	12:00	12:01
02/09/2017	04/09/2017	17:00	13:47	02/09/2017	08/09/2017	12:00	12:00
03/09/2017	04/09/2017	17:00	15:55	03/09/2017	08/09/2017	12:00	12:00
04/09/2017	05/09/2017	17:00	16:11	04/09/2017	11/09/2017	12:00	07:58
05/09/2017	06/09/2017	17:00	16:06	05/09/2017	12/09/2017	12:00	08:42
06/09/2017	07/09/2017	17:00	16:32	06/09/2017	13/09/2017	12:00	08:01
07/09/2017	08/09/2017	17:00	15:59	07/09/2017	14/09/2017	12:00	10:59
08/09/2017	11/09/2017	17:00	11:50	08/09/2017	15/09/2017	12:00	11:59
09/09/2017	11/09/2017	17:00	13:38	09/09/2017	15/09/2017	12:00	12:00
10/09/2017	11/09/2017	17:00	15:44	10/09/2017	15/09/2017	12:00	12:00
11/09/2017	12/09/2017	17:00	16:20	11/09/2017	18/09/2017	12:00	10:46
12/09/2017	13/09/2017	17:00	15:57	12/09/2017	19/09/2017	12:00	10:19
13/09/2017	14/09/2017	17:00	15:40	13/09/2017	20/09/2017	12:00	08:52
14/09/2017	15/09/2017	17:00	15:58	14/09/2017	21/09/2017	12:00	08:57
15/09/2017	18/09/2017	17:00	11:50	15/09/2017	22/09/2017	12:00	11:15
16/09/2017	18/09/2017	17:00	13:16	16/09/2017	22/09/2017	12:00	12:00
17/09/2017	18/09/2017	17:00	15:45	17/09/2017	22/09/2017	12:00	12:00
18/09/2017	19/09/2017	17:00	16:34	18/09/2017	25/09/2017	12:00	09:15
19/09/2017	20/09/2017	17:00	16:03	19/09/2017	26/09/2017	12:00	07:56
20/09/2017	21/09/2017	17:00	16:30	20/09/2017	27/09/2017	12:00	08:51
21/09/2017	22/09/2017	17:00	16:20	21/09/2017	28/09/2017	12:00	08:50
22/09/2017	25/09/2017	17:00	11:55	22/09/2017	29/09/2017	12:00	11:02
23/09/2017	25/09/2017	17:00	13:32	23/09/2017	29/09/2017	12:00	12:00
24/09/2017	25/09/2017	17:00	15:28	24/09/2017	29/09/2017	12:00	12:00
25/09/2017	26/09/2017	17:00	15:30	25/09/2017	02/10/2017	12:00	08:31
26/09/2017	27/09/2017	17:00	15:43	26/09/2017	03/10/2017	12:00	10:12
27/09/2017	28/09/2017	17:00	15:51	27/09/2017	04/10/2017	12:00	08:56
28/09/2017	29/09/2017	17:00	15:32	28/09/2017	05/10/2017	12:00	09:10
29/09/2017	02/10/2017	17:00	11:40	29/09/2017	06/10/2017	12:00	11:58
30/09/2017	02/10/2017	17:00	13:40	30/09/2017	06/10/2017	12:00	12:00

Table 22 – 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

Market Operator Monthly Report

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
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

Market Operator Monthly Report

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

Market Operator Monthly Report

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
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

Market Operator Monthly Report

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

Market Operator Monthly Report

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
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

Market Operator Monthly Report

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
01/04/2017	€445,980.67	-€9,297.51	-€174,702.29
02/04/2017	€440,774.67	-€211.25	-€165,989.62
03/04/2017	€475,573.38	-€2,688.05	-€183,791.23
04/04/2017	€277,538.44	-€7,812.90	-€193,570.91
05/04/2017	€239,112.12	€24,828.28	-€200,512.20
06/04/2017	€201,709.68	-€1,387.50	-€203,743.82

Market Operator Monthly Report

07/04/2017	€541,918.18	-€24,473.77	-€198,083.51
08/04/2017	€481,149.94	-€2,248.37	-€174,591.57
09/04/2017	€359,411.09	€8,305.16	-€167,001.40
10/04/2017	€191,814.23	-€6,554.00	-€190,147.41
11/04/2017	€482,196.30	-€7,665.12	-€190,409.69
12/04/2017	€298,048.50	€1,486.97	-€188,510.58
13/04/2017	€351,124.07	€15,931.84	-€198,148.58
14/04/2017	€533,992.92	-€1,631.32	-€188,060.01
15/04/2017	€334,083.01	€14,006.91	-€170,347.94
16/04/2017	€543,725.15	-€1,674.32	-€157,940.84
17/04/2017	€384,580.88	€1,212.90	-€167,920.90
18/04/2017	€263,324.98	-€17,787.03	-€188,621.93
19/04/2017	€331,371.48	€1,462.98	-€194,668.85
20/04/2017	€228,795.24	€8,661.67	-€192,882.95
21/04/2017	€205,508.80	€7,041.68	-€188,233.99
22/04/2017	€239,332.26	-€11,175.45	-€176,659.17
23/04/2017	€293,004.18	-€10,147.97	-€168,719.33
24/04/2017	€291,681.26	-€3,595.18	-€181,339.21
25/04/2017	€444,760.00	€14,877.07	-€185,536.04
26/04/2017	€431,441.57	-€1,198.54	-€198,254.70
27/04/2017	€252,939.14	-€28,182.11	-€195,121.42
28/04/2017	€254,789.68	-€4,309.94	-€194,716.09
29/04/2017	€592,066.24	-€1,348.49	-€162,245.97
30/04/2017	€496,303.76	€2,493.15	-€154,565.06
01/05/2017	€410,897.02	-€10,658.02	-€167,241.64
02/05/2017	€290,556.65	-€32,802.67	-€185,936.60
03/05/2017	€326,127.10	€7,709.27	-€182,816.49
04/05/2017	€364,923.73	-€618.01	-€178,417.73

Market Operator Monthly Report

05/05/2017	€499,984.87	€25,122.14	-€171,803.97
06/05/2017	€540,275.48	-€10,630.10	-€162,769.16
07/05/2017	€329,811.48	-€6,911.16	-€162,750.94
08/05/2017	€306,740.51	€4,114.17	-€181,464.47
09/05/2017	€364,831.83	€2,912.09	-€187,119.76
10/05/2017	€163,412.13	€2,121.55	-€188,694.53
11/05/2017	€307,937.42	-€12,010.85	-€188,150.72
12/05/2017	€293,113.80	-€5,970.67	-€188,596.57
13/05/2017	€293,256.78	€17,282.99	-€164,803.48
14/05/2017	€345,677.53	€14,025.84	-€152,527.03
15/05/2017	€348,567.19	€1,490.51	-€173,480.10
16/05/2017	€414,864.29	-€4,020.41	-€176,647.08
17/05/2017	€501,113.66	-€8,473.32	-€181,983.38
18/05/2017	€252,885.52	-€58,631.56	-€187,493.38
19/05/2017	€390,250.92	-€13,718.22	-€184,303.20
20/05/2017	€287,857.39	-€5,009.68	-€166,129.89
21/05/2017	€506,102.40	-€2,534.42	-€150,197.47
22/05/2017	€327,434.03	€14,032.61	-€176,284.02
23/05/2017	€446,223.92	-€4,784.26	-€186,377.06
24/05/2017	€389,708.69	-€11,132.72	-€190,029.36
25/05/2017	€361,835.25	-€3,796.99	-€180,790.31
26/05/2017	€365,887.37	€5,904.96	-€177,828.34
27/05/2017	€407,578.62	-€2,051.54	-€165,263.62
28/05/2017	€139,840.22	€4,014.44	-€157,702.45
29/05/2017	€423,103.81	€108,831.41	-€186,066.11
30/05/2017	€230,961.74	-€4,547.63	-€182,995.30
31/05/2017	€284,783.53	-€6,319.55	-€179,958.34
01/06/2017	€111,510.92	€2,037.18	-€181,892.96

Market Operator Monthly Report

02/06/2017	€268,607.28	-€12,321.73	-€182,128.12
03/06/2017	€230,136.02	€6,638.33	-€161,111.49
04/06/2017	€289,607.24	€10,072.09	-€154,052.18
05/06/2017	€404,934.89	-€9,422.39	-€162,443.77
06/06/2017	€512,248.03	-€3,313.12	-€167,438.51
07/06/2017	€324,030.36	-€10,155.42	-€184,566.56
08/06/2017	€653,660.44	-€22,066.31	-€188,238.92
09/06/2017	€513,618.32	-€6,664.48	-€180,690.32
10/06/2017	€441,848.97	-€9,216.84	-€153,081.84
11/06/2017	€662,177.36	€6,052.10	-€146,437.87
12/06/2017	€680,074.56	-€10,245.91	-€174,769.27
13/06/2017	€394,836.84	-€9,008.01	-€182,883.81
14/06/2017	€410,203.50	-€3,304.05	-€176,839.22
15/06/2017	€271,951.77	€12,372.89	-€173,258.79
16/06/2017	€364,884.57	-€5.48	-€178,011.62
17/06/2017	€412,917.06	-€253.96	-€163,132.29
18/06/2017	€326,400.39	-€12,634.41	-€159,807.62
19/06/2017	€378,055.34	-€1,030.21	-€185,101.21
20/06/2017	€313,398.47	-€9,921.07	-€184,169.31
21/06/2017	€236,727.73	€323.69	-€189,676.86
22/06/2017	€231,820.53	-€10,987.99	-€182,377.76
23/06/2017	€253,159.55	€9,043.05	-€173,207.04
24/06/2017	€315,975.42	-€3,544.17	-€157,622.30
25/06/2017	€272,250.85	-€28,594.63	-€153,307.67
26/06/2017	€413,351.18	-€1,467.89	-€182,239.13
27/06/2017	€288,139.58	-€14,188.43	-€186,099.76
28/06/2017	€280,716.05	-€16,591.54	-€187,425.88
29/06/2017	€685,996.09	-€8,376.38	-€175,441.78

Market Operator Monthly Report

30/06/2017	€820,295.81	€15,061.81	-€169,626.22
01/07/2017	€491,603.56	-€6,409.67	-€160,617.89
02/07/2017	€208,160.66	-€10,030.56	-€153,632.64
03/07/2017	€381,942.61	-€2,445.27	-€181,652.24
04/07/2017	€614,614.96	-€54,136.64	-€185,447.77
05/07/2017	€417,108.38	-€47,317.01	-€188,442.52
06/07/2017	€341,491.16	-€14,833.35	-€188,059.49
07/07/2017	€373,432.08	€12,185.82	-€183,314.63
08/07/2017	€391,886.67	-€7,069.22	-€162,886.08
09/07/2017	€212,844.06	€787.75	-€155,817.69
10/07/2017	€593,860.85	-€17,542.24	-€180,881.23
11/07/2017	€675,387.73	-€15,300.33	-€181,346.59
12/07/2017	€273,455.65	-€298.47	-€175,978.58
13/07/2017	€459,463.38	-€20,749.02	-€174,869.86
14/07/2017	€383,822.32	-€29,424.50	-€173,390.69
15/07/2017	€561,186.52	€11,726.76	-€159,302.25
16/07/2017	€440,988.02	€4,958.18	-€152,230.01
17/07/2017	€334,386.07	-€10,003.98	-€177,771.18
18/07/2017	€280,816.30	-€15,208.54	-€175,194.41
19/07/2017	€430,977.83	-€25,784.67	-€179,746.80
20/07/2017	€380,904.94	€6,688.65	-€179,597.48
21/07/2017	€516,923.77	€10,691.22	-€171,102.45
22/07/2017	€226,623.50	-€9,189.06	-€163,041.19
23/07/2017	€397,589.41	-€1,002.78	-€155,017.96
24/07/2017	€346,940.16	€2,211.41	-€177,086.65
25/07/2017	€314,691.21	€11,661.85	-€184,658.76
26/07/2017	€436,005.59	-€16,549.70	-€169,934.14
27/07/2017	€484,461.19	-€6,222.41	-€171,375.29

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28/07/2017	€602,693.56	€4,395.24	-€168,546.32
29/07/2017	€313,879.05	-€4,178.50	-€154,426.29
30/07/2017	€470,722.38	-€5,201.98	-€150,791.55
31/07/2017	€406,429.07	-€10,609.33	-€171,740.32
01/09/2017	€258,600.69	€6,279.74	-€188,822.10
02/09/2017	€558,610.55	-€11,752.10	-€161,804.13
03/09/2017	€491,847.17	-€11,807.15	-€162,176.50
04/09/2017	€495,001.19	-€907.95	-€185,822.81
05/09/2017	€507,397.59	-€8,987.53	-€182,887.85
06/09/2017	€418,536.93	-€6,900.49	-€185,239.88
07/09/2017	€464,749.46	-€20,508.46	-€185,739.53
08/09/2017	€745,956.70	-€13,225.67	-€177,443.01
09/09/2017	€506,825.54	€1,625.61	-€160,738.26
10/09/2017	€814,415.96	-€5,561.88	-€151,248.01
11/09/2017	€677,516.99	€15,149.04	-€172,117.27
12/09/2017	€394,524.64	-€10,737.99	-€189,243.96
13/09/2017	€681,566.84	-€11,681.99	-€185,427.81
14/09/2017	€375,089.09	-€8,652.50	-€182,018.54
15/09/2017	€467,357.05	€5,153.34	-€180,476.02
16/09/2017	€348,659.28	€13,989.26	-€174,583.22
17/09/2017	€455,793.13	-€12,673.27	-€168,783.53
18/09/2017	€493,443.26	-€16,133.63	-€191,940.63
19/09/2017	€532,766.66	-€12,368.80	-€189,663.80
20/09/2017	€438,469.40	-€3,605.65	-€194,763.66
21/09/2017	€431,401.86	-€9,357.51	-€191,880.95
22/09/2017	€456,983.42	€10,082.17	-€184,227.26
23/09/2017	€544,734.82	-€10,390.53	-€163,249.25
24/09/2017	€838,489.67	-€37,215.44	-€169,197.57

25/09/2017	€966,986.04	-€38,542.70	-€190,215.17
26/09/2017	€590,635.12	-€354.46	-€183,269.87
27/09/2017	€983,304.77	-€21,600.12	-€189,661.24
28/09/2017	€926,927.38	-€9,822.80	-€186,840.24
29/09/2017	€768,260.34	-€20,235.73	-€177,353.68
30/09/2017	€600,218.09	€748.05	-€174,171.47

Table 23 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

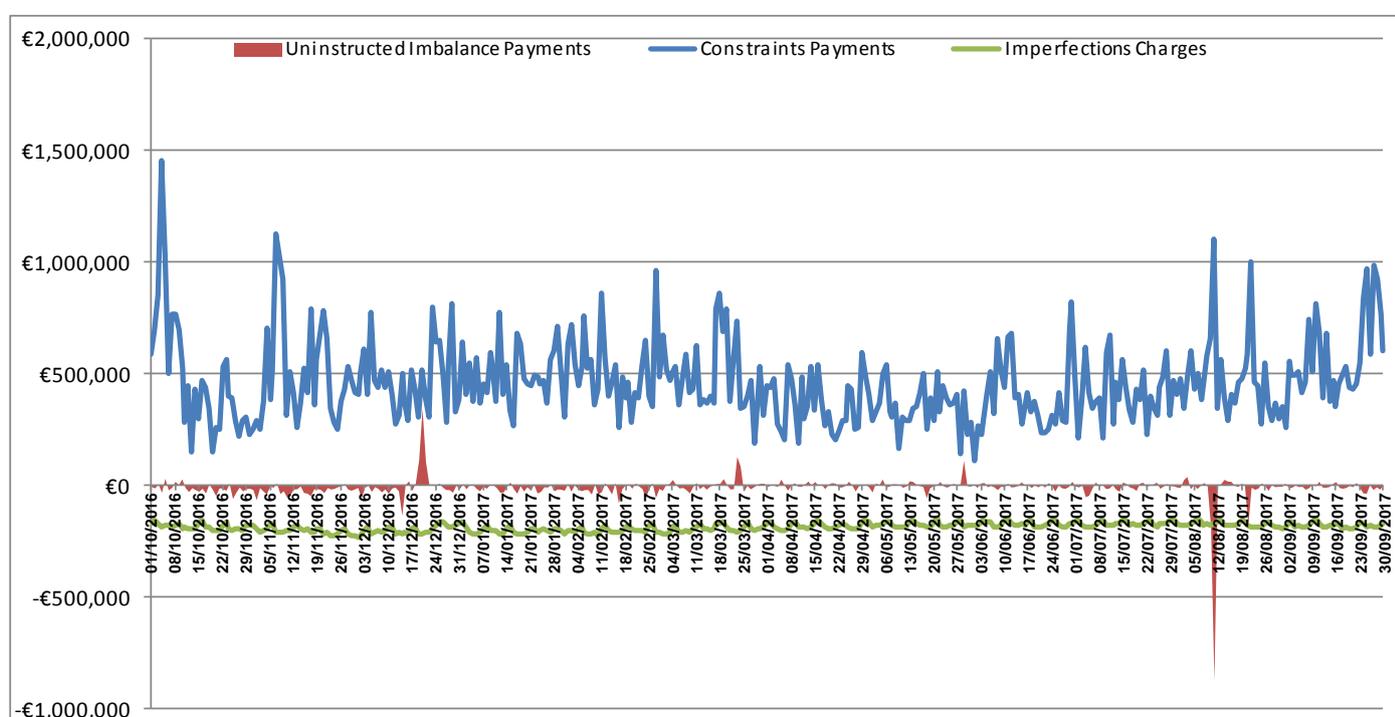


Figure 24 - Constraint Payments, Uninstructed Imbalance Payments, and Imperfections Charges

Week No	Make Whole Payments
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
13	€137,714.00
14	€79,589.45
15	€85,661.25
16	€178,359.80
17	€140,600.39
18	€42,027.49
19	€136,034.10
20	€82,951.31
21	€68,319.43
22	€102,001.78
23	€24,196.13
24	€11,931.14
25	€72,646.11
26	€34,108.50
27	€125,550.55
28	€155,995.36
29	€15,425.77
30	€52,443.38
31	€131,881.21
32	€93,057.93
33	€43,829.44
34	€101,370.77

35	€9,090.06
36	€16,803.55
37	€153,577.39
38	€177,885.03
39	€94,316.26

Table 24 - Make Whole Payments

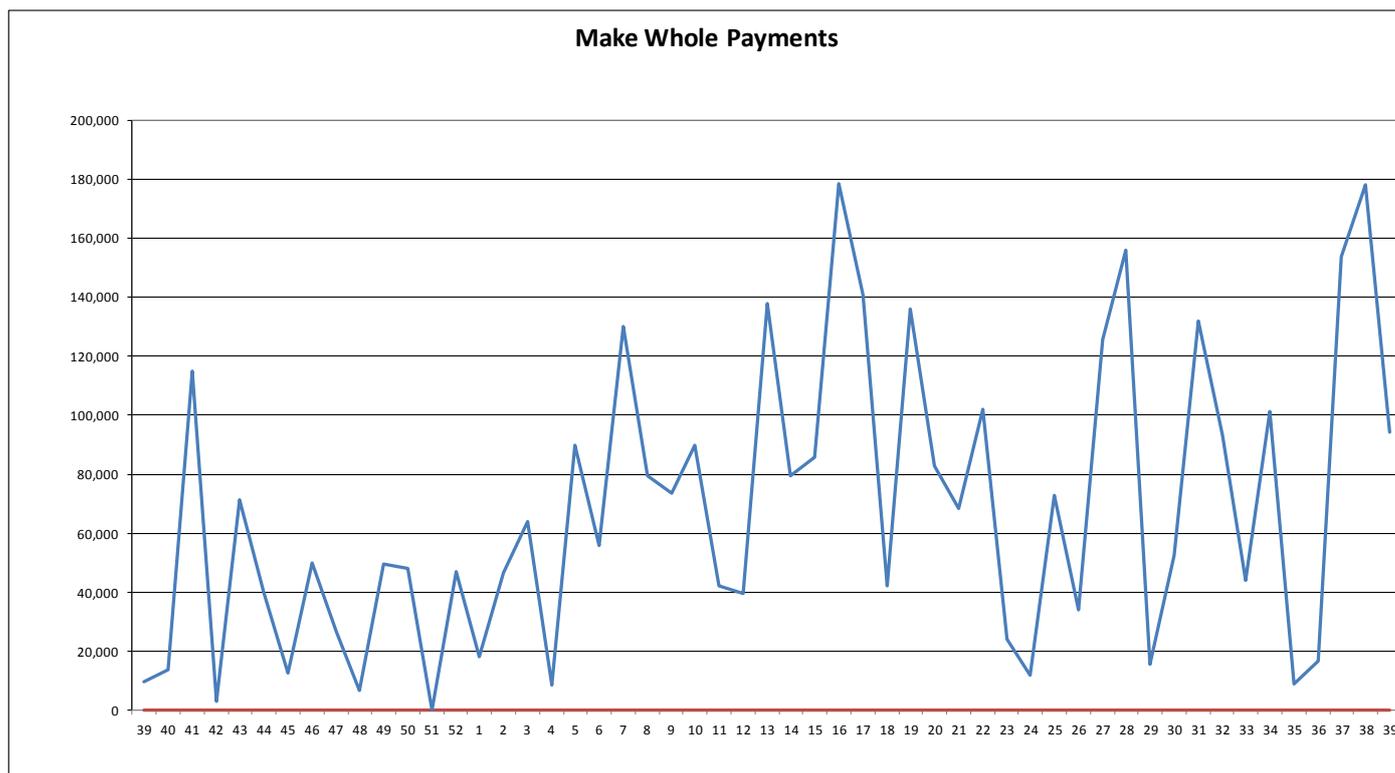


Figure 25 - Make Whole Payments

Week No	Testing Charges
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
13	-€9,425.83
14	€0.00
15	-€52,955.89
16	-€8,320.29
17	-€275.42
18	€0.00
19	-€47,373.02
20	-€4,694.35
21	€0.00
22	-€23,143.48
23	€0.00
24	€0.00
25	€0.00
26	€0.00
27	€0.00
28	-€19,970.04
29	€0.00
30	€0.00
31	-€82,186.30
32	-€101,206.00
33	€0.00
34	-€164.97
35	€859,082.00
36	€21,173.78

37	€1,692,125.39
38	€916,306.10
39	€5,402,138.74

Table 25 - Testing Charges

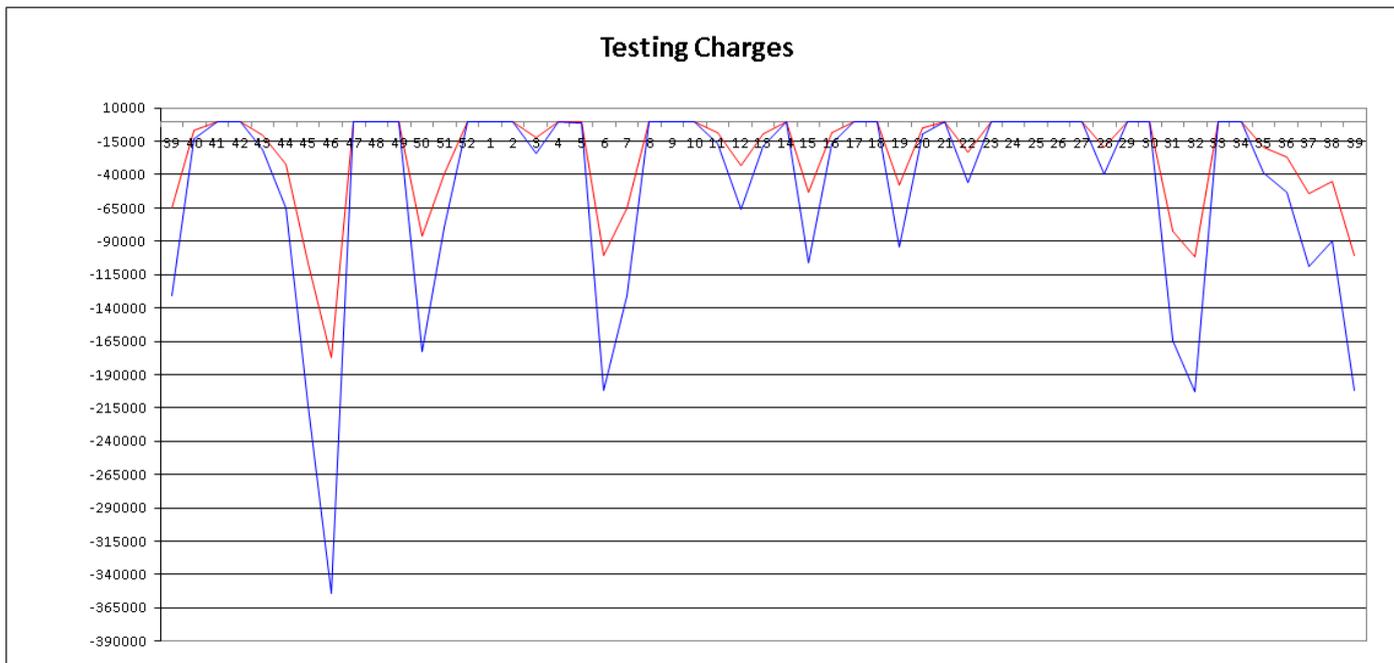


Figure 26 - Testing Charges

Appendix F: Default Commercial Offer Data Used

The table below lists for each unit the number of times in operations during September 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_500099	DSU_501460	13			13
PT_400090	DSU_401610	30			30
PT_400138	DSU_401590	30			30
PT_400124	DSU_401880	7			7
PT_400090	DSU_401620	30			30
PT_400116	DSU_401400	26			26
PT_400133	DSU_401910	21			21
PT_400116	DSU_401870	26			26
PT_500067	DSU_501380	30			30
PT_400116	DSU_402120	26			26
PT_400116	DSU_402100	26			26
PT_400116	DSU_402090	26			26
PT_400106	DSU_401330	31			31
PT_500105	DSU_501510	30			30
PT_400090	DSU_401270	30			30
PT_400138	DSU_402040	5			5
PT_400133	DSU_401530	13			13
PT_400124	DSU_401490	31			31
PT_400024	GU_400120	30			30
PT_400024	GU_400121	30			30
PT_400030	GU_400180	34			34
PT_400030	GU_400181	34			34
PT_400030	GU_400182	34			34
PT_400030	GU_400183	34			34
PT_400030	GU_400200	36			36
PT_400030	GU_400201	37			37
PT_400030	GU_400202	34			34
PT_400030	GU_400203	33			33
PT_400030	GU_400210	33			33
PT_400030	GU_400211	33			33
PT_400030	GU_400220	33			33
PT_400030	GU_400221	33			33
PT_400030	GU_400240	33			33
PT_400030	GU_400250	33			33
PT_400030	GU_400251	33			33
PT_400030	GU_400252	33			33
PT_400030	GU_400260	33			33
PT_400030	GU_400270	34			34
PT_400030	GU_400271	33			33
PT_400030	GU_400272	33			33
PT_400030	GU_400280	33			33
PT_400030	GU_400281	33			33
PT_400030	GU_400290	33			33
PT_400030	GU_400300	34			34

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PT_400030	GU_400311	34		34
PT_400030	GU_400324	34		34
PT_400030	GU_400325	34		34
PT_400030	GU_400360	33		33
PT_400030	GU_400361	33		33
PT_400030	GU_400362	33		33
PT_400030	GU_400363	33		33
PT_400030	GU_400370	33		33
PT_400030	GU_400850	34		34
PT_400032	GU_400430	30		30
PT_400034	GU_400940	30		30
PT_400034	GU_401090	30		30
PT_400034	GU_401440	30		30
PT_400034	GU_401680	30		30
PT_400035	GU_400480	56		56
PT_400037	GU_400500	30		30
PT_400041	GU_400530	58		58
PT_400044	GU_400540	56		56
PT_400054	GU_400620	30		30
PT_400055	GU_400630	30		30
PT_400064	GU_400750	30		30
PT_400064	GU_400751	30		30
PT_400064	GU_400752	30		30
PT_400064	GU_400753	30		30
PT_400064	GU_400762	30		30
PT_400064	GU_400770	30		30
PT_400064	GU_400771	30		30
PT_400064	GU_400780	30		30
PT_400064	GU_400781	30		30
PT_400075	GU_400930	35		35
PT_400077	GU_400950	30		30
PT_400078	GU_401010	30		30
PT_400078	GU_401011	30		30
PT_400165	GU_401840	30		30
PT_400172	GU_401860	31		31
PT_400198	GU_402030	32		32
PT_500024	GU_500040	36		36
PT_500024	GU_500041	30		30
PT_500027	GU_500130	86		86
PT_500027	GU_500131	86		86
PT_500027	GU_500140	86		86
PT_500034	GU_501350	31		31
PT_500040	GU_500281	59		59
PT_500040	GU_500282	59		59
PT_500040	GU_500283	30		30
PT_500040	GU_500284	30		30
PT_500045	GU_500820	30		30
PT_500045	GU_500821	30		30
PT_500045	GU_500822	30		30
PT_500045	GU_500823	30		30
PT_500045	GU_500824	30		30
PT_500045	GU_500825	30		30
PT_500048	GU_500904	52		52

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PT_500050	GU_501040	30		30
PT_500050	GU_501050	30		30
PT_500050	GU_501150	30		30
PT_500050	GU_501190	30		30
PT_500050	GU_501440	5		5
PT_500053	GU_501130	30		30
PT_500066	GU_501210	30		30
PT_500073	GU_501230	8		8
PT_400201	I_ROIEWIC	24		24
PT_500083	I_NIMOYLE	87		87
PT_500075	I_NIMOYLE	89		89
PT_500024	I_NIMOYLE	30		30
PT_400163	I_ROIEWIC	87		87
PT_500069	I_NIMOYLE	90		90
PT_400157	I_ROIEWIC	62		62
PT_500031	I_NIMOYLE	30		30
PT_400096	I_ROIEWIC	90		90
PT_500037	I_NIMOYLE	30		30
PT_500112	I_NIMOYLE	13		13
PT_400168	I_ROIEWIC	64		64
PT_400115	I_ROIEWIC	30		30
PT_400136	I_ROIEWIC	89		89
PT_500081	I_NIMOYLE	60		60
PT_400037	I_ROIEWIC	4		4
PT_400188	I_ROIEWIC	5		5
PT_500107	I_NIMOYLE	1		1
PT_400170	I_ROIEWIC	63		63
PT_400108	I_ROIEWIC	63		63
PT_400164	I_ROIEWIC	40		40
PT_500070	I_NIMOYLE	60		60
PT_400171	I_ROIEWIC	61		61
PT_500120	I_NIMOYLE	22		22
PT_500092	I_NIMOYLE	59		59
PT_500088	I_NIMOYLE	42		42
PT_400099	I_ROIEWIC	36		36
PT_500085	I_NIMOYLE	22		22
PT_400030	I_ROIEWIC	30		30
PT_400090	DSU_401800		30	30
PT_400090	DSU_401850		30	30
PT_500064	DSU_501200		30	30
PT_500078	DSU_501330		30	30
PT_500099	DSU_501460		18	18
PT_500105	DSU_501510		2	2
PT_400111	DSU_401390		30	30
PT_400106	DSU_401330		1	1
PT_400116	DSU_402100		1	1
PT_400133	DSU_401910		9	9
PT_400124	DSU_401880		24	24
PT_400133	DSU_401530		18	18
PT_500098	DSU_501450		30	30
PT_500108	DSU_501560		30	30
PT_400116	DSU_401870		5	5
PT_400116	DSU_402090		1	1

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PT_400021	GU_400021			30	30
PT_400021	GU_400050			30	30
PT_400021	GU_400060			30	30
PT_400021	GU_400070			30	30
PT_400021	GU_400080			30	30
PT_400021	GU_400591			30	30
PT_400021	GU_400600			30	30
PT_400021	GU_400910			30	30
PT_400021	GU_400920			30	30
PT_400021	GU_401080			30	30
PT_400021	GU_401380			30	30
PT_400021	GU_401640			30	30
PT_400021	GU_401960			30	30
PT_400025	GU_400130			30	30
PT_400038	GU_400550			30	30
PT_400050	GU_400650			30	30
PT_400050	GU_400660			30	30
PT_400050	GU_401000			30	30
PT_400050	GU_401060			30	30
PT_400050	GU_401150			30	30
PT_400050	GU_401240			30	30
PT_400050	GU_401250			30	30
PT_400050	GU_401280			30	30
PT_400050	GU_401290			30	30
PT_400050	GU_401360			30	30
PT_400050	GU_401790			30	30
PT_400050	GU_401920			30	30
PT_400050	GU_401930			30	30
PT_400050	GU_402010			30	30
PT_400062	GU_400730			30	30
PT_400062	GU_400731			30	30
PT_400062	GU_400840			30	30
PT_400066	GU_401540			30	30
PT_400066	GU_401820			30	30
PT_400082	GU_401100			30	30
PT_400087	GU_401230			30	30
PT_400148	GU_401690			30	30
PT_400150	GU_401700			30	30
PT_400151	GU_401770			30	30
PT_400151	GU_401780			30	30
PT_400152	GU_401710			30	30
PT_400152	GU_401720			30	30
PT_400152	GU_401730			30	30
PT_400152	GU_401740			30	30
PT_400152	GU_401750			30	30
PT_400152	GU_401760			30	30
PT_400162	GU_401830			30	30
PT_400178	GU_401900			30	30
PT_400197	GU_402020			30	30
PT_500021	GU_500010			30	30
PT_500021	GU_500740			30	30
PT_500021	GU_501160			30	30
PT_500021	GU_501500			30	30

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PT_500021	GU_501520			30	30
PT_500032	GU_500211			30	30
PT_500032	GU_501120			30	30
PT_500032	GU_501280			30	30
PT_500032	GU_501290			30	30
PT_500032	GU_501300			30	30
PT_500032	GU_501400			30	30
PT_500032	GU_501530			30	30
PT_500032	GU_501540			30	30
PT_500032	GU_501570			30	30
PT_500039	GU_500270			30	30
PT_500044	GU_500720			30	30
PT_500047	GU_500790			30	30
PT_500061	GU_501170			30	30
PT_500062	GU_501180			30	30
PT_500073	GU_501230			23	23
PT_500074	GU_501250			30	30
PT_500089	GU_501360			30	30
	Total	4837	0	2412	7249
	Percentage	66.73%	0.00%	33.27%	100.00%

Table 26 – 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
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	£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
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	£25,730,620.36	£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	£35,169.15	£97,643.02	£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
Apr-17	ROI	£56,165,195.56	£24,426,665.10	£727,000.54	£536,698.08	£142,324.28	£3,531.15	£45,125.24	£18,620.07	£596.12	£0.00	£0.00	£0.00	82,065,756.14
	NI	£17,358,282.80	£7,584,088.13	£179,414.93	£127,102.29	£27,651.79	£859.38	£60,044.36	£25,589.38	£801.90	£0.00	£0.00	£0.00	25,363,834.96
May-17	ROI	£44,648,195.71	£19,781,317.86	£700,841.87	£489,950.65	£142,425.65	£2,974.84	£51,455.64	£17,883.26	£699.50	£0.00	£0.00	£0.00	65,835,744.98
	NI	£16,964,613.24	£5,548,133.24	£169,862.58	£108,402.43	£29,733.84	£622.87	£88,001.70	£33,781.45	£1,179.59	£0.00	£0.00	£0.00	22,944,330.94
Jun-17	ROI	£50,996,714.24	£18,508,982.13	£841,895.70	£863,713.90	£198,750.84	£4,934.88	£65,063.85	£16,276.93	£866.44	£0.00	£0.00	£0.00	71,503,198.91
	NI	£18,134,740.54	£5,385,407.39	£213,872.53	£138,837.43	£30,982.10	£823.10	£148,093.71	£42,384.03	£1,836.46	£0.00	£0.00	£0.00	24,096,977.29
Jul-17	ROI	£53,839,556.76	£18,469,543.17	£689,850.17	£859,675.25	£105,231.46	£1,843.13	£47,200.17	£31,615.25	£600.31	£0.00	£0.00	£0.00	74,045,115.67
	NI	£16,871,524.38	£4,970,215.26	£169,319.17	£206,699.63	£26,416.99	£609.40	£122,939.50	£47,342.00	£1,369.62	£0.00	£0.00	£0.00	22,416,435.95
Aug-17	ROI	£49,715,868.99	£16,597,661.81	£670,887.89	£189,567.77	£49,405.94	£1,189.91	£131,434.13	£36,135.62	£1,706.37	£1.41	£0.00	£0.00	67,393,859.84
	NI	£15,604,259.43	£4,539,253.85	£174,636.65	£71,879.64	£24,102.39	£515.19	£11,674.35	£2,799.04	£123.94	£52.50	£0.00	£0.00	20,429,296.98
Sep-17	ROI	£74,262,007.43	£18,246,287.18	£871,978.12	£297,529.91	£58,164.04	£2,322.12	£47,978.01	£13,495.87	£504.35	£163,227.43	£0.00	£0.00	93,963,494.46
	NI	£26,213,019.19	£5,128,326.58	£230,350.58	£81,360.23	£23,139.40	£499.97	£13,331.20	£6,511.87	£297.83	£140,679.45	£0.00	£0.00	31,837,516.30

Table 27 – Total Charges by Month

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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
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	€77,198,039.75	€16,935,824.39	€297,316.08	€58,064.10	€2,315.75	€36,227.08	€14,579.25	€480.13	€329,748.86	€0.00	€736.80	€94,873,332.19
	NI	€29,090,989.44	€6,342,522.98	€81,307.50	€23,116.39	€615.25	€24,625.76	€5,539.12	€177.97	€254,051.02	€0.00	€4.28	€35,822,949.71
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
Apr-17	ROI	€56,718,380.85	€24,463,279.10	€537,285.75	€147,053.40	€3,530.38	€45,104.86	€18,331.73	€596.32	€0.00	€0.00	€0.00	€81,933,562.39
	NI	€18,526,297.40	€7,555,445.88	€125,968.13	€23,710.00	€645.79	€59,866.13	€25,832.73	€810.81	€0.00	€0.00	€0.00	€26,318,576.87
May-17	ROI	€45,161,376.39	€18,086,733.29	€488,856.77	€139,195.42	€2,589.27	€62,916.83	€17,794.83	€699.70	€0.00	€0.00	€0.00	€63,960,162.50
	NI	€19,510,303.26	€6,964,363.87	€107,751.82	€32,525.65	€619.02	€88,078.61	€33,838.58	€1,182.28	€0.00	€0.00	€0.00	€26,738,663.09
Jun-17	ROI	€52,758,496.23	€17,355,294.13	€882,852.53	€191,441.91	€3,661.42	€65,347.10	€16,420.10	€869.48	€0.00	€0.00	€0.00	€71,274,382.90
	NI	€20,252,622.96	€6,380,475.07	€138,076.17	€37,695.41	€816.77	€148,166.13	€42,425.33	€1,836.50	€0.00	€0.00	€0.00	€27,002,114.34
Jul-17	ROI	€54,277,998.32	€17,477,373.72	€846,835.48	€102,146.67	€1,651.30	€47,723.87	€34,509.09	€601.00	€0.00	€0.00	€0.00	€72,788,839.45
	NI	€18,773,354.99	€5,850,870.07	€230,926.67	€29,088.46	€609.37	€122,267.41	€44,738.41	€1,404.46	€0.00	€0.00	€0.00	€25,053,259.84
Aug-17	ROI	€50,562,528.38	€15,345,661.50	€190,289.53	€50,188.86	€1,330.67	€130,457.46	€35,704.06	€1,694.02	€2.00	€0.00	€0.00	€66,317,856.48
	NI	€18,103,577.29	€5,650,171.54	€71,815.23	€23,380.11	€512.28	€11,510.00	€3,159.55	€146.77	€45.51	€0.00	€0.00	€23,864,318.28
Sep-17	ROI	€77,198,039.75	€16,935,824.39	€297,316.08	€58,064.10	€2,315.75	€36,227.08	€14,579.25	€480.13	€329,748.86	€0.00	€736.80	€94,873,332.19
	NI	€29,090,989.44	€6,342,522.98	€81,307.50	€23,116.39	€615.25	€24,625.76	€5,539.12	€177.97	€254,051.02	€0.00	€4.28	€35,822,949.71

Table 28 - 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
07/10/2016	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
07/04/2017	13	€1,422,792.08	€0

14/04/2017	14	€1,323,499.99	€0
21/04/2017	15	€1,281,924.95	€0
28/04/2017	16	€917,452.61	€0
05/05/2017	17	€1,240,844.16	€0
12/05/2017	18	€1,706,133.73	€0
19/05/2017	19	€799,061.61	€0
26/05/2017	20	€1,244,315.59	€0
02/06/2017	21	€1,573,637.76	€0
09/06/2017	22	€555,421.21	€0
16/06/2017	23	€1,898,669.67	€0
24/06/2017	24	€1,997,320.39	€0
30/06/2017	25	€794,824.21	€0
07/07/2017	26	€1,977,028.07	€0
14/07/2017	27	€1,361,554.93	€0
21/07/2017	28	€1,887,633.56	€0
28/07/2017	29	€1,375,088.71	€0
04/08/2017	30	€1,705,529.87	€0
11/08/2017	31	€2,031,766.74	€0
18/08/2017	32	€1,759,007.06	€0
25/08/2017	33	€1,798,951.38	€0
01/09/2017	34	€2,353,112.14	€0
08/09/2017	35	€1,149,375.39	€0
15/09/2017	36	€2,329,555.11	€0
22/09/2017	37	€2,521,672.31	€0
29/09/2017	38	€2,014,636.26	€0

Table 29 – 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
Oct-16	-€373.17	€0
Nov-16	-€395.27	€0
Dec-16	-€400.31	€0
Jan-17	-€345.12	€0
Feb-17	-€284.03	€0
Mar-17	-€276.22	€0
Apr-17	-€232.70	€0
May-17	-€253.73	€0
Jun-17	-€220.17	€0
Jul-17	-€194.98	€0
Aug-17	-€174.67	€0
Sep-17	-€232.33	€0

Table 30 - 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>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>

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Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<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>
<u>Apr 2017</u>	=	=	<u>17/04/2017</u> <u>28/04/2017</u>	<u>03/04/2017</u> <u>06/04/2017</u> <u>26/04/2017</u>	<u>04/04/2017</u>
<u>May 2017</u>	<u>15/05/2017</u>	=	=	=	<u>05/05/2017</u> <u>14/05/2017</u>
<u>Jun 2017</u>		<u>02/06/2017</u> <u>29/06/2017</u>			<u>11/06/2017</u>
<u>July 2017</u>	<u>19/07/2017</u>	<u>01/08/2017</u>			
<u>August 2017</u>		<u>17/08/2017</u>	<u>30/08/2017</u>	<u>18/08/2017</u>	<u>01/08/2017</u>

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Month	Ex-Ante	Ex-Ante 2	Ex-Post Indicative	Ex-Post Initial	Within Day
<u>September 2017</u>	<u>26/09/2017</u>		<u>04/09/2017</u> <u>18/09/2017</u> <u>20/09/2017</u>	<u>18/09/2017</u>	

Table 31 - MIP Algorithms

Operational Date	Trade Date	Run Type	LR Peak SMP	MIP Peak SMP	Published
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
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

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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

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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
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

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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
07/04/2017	03/04/2017	EP2	€1,000	€112.04	MIP
04/04/2017	04/04/2017	WD1	€534.37	€94.60	MIP
13/04/2017	06/04/2017	EP2	€534.89	€118.83	MIP
18/04/2017	17/04/2017	EP1	€1,000	€72.21	MIP
29/04/2017	28/04/2017	EP1	€1,000	€97.01	MIP
30/04/2017	26/04/2017	EP2	€1,000	€74.49	MIP
05/05/2017	05/05/2017	WD1	€-100	€46.01	MIP
14/05/2017	14/05/2017	WD1	€-100	€538.89	MIP
14/05/2017	15/05/2017	EA1	€-79.01	€58.58	MIP
01/06/2017	02/06/2017	EA2	€1,000	€84.36	MIP
11/06/2017	11/06/2017	WD1	€-100	€87.76	MIP
28/06/2017	29/06/2017	EA2	€-100	€40.73	MIP
18/07/2017	19/07/2017	EA1	€911.60	€74.59	MIP

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31/07/2017	01/08/2017	EA2	€1,000	€217.58	MIP
01/08/2017	01/08/2017	WD1	€1,000	€182.44	MIP
16/08/2017	17/08/2017	EA2	€1,000	€1000	MIP
22/08/2017	18/08/2017	EP2	€757.68	€89.98	MIP
31/08/2017	30/08/2017	EP1	€1,000	€71.67	MIP
05/09/2017	04/09/2017	EP1	€1,000	€267.27	MIP
19/09/2017	18/09/2017	EP1	€1,000	€1000	MIP
21/09/2017	20/09/2017	EP1	€1,000	€206.19	MIP
22/09/2017	18/09/2017	EP2	€1,000	€285.75	MIP
25/09/2017	26/09/2017	EA1	€800	€283.57	MIP

Table 32 - MIP Vs LR Peak Price Comparison