

Market Operator's Annual Performance Report

October 2022 – September 2023



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1 Introduction

On 1 October 2018 the revised Single Electricity Market (SEM) arrangements went live, and 30 September 2023 marked the end of the fifth year of operation.

SONI Ltd. and EirGrid plc, operating as the Single Electricity Market Operator (SEMO) are required under their respective Market Operator (MO) Licenses to provide an annual report on Market Operator Performance to the Regulatory Authorities. The report is published in accordance with section B16.2 of the Trading and Settlement Code, Licence Condition 17(7) of the SONI MO Licence and Licence Condition 10(8) of the EirGrid MO Licence.

As part of the SEM Committee's decision on the SEMO Price Control (SEM-21-073), the RAs' stated that it is their preference "to streamline reporting". As part of this streamlining, the annual Market Operator Performance report has been updated to also include a summary of SEMO's KPI Performance. As a result, the annual SEMO KPI Outturn Report will no longer be issued as a separate report.

2 Executive Summary

This SEMO performance report covers the fifth year of operation of the revised SEM arrangements from 1 October 2022 to 30 September 2023.

During this period:

- 11 Parties joined the market, and 54 units went effective in the market.
- There were 3 Market Management System (MMS) releases deployed¹.
- 6 Market Operator User Groups (MOUGs) took place; all were held via Microsoft (MS) Teams.
- 1633 general queries were received, and 1631 general queries were resolved², with 19 open as of September 2023.
- 155 Formal Settlement queries were raised; 126 have been upheld, 26 not upheld, 2 rejected and 1 withdrawn as of September 2023.
- 1 Dispute was raised.
- 14 decisions on Modifications to the Trading and Settlement Code were received.
- Participant calls were held weekly to keep Market Participants informed on Market Operator updates, with the option of additional calls if needed.

The Key Performance Indicators (KPI) incentives applicable in this period, as set out in SEM-21-073, are:

1. Invoicing
2. SEMO Resettlement Queries
3. Process Rate for Ad Hoc Resettlement to Clear Known Backlog
4. General Queries
5. System Availability
6. Storage Technology Facilitation

Quarters are defined according to the financial year as follows:

Q1 = 1 October to 31 December

Q2 = 1 January to 31 March

Q3 = 1 April to 30 June

Q4 = 1 July to 30 September

¹ Release J was deployed on 05 December 2022, Release K was deployed on 15 August 2023, and Release L was deployed on 15 August 2023.

² Resolved refers to queries resolved within this period, and includes queries raised before this time.

3 Service Delivery

3.1 Trading and Settlement Code Breaches

Breaches of the Trading and Settlement Code were noted in the following area:

Trading and Settlement Code Breaches			
Area		Major ³	Minor ⁴
Data Providers		-	26
Market Participants	Clearing	73	-
	Credit Risk Management	26	-
Market Operator	Balancing Market	-	57
	Clearing	-	-
	Credit Risk Management	4	12
	Other	-	-
Total		103	95

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 and Appendix B.

³ Major Breach – includes the late publishing of settlement documents, default notices issued for non-payment or similar.

⁴ Minor Breach – occurs when deadlines not met, but without any financial implication to Participants. This includes late posting of settlement runs.

3.2 Balancing Market Settlements

3.2.1 Indicative and Initial Settlement Runs

The following series of tables and graphs represent the publications of Indicative and Initial Settlement runs. Every working day SEMO is obliged to issue Indicative and Initial settlement run statements.

Settlement Runs completed 01/10/2022 - 30/09/2023		
	Indicative	Initial
On Time	314	359
Same Day Late	8	5
> 1 Day Late	43	1
Total runs	365	365

Table 2 - Settlement Runs completed 01/10/2022 - 30/09/2023

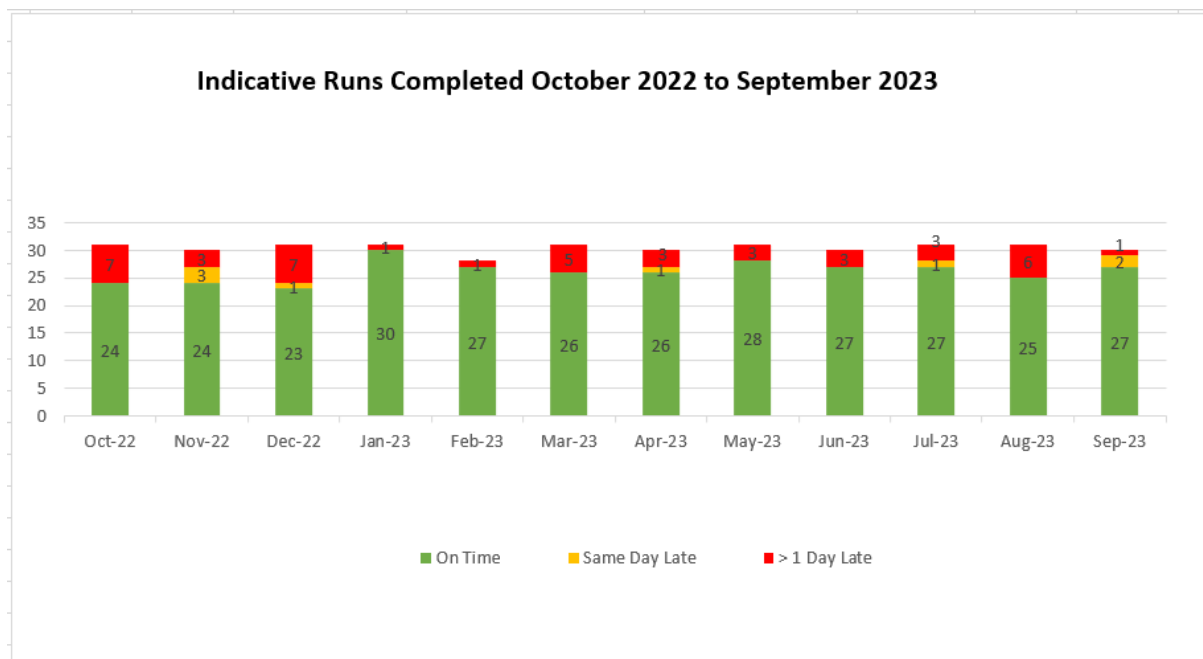


Figure 1 - Indicative Settlement Runs Completed

Further details on publication times can be found in Appendix B.

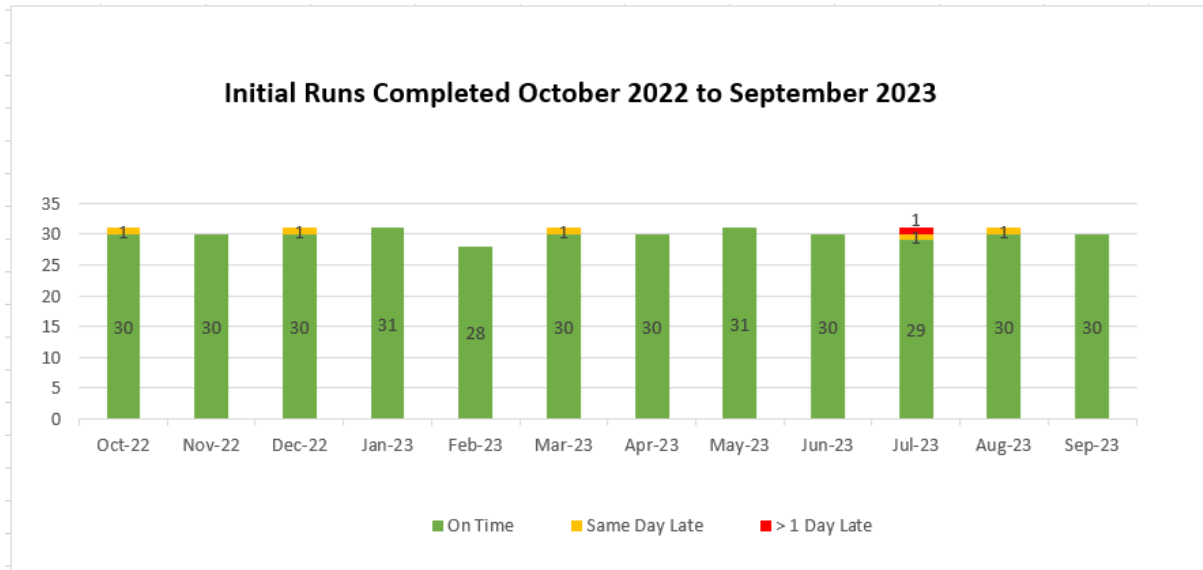


Figure 2 - Initial Settlement Runs Completed

Further details on publication times can be found in Appendix B.

3.2.2 Settlement Documents

The following table represents the publications of Initial Settlement Documents. SEMO is obliged to issue Initial Settlement Documents 5 working days after the last day of the billing period⁵.

Settlement Documents completed 01/10/2022 - 30/09/2023	
	No. of Weeks
On Time	52
Same Day Late	0
> 1 Day Late	0
Total runs	52

Table 3 - Settlement Documents completed 01/10/2022 - 30/09/2023

3.2.3 M+4 & M+13 Resettlement

M+4 resettlement was published as per Trading & Settlement Code weekly M+4 timelines.

M+13 resettlement was published as per Trading & Settlement Code weekly M+13 timelines.

⁵ Up to 2 Settlement Documents issued per week due to KIR #6148

3.2.4 Ad hoc Repricing and Ad-hoc Resettlement Runs

There were 34 calendar days that were assessed by SEMO against the 5% price materiality threshold, between October 2022 and September 2023; accounting for 252 Imbalance Settlement Periods. The periods assessed fell between October 2020 and January 2023. Approximately 24% of the assessed periods met the price materiality threshold; these impacted periods were repriced and the corresponding updated Imbalance Settlement Prices published to the market.

A scheduled “Ad hoc resettlement” programme commenced in February 2021 which began ad hoc resettlement from the start of the market, and this has continued into the 2022-2023 business year. There were 131 billing periods for Ad hoc resettled in the Balancing Market over the course of this year.

A second iteration of scheduled ad hoc resettlement for specific weeks was also commenced and is on track to complete in Q1 2024. In addition, 27 billing periods of Ad hoc were resettled in response to an upheld formal dispute and this is on schedule to also complete in Q1 2024.

There will also be a small number of billing periods which will need to be revisited again in Q1-Q3 of 2023-2024 based on outstanding formal queries which were dependent on recent system release deployment to fully resettle the impacted billing periods.

BAU ad hoc resettlements for specific weeks have also been included for processing during the year to address upheld formal queries with high materiality that fall outside the timelines for scheduled resettlement. This will continue throughout the 2023-2024 business year as new queries are raised.

3.2.5 Administration of Credit Cover

The SEM has been collateralised according to the Trading & Settlement Code provisions for the whole period from 1st October 2022 to 30th September 2023. At times, the collateralisation may be slightly less than the calculated requirement due to the time allowed by the Trading & Settlement Code for Participants to comply with a Credit Cover Increase Notice (CCIN). During 2022-2023, there were 509 CCIN's that were not fully honoured within the two days allowed as per Trading & Settlement Code, these were not resolved.

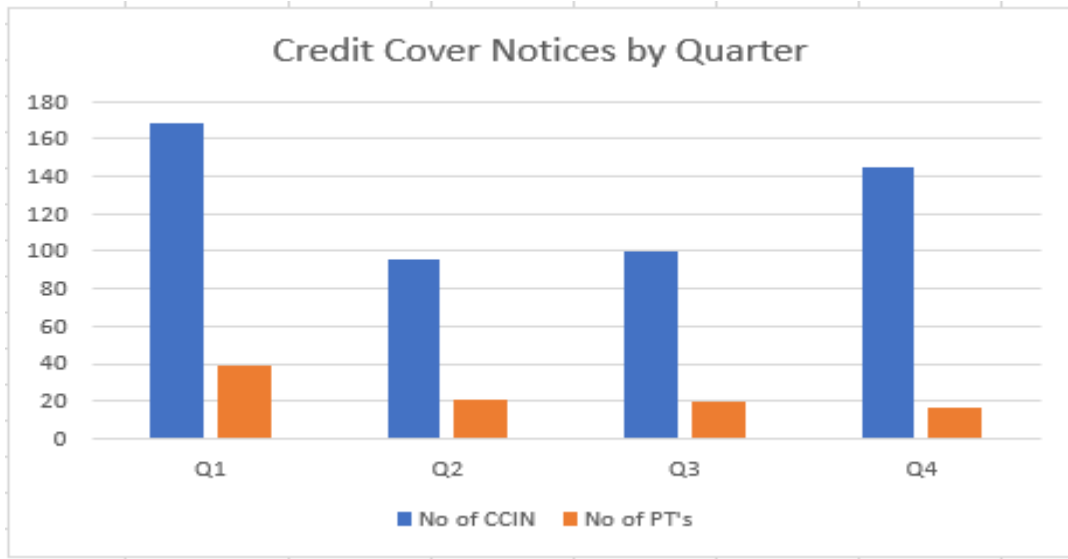


Figure 3 - Credit cover increase notices issued by Quarter

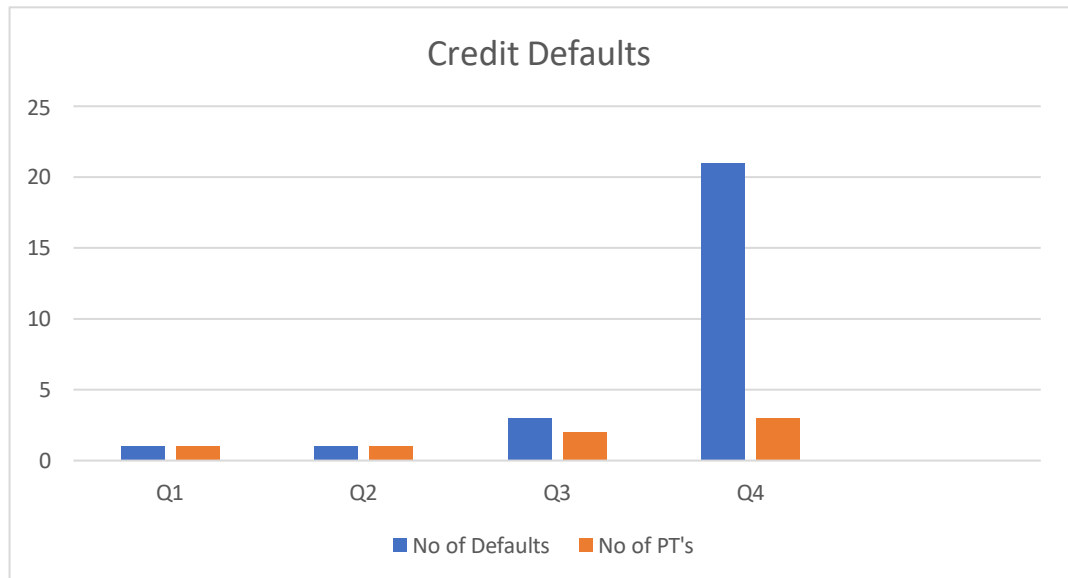


Figure 4 - Default notices issued by Quarter

3.3 Financial Statistics

3.3.1 Cash Flow positions for Balancing Market, Capacity Market and Market Operator Charges Balancing Market

The TSOs are the Balancing Market Operator in the SEM while SEMO is responsible for the settlement for the Balancing Market. The Balancing Market reflects actions taken by the TSOs to keep the system balanced, for example, for differences between the market schedule and actual system demand. It determines the imbalance settlement price for settlement of these balancing actions. This includes any uninstructed deviations from a participant's notified ex-ante position. All data displayed in this section is the trade date data between 1 October 2022 to 30 September 2023.

As this data is extracted from the settlement documents which were published in the aforementioned time span and not the settlement dates contained within the time span, it is not possible to compare the initial runs to re-settlement runs. Consequently, the re-settlement figures below relate to periods which were re-settled over the course of the above date range. Additionally, the re-settlement figures are only the differences (i.e. what a participant was charged/paid in the specific settlement document) contained within the settlement document. It is also not possible to compare the data to SEMO's Regulatory accounts which are based on accounting cut off timelines rather than settlement documents published in the aforementioned time span.

- Positive values indicate Payments were greater than Charges
- Negative values indicate Charges were greater than Payments
- All figures are in Euro
- All charge components which were €0 for the entire year have been excluded.

Balancing Market Cash Flow Position		
Component	Component Name	€ Payment/Charge
CPREMIUM	Premium Payment	€242,967,281
CDISCOUNT	Discount Payment	€214,594,811
CFC	Fixed Cost Payment or Charge	€119,626,385
CREV	Residual Error Volume Charge	€11,417,764
CABBPO	Bid Price Only Accepted Bid Payment or Charge	€505,514
CTEST	Testing Charge	-€218,684
CCA	Currency Adjustment Charge	-€1,067,536
CDIFFCWD	Within-day Difference Charge	-€1,296,667
CAOOPO	Offer Price Only Accepted Offer Payment or Charge	-€4,038,248
CCURL	Curtailed Payment or Charge	-€6,037,645
CUNIMB	Uninstructed Imbalance Charge	-€8,614,253
CIMB	Imbalance Payment or Charge	-€18,123,701
CIMP	Imperfections Charge	-€805,211,960
Total		-€255,496,938

Table 4 - Balancing Market Cash Flow Position

Capacity Market

The TSOs are the Capacity Renumeration Mechanism (CRM) Delivery body in the SEM while SEMO is responsible for the settlement for the Capacity Market. The Capacity Market is designed to help ensure that the generation capacity in Ireland and Northern Ireland (including Storage, Demand Side Units and Interconnector capacity) is sufficient to meet demand and that the regulatory approved generation adequacy standard is satisfied.

Capacity Market Cash Flow Position		
Component	Component Name	€ Payment/Charge
CCP	Capacity Payment	€368,185,386
CCC	Capacity Charge	-€323,351,450
Total		€44,833,936

Table 5 - Capacity Market Cash Flow Position

Market Operator Charges

Market Operator charges are used to recover the costs to SEMO of administering the market as provided for by the SEM Committee (SEMC) under the relevant Price Control.

Market Operator Charges		
Component	Component Name	€ Payment/Charge
CMOAV	Fixed Market Operator Charge Supplier Units	-€19,776
CMOAU	Fixed Market Operator Charge Generator Units	-€943,024
CVMO	Variable Market Operator Charge	-€15,555,749
Total		-€16,518,549

Table 6 - Market Operator Charges

3.3.2 Financial Changes with re-settlement runs

There were 52 billing weeks for M+4, 52 billing weeks for M+13 and 131 billing weeks for Ad hoc re-settled in the Balancing Market over the course of the 2022-2023 financial year. For CRM and MO, there was 12 & 11 billing periods (months) re-settled for M+4 respectively, 13 billing periods for M+13 CRM, 12 billing periods for M+13 MO, 25 billing periods for Ad hoc CRM and 17 billing periods for Ad hoc MO. Within all of these re-settlements, there were changes to numerous charges and payments as set out below.

These figures represent the differences between the previous settlement run and the re-settlement run. For example, if a unit was charged €100 in CIMB in Initial settlement and this was re-calculated to be €110 in M+4, this would result in a delta of €10 which would be captured in the below tables. Tables 7, 8 and 9 show the overall payments and charges along with the break down per respective re-settlement run for all re-settlements.

All data displayed in this section is extracted from all settlement documents published between 1 October 2022 to 30 September 2023. Trade date range for each run:

- M+4: 05/06/2022 – 03/06/2023
- M+13: 05/09/2021 – 03/09/2022
- Ad hoc: 13/01/2019 – 19/01/2019, 05/05/2019 – 14/09/2019, 22/09/2019 – 28/09/2019, 19/04/2020 – 29/05/2021, 08/08/2021 – 25/12/2021, 11/09/2022 – 24/09/2022, 04/12/2022 – 17/12/2022, 13/11/2022 – 19/11/2022, 13/02/2022 – 19/02/2022, 13/03/2022 -19/03/2022, 08/05/2022 – 21/05/2022, 26/12/2021 – 05/02/2022, 01/01/2023 – 07/01/2023, 22/01/2023 – 04/02/2023, 05/03/2023 -18/03/2023, 12/02/2023 – 25/02/2023, 09/04/2023 – 15/04/2023, 26/03/2023 -01/04/2023, 07/05/2023 – 27/05/2023, 18/06/2023 – 01/07/2023

Balancing Market Resettlement				
Component	M4	M13	AH	Grand Total
CIMB	52,458,279	35,144,511	1,975,598	89,578,388
CIMP	5,605,077	1,411,361	-229,558	6,786,881
CFC	694,903	889,649	4,239,936	5,824,487
CUNIMB	893,209	-11,854	866,350	1,747,705
CPREMIUM	134,356	209,258	431,716	775,330
CDISCOUNT	240,530	-698,798	908,077	449,809
CDIFFPIMB	5,165	85,909	11,927	103,000
CREV	-74,237	130,599	27,602	83,965
CABBPO	-518	-1,958	72,605	70,129
CDIFFCWD	11,190	209	356	11,754
CCA	6,430	17	-564	5,883
CDIFFCNP	541	2,119	369	3,030
CSOCDIFFP	0	92	396	488
CREIMDIFFP	0	0	0	0
CSHORTDIFFP	0	0	0	0
CDIFFCDA	0	0	0	0
CEADSUIMB	0	0	0	0
CEADSUIDT	0	0	0	0
CDIFFPDA	0	0	0	0
CDIFFPID	0	0	0	0
CEADSUDA	0	0	0	0
CTEST	-2,586	0	-7,377	-9,964
CAOPO	-19	-23,123	-11,432	-34,573
CCURL	-34,000	-11,493	-18,372	-63,865
Grand Total	59,938,318	37,126,498	8,267,630	105,332,446

Table 7 - Balancing Market Resettlement

Capacity Market Resettlement				
Component	M4	M13	AH	Grand Total
CCC	2,970,139	1,889,882	58,238	4,918,260
CCP	289,547	11,121	-187,053	113,616
Grand Total	3,259,687	1,901,003	-128,815	5,031,875

Table 8 - Capacity Market Resettlement

Market Operator Charges Resettlement				
Component	M4	M13	AH	Grand Total
CVMO	102,576	79,107	754	182,437
Grand Total	102,576	79,107	754	182,437

Table 9 - Market Operator Charges Resettlement

3.4 Imbalance Price

3.4.1 Imbalance Price

There are two types of Imbalance Price referred to in this section; the Imbalance Price which is the price associated with a 5 Minute Imbalance Pricing Period and, secondly, an Imbalance Settlement Price which is calculated as the average of six “5-Minute Imbalance Prices” for a corresponding 30-minute Imbalance Settlement Period.

Figure 5 shows the Imbalance Settlement Prices for the entire year, from October 2022 to September 2023. All system calculated Imbalance Settlement Prices are published on this graph; both the Market Back up Price and the 30-minute average of the Imbalance Price. The average Imbalance Settlement Price during this annual period was €141.40. The maximum Imbalance Settlement Price was €827.54, and the minimum was €-318.69.

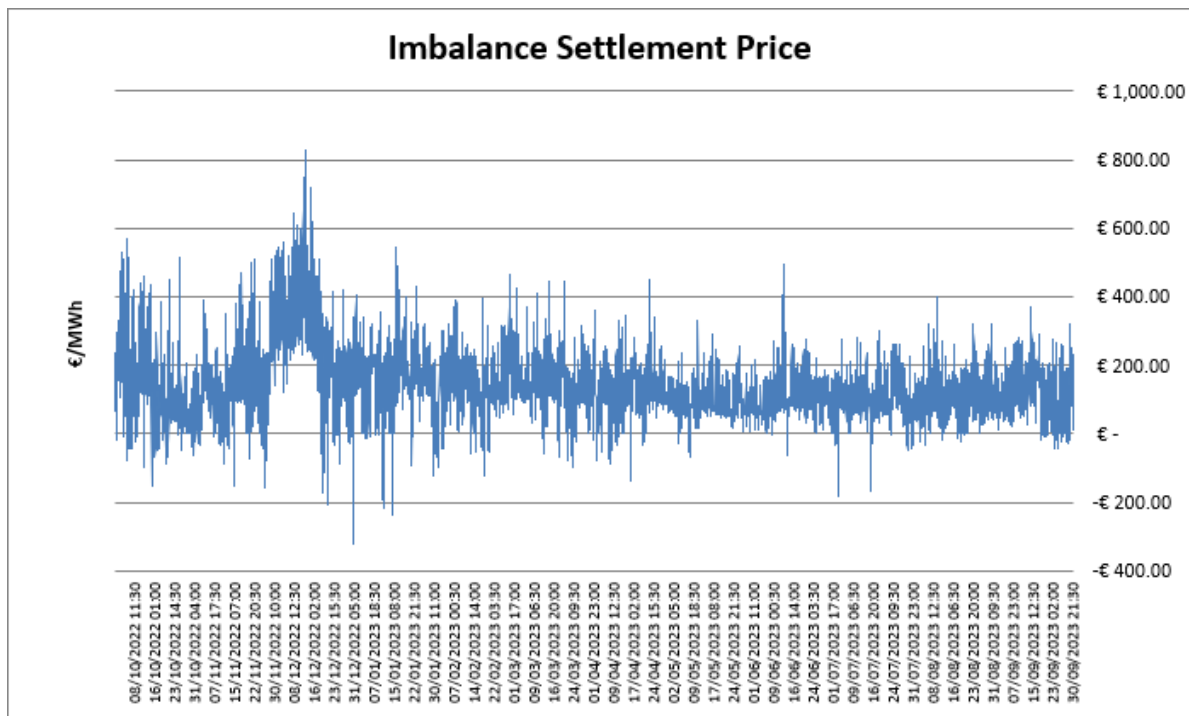


Figure 5 – Imbalance Settlement Price

Figure 6 shows the Quantity Weighted Ex-Ante Price as a comparator to the Imbalance Settlement Price. The Quantity Weighted Ex-Ante Price is the value used by SEMO as the Market Back Up Price, should the Market Operator not be able to calculate an Imbalance Settlement Price; based on the average of the six Imbalance Prices for a given Imbalance Settlement Period.

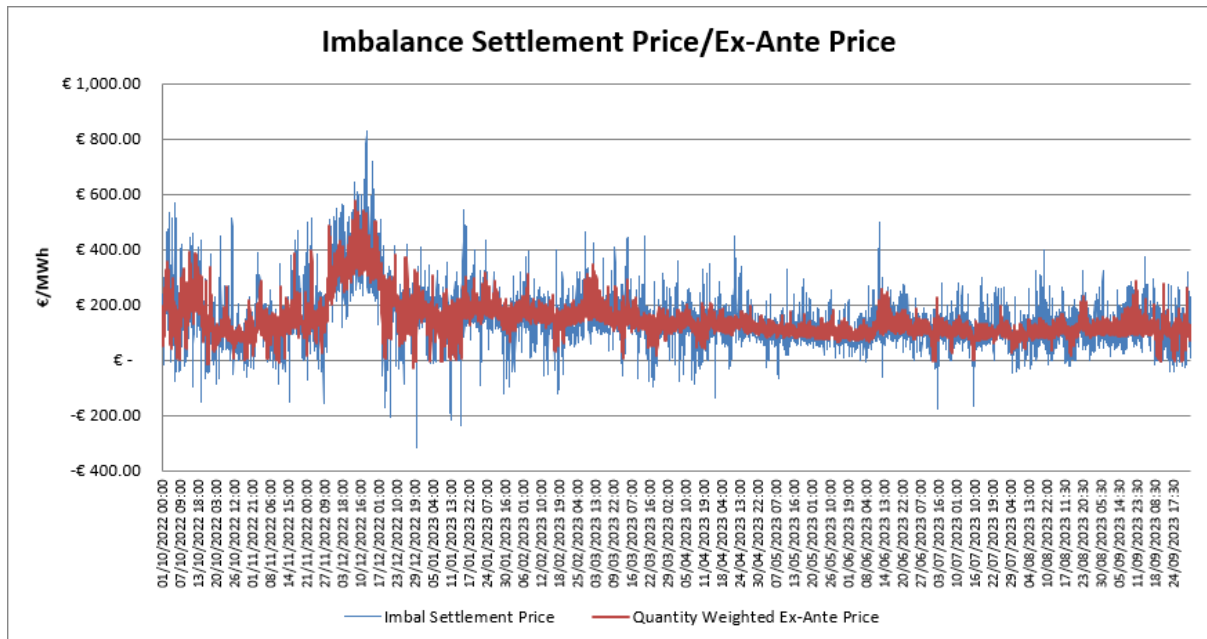


Figure 6 – Imbalance Settlement Price & Quantity Weighted Ex-Ante Price Comparison

Figure 7 highlights the monthly Highest, Lowest and Average half-hour Imbalance Prices for the period October 2022 to September 2023.

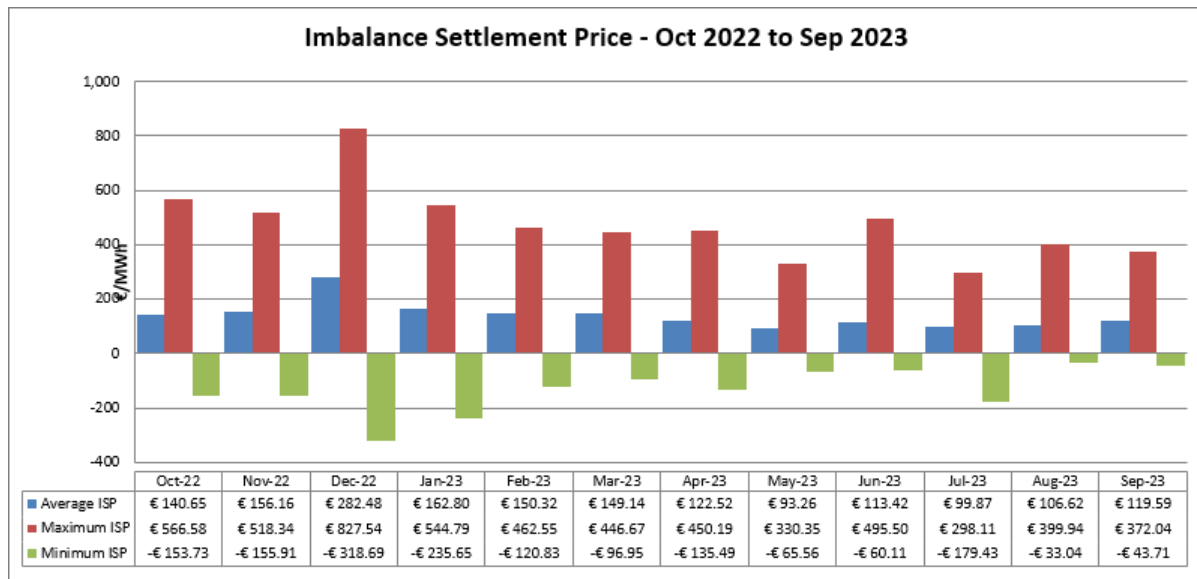


Figure 7 – Highest, Lowest and Average Imbalance Prices

3.4.2 Exchange Rate

The SEM is a dual currency market. Units based in Northern Ireland submit their Offer Data in GBP. All GBP Offer Data is converted to EUR as part of the Balancing Market price setting process. The GBP to EUR exchange rate is captured below in **Figure 8**.

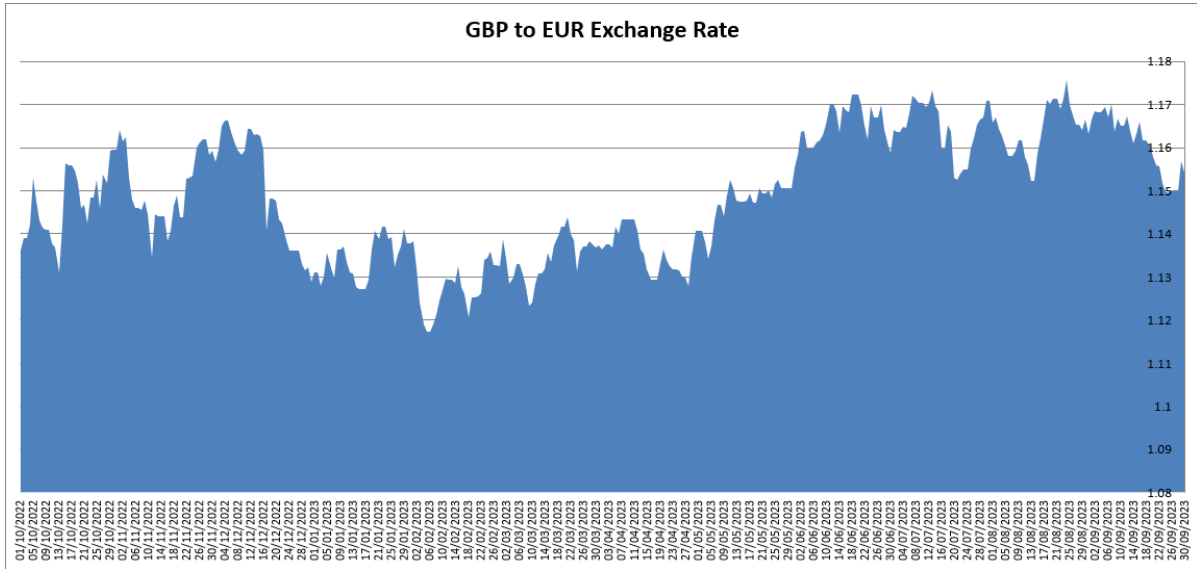


Figure 8 - GBP to EUR exchange rate

3.4.3 Imbalance Price Generation and Back Up Price

Figure 9 below highlights how many instances in which the Market Back Up Price was published for an Imbalance Settlement Period. This figure also includes the Ex-Ante Backup Price which is used as a contingency in the event of failure of the automatic Market Back Up Price.

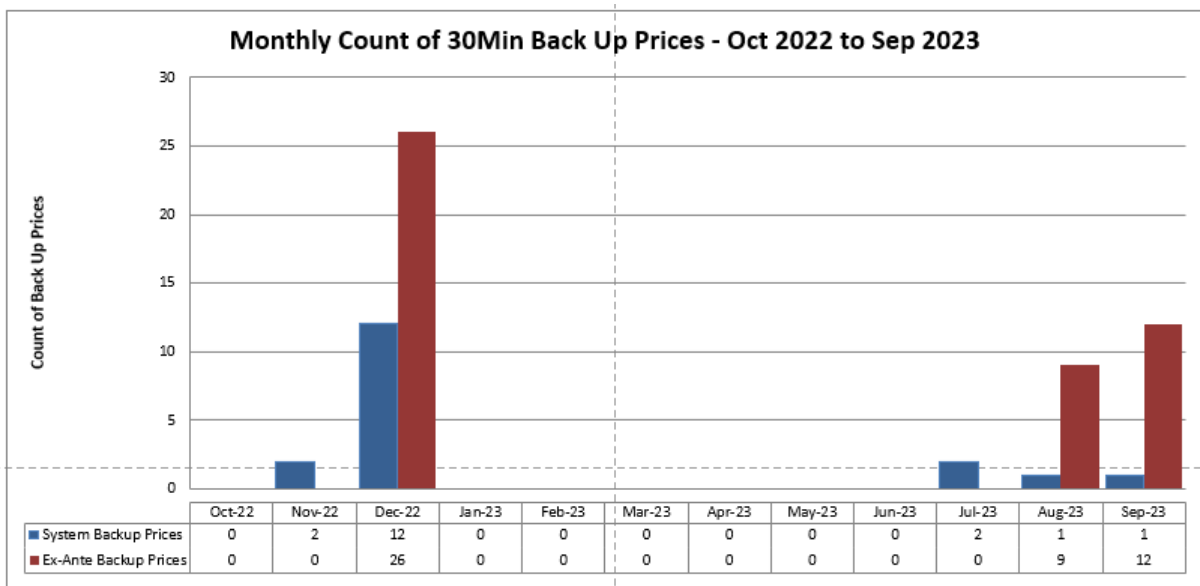


Figure 9 - Number of 30 Minute Backup Prices used October 2022 to September 2023

During the year, there was a total of 65 Market Back Up Prices applied (both Ex-Ante and System Back Up Prices), of which 1 applied was due to workflow/system performance issues in which the 5 min imbalance period price did not calculate. 64 Market Back Up Prices were applied due to planned and emergency outages.

Figure 10 highlights how many 5-minute Imbalance Prices were missed in each calendar month. If an Imbalance Price is missed, the system will apply the corresponding Market Back Up Price to that Imbalance Pricing Period.

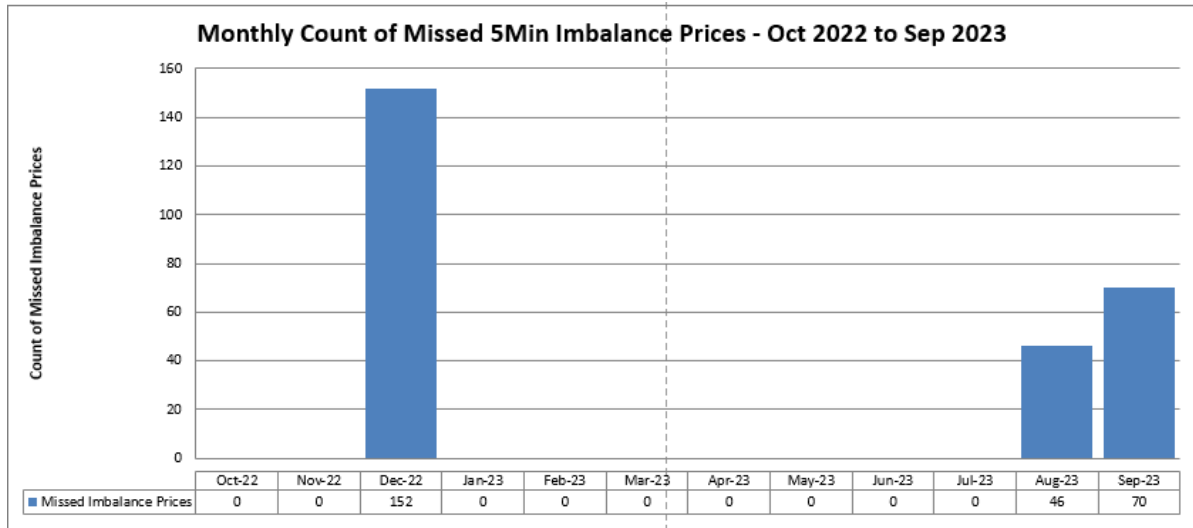


Figure 10 – Summary of 5 minute Missed Imbalance Prices used October 2022 to September 2023

Figure 11 captures the instance where an Imbalance Price was replaced with the Market Back Up Price; which is used as the result of planned or unplanned outages to the Imbalance Pricing calculation.

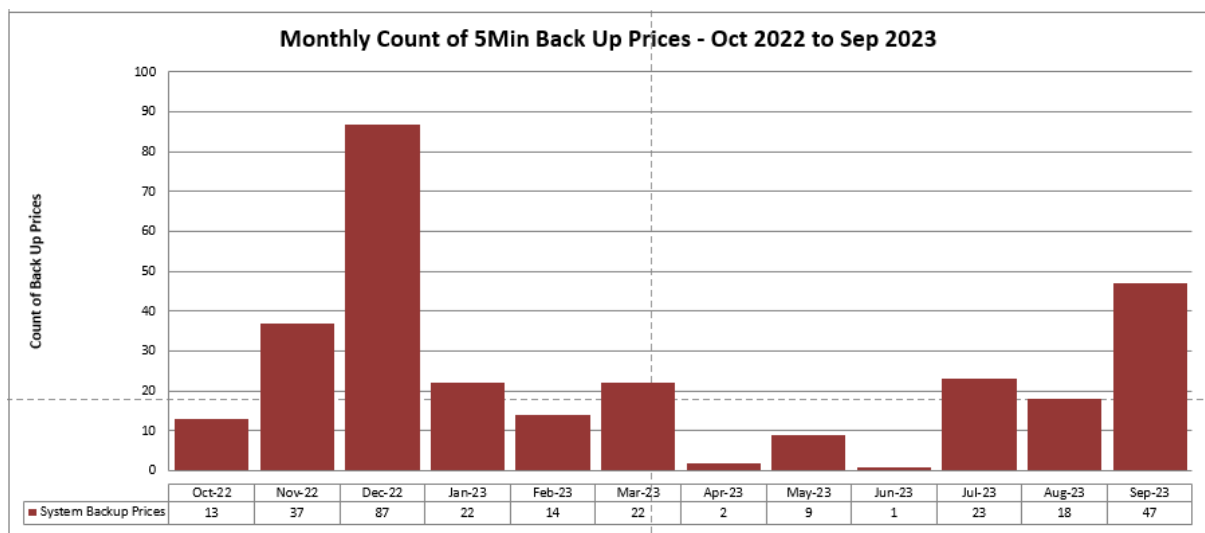


Figure 11 – Number of 5 minute Back Up Prices used October 2022 to September 2023

4 Central Systems

4.1.1 System Availability

The table below gives the system availability value for the period of October 2022 to September 2023 as well as the breakdown per system.

System / Application	Annual Availability %
Settlements (CSB)	100%
MI	100%
MA	100%
Reporting (reports publication in the MPI)	100%
Website (availability)	100%
Average System Availability	100%

Table 10 - Annual System Availability

4.1.2 Limited Communication Failure (LCF), General Communication Failure (GCF) and General System Failure (GSF)

- There were no Limited Communication Failure (LCF) requests from October 2022 to September 2023.
- There was one General Communication Failure (GCF) from October 2022 to September 2023.
 - There was one GCF during the month of March 2023. This GCF, following review, was declassified from being a GCF within SEMO and acknowledged that it should have been raised as an LCF at the time, however in order to be transparent the GCF status in regards reporting will be maintained.
- There was no General System Failure (GSF) from October 2022 to September 2023.

4.1.3 System Releases

Please see below the Market System Releases deployed to the Production environment in the period 1 October 2022 to 30 September 2023.

- Release J – Deployed to production on the 5th of December 2022
- Release K - Deployed to production on the 15th of August 2023
- Release L – Deployed to production on the 15th of August 2023

5 Modifications

5.1.1 Balancing Market – Trading & Settlement Code Modification Management

The tables that follow give an overview of the activity that has taken place between 1 October 2022 and 30 September 2023. Table 11 shows the dates and number of Modifications Committee Meetings, Working Groups and Industry Calls that took place over this period.

Meeting	Date	Location
113	20 th October 2022	MS Teams
114	1 st December 2022	MS Teams
115	22 nd February 2023	MS Teams
116	20 th April 2023	MS Teams
117	22 nd June 2023	MS Teams
118	6 th September 2023 (Cancelled)	MS Teams
Mod_18_22 Industry Call	12 th January 2023	MS Teams
Mod_01_23 Industry Call	23 rd March 2023	MS Teams

Table 11 - Balancing Market: Trading & Settlement Code Modifications Committee Meetings

At the Modifications Committee Meetings, decisions are made regarding progressing various Modification Proposals. Table 12 gives an outline of the amount of activity that has taken place over this annual period.

Modification Proposal Activity	Total
Raised	14
Alternative Versions raised	6
Withdrawn	3
Deferred	7
Extension Granted	0
Recommended for Approval	16
Recommended for Rejection	0
Further Work Required	0
RA Decision Approved	11
RA Decision Rejected	3
RA Direction	1

Table 12 - Modification Proposal Activity

5.1.2 Publication of the Trading & Settlement Code

Version 27.0 of the Trading & Settlement Code was published on 21st December 2022. Six Modification Proposals were included in this version, which are noted in the version history of the Trading & Settlement Code.

Version 28.0 of the Trading & Settlement Code was published on 18th August 2023. Six Modification Proposals were included in this version, which are noted in the version history of the Trading & Settlement Code.

5.1.3 2023 - Modifications Committee Elections

Modifications Committee Annual Elections commenced in June with a call for nominations for six expiring positions on the Modifications Committee. The following nominees were automatically elected to the Modifications Committee due to the minimum number of nominees being made:

Expired Member	New Member	Position
Ian Mullins	Ian Mullins	Supplier
Colm Oireachtaigh	Colm Oireachtaigh	Supplier
Kevin Hannafin	Sean McParland	Generator
Paul Hutchinson	Paul Hutchinson	Generator
Alan Mullane	Eoin Murphy	Assetless

John Paul McFeely of Click Energy Northern Ireland was appointed by the RAs as a Supplier Member. Andrew Burke of Wind Energy Ireland was re-appointed as Renewable Generator Member and David Hargadon (EirGrid Interconnector Designated Activity Company) as Flexible Participant Member.

The election for Chair and Vice-Chair was scheduled following this with Stacy Feldmann appointed as Chair and Andrew Burke appointed as Vice Chair.

5.1.4 Balancing Market - Modifications Process Development

Modification Proposals were considered at bi-monthly Modifications Committee Meetings or extraordinary meetings, Working Groups and industry calls as required, mostly by conference call (see Table 11). Full details of all modifications progressed during the year are available in the [Balancing Market Modifications section](#) of the SEMO website.

The Trading and Settlement Code Modifications area has continued to process significant levels of activity since going live in October 2018.

The trend continues for proposals to target enhancements, refinements or longer-term projects. Because of the greater impact, these types of proposals tend to have a longer lifespan over a larger number of industry meetings requiring a higher level of analysis and impact assessments. This is confirmed by the number of additional Industry Calls that have been necessary to progress issues.

The main themes that characterised the past year were:

- Increasing Generator cost recovery in a number of scenarios
- One amendment to the Imbalance Price calculation
- Applying Energy Payments to Demand Side Units
- Implementation of Art.13.7 of the Clean Energy Package according to the latest SEMC decision
- Amendments to Registration and Letter of Credit processes
- And several Modifications were raised from SEMO to close off issues or defects relating to go-live or housekeeping minor amendments.

Here is the list of Modifications over the past year:

Recommended for Approval

- Mod_07_22 Indexation to Calculation of Capacity Payments for New Capacity v2.0
- Mod_08_22 Weekly Strike Price Calculation
- Mod_09_22 Exclusion of Difference Charges During Non – Ro Events
- Mod_13_22 Bidirectional Imperfections Charge Factor Modification
- Mod_14_22 Removal of the requirement to post De-registration Consent Orders
- Mod_15_22 Timelines for Processing Letters of Credit
- Mod_16_22 SEMO Housekeeping 2022
- Mod_17_22 System Action Repricing v2
- Mod_02_23 DSU Energy Payments
- Mod_01_23 Remuneration of Commissioning Unit
- Mod_03_23 Modify SEMO timing sending Settlement Query to external Data Provider
- Mod_04_23 Modification Proposal to implement SEMC decision SEM-23-029
- Mod_05_23 Market Compensation for Firm Curtailment
- Mod_06_23 SEMO Housekeeping
- Mod_07_23 Collection of Monies M+4 Update
- Mod_08_23 Archiving Part A and Part C of the TSC

RA Decision Approved

- Mod_21_21 Undo Instruction Scenario 4
- Mod_11_22 Permitting the use of email to communicate credit cover changes on Demand Guarantees
- Mod_12_22 Extension of System Service Flag to cover Replacement Reserve Resources
- Mod_16_22 SEMO Housekeeping 2022
- Mod_08_22 Weekly Strike Price Calculation
- Mod_13_22 Bidirectional Imperfections Charge Factor Modification
- Mod_04_23 Modification Proposal to implement SEMC Decision SEM-23-029
- Mod_05_23 Market Compensation for Firm Curtailment
- Mod_06_23 SEMO Housekeeping 2023
- Mod_07_23 Collection of Monies M+4 update
- Mod_08_23 Archiving Part A and Part C of the TSC

RA Decision Rejected

- Mod_14_21 Extension of System Service Flag to include units providing Replacement Reserve in line with the detailed design.
- Mod_02_22 Cost Recovery when Under Test.
- Mod_09_22 Exclusion of Difference Charges for Generators during non-RO events.

Withdrawn

- Mod_06_22 Housekeeping Alignment Modification
- Mod_10_22 Strike Price Volatility Modifier
- Mod_18_22 Mitigating risks of Settlement of units running of secondary fuel in security of supply scenarios.

6 General Market Information

6.1 Query Management

The statistics presented in Table 13 - Helpdesk Query Statistics cover the period of 1 October 2022 to 30 September 2023.

Received	Resolved	Open
1633	1631	19

Table 13 - Helpdesk Query Statistics

Definitions

- Received refers to the queries raised between 01 October 2022 and 30 September 2023.
- Resolved refers to queries resolved within this period, and includes queries raised before this time.
- Open refers to queries raised, but not resolved as of 30 September 2023.

6.1.1 Settlement Queries

There were 155 Formal Settlement queries raised from October 2022 - September 2023; 126 have been upheld, 26 not upheld, 2 rejected and 1 withdrawn as of September 2023.

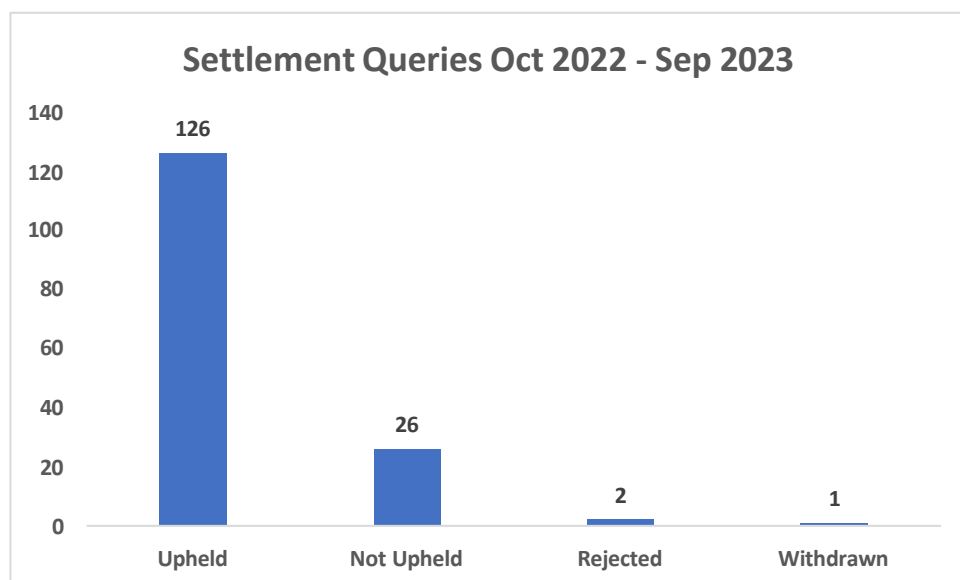


Figure 12 – Settlement Queries 01/10/2022 – 30/09/2023

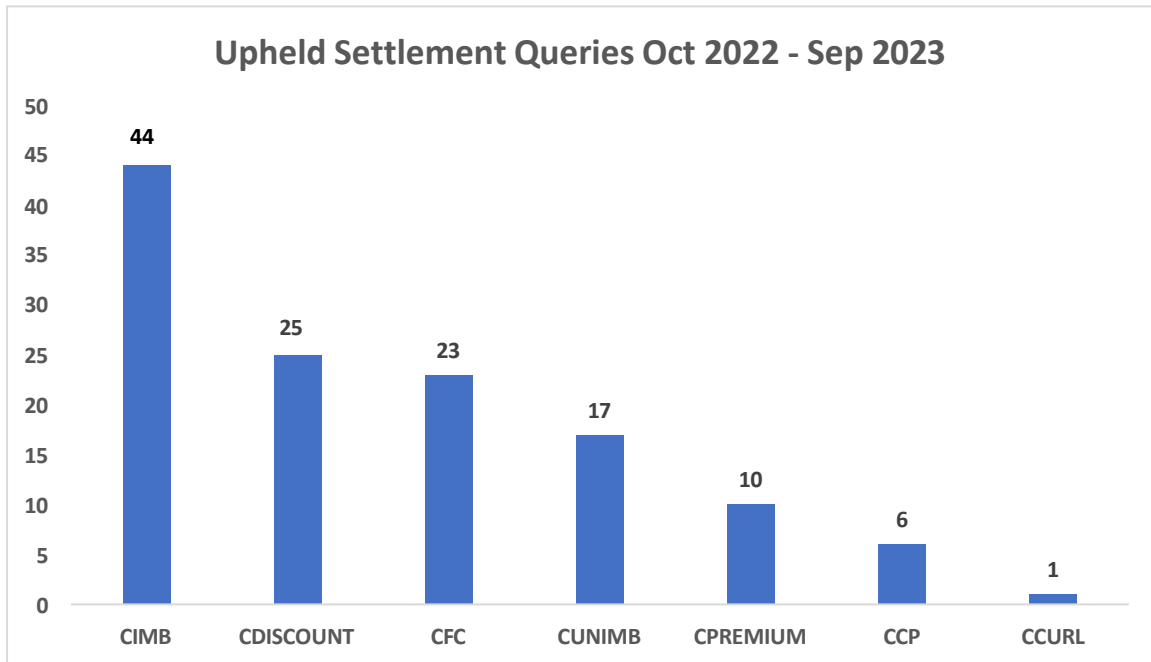


Figure 13 – Upheld Settlement Queries by Query Type

Further Details on Settlement queries that have been upheld can be found in Appendix C.

Unresolved Queries

No queries raised during October 2022 - September 2023 were unresolved.

6.1.2 Disputes

There was one Dispute (General Dispute) raised between 1 October 2022 to 30 September 2023. That Dispute was upheld.

7 Joining and Terminating Parties and Units

Between 1 October 2022 to 30 September 2023; 11 Parties joined the Market and 54 units went effective in the Market. Please see below for further details.

The below Parties joined the Market between 1 October 2022 to 30 September 2023:

Party Name	Party ID	Effective date
Avonbeg Storage Limited	PY_034105	05/10/2022
Tippgo Limited	PY_034131	30/11/2022
Alpha Energy APS	PY_034149	14/12/2022
Northpool B.V.	PY_034129	11/01/2023
Lettermuckoo Energy Supply Limited	PY_034144	29/03/2023
RePower Supply Limited	PY_034064	19/04/2023
Galanta Energy Trading Limited	PY_034141	12/07/2023
Vis Algorithmics ApS	PY_034163	05/07/2023
Nitor Energy A/S	PY_034130	30/08/2023
Enzee Commodities A/S	PY_034167	06/09/2023
Respect Energy Spółka Akcyjna	PY_034162	30/08/2023

Table 14 - Parties who joined the market October 2022 – September 2023

The below units went effective in the Market between 01 October 2022 and 30 September 2023:

Party Name	Party ID	Participant ID	Unit ID	Effective date
Avonbeg Storage Limited	PY_034105	PT_402584	GU_404530	05/10/2022
Veolia Alternative Energy Ireland Limited	PY_000122	PT_400124	DSU_403660	26/10/2022
Veolia Alternative Energy Ireland Limited	PY_000122	PT_400124	SU_400356	26/10/2022
Statkraft Markets GmbH	PY_034046	PT_402540	GU_405160	09/11/2022

ESB	PY_000030	PT_400030	GU_405190	23/11/2022
Bord Gais Energy Limited	PY_000027	PT_400028	GU_405090	30/11/2022
Orsted Ireland Green Energy Limited	PY_000068	PT_400062	GU_404420	30/11/2022
Tippgo Limited	PY_034131	PT_402607	GU_405080	30/11/2022
Tippgo Limited	PY_034131	PT_402607	SU_400363	30/11/2022
Alpha Energy APS	PY_034149	PT_502546	AU_500131	14/12/2022
SSE Airtricity Energy Supply (NI) Limited	PY_000022	PT_500021	GU_504160	11/01/2023
SSE Airtricity Energy Supply (NI) Limited	PY_000022	PT_500021	GU_504160	22/02/2023
Power NI	PY_000035	PT_500028	GU_503910	11/01/2023
ElectroRoute Energy Trading Limited	PY_000098	PT_400096	AU_400147	01/03/2023
Orsted Renewable Supply 2 Limited	PY_000135	PT_400157	AU_400144	18/01/2023
Northpool B.V.	PY_034129	PT_502535	AU_500123	11/01/2023
Lettermuckoo Energy Supply Limited	PY_034144	PT_402613	GU_405210	29/03/2023
Lettermuckoo Energy Supply Limited	PY_034144	PT_402613	SU_400375	29/03/2023
Energia Customer Solutions Limited	PY_000043	PT_400043	AU_400148	05/04/2023
Statkraft Markets GmbH	PY_034046	PT_502514	SU_500312	05/04/2023
RePower Supply Limited	PY_034064	PT_402555	SU_400335	19/04/2023
C A Commodities A/S	PY_034135	PT_502540	AU_500127	19/04/2023
Captured Carbon Limited	PY_000146	PT_400174	GU_405870	24/05/2023
Ballywater Windfarms Limited	PY_000025	PT_400025	GU_405890	28/06/2023
ESB	PY_000030	PT_400030	SU_400379	28/06/2023

ESB	PY_000030	PT_400030	GU_403660	28/06/2023
ESB	PY_000030	PT_400030	SU_400378	28/06/2023
Galanta Energy Trading Limited	PY_034141	PT_402611	AU_400142	12/07/2023
Statkraft Markets GmbH	PY_034046	PT_402540	GU_405900	12/07/2023
Axpo UK Limited	PY_034070	PT_402560	GU_405930	12/07/2023
ESB	PY_000030	PT_400030	GU_405850	19/07/2023
ESB	PY_000030	PT_400030	SU_400377	19/07/2023
Scottish Power Renewables (UK) Limited	PY_034089	PT_402573	GU_405880	26/07/2023
Orsted Onshore Green Energy NI Limited	PY_000168	PT_500110	GU_504200	05/07/2023
Convex Energy GmbH	PY_034067	PT_402558	AU_400150	02/08/2023
Energia Customer Solutions Limited	PY_000043	PT_400043	SU_405830	23/08/2023
ESB	PY_000030	PT_400030	SU_400345	23/08/2023
Nitor Energy A/S	PY_034130	AU_502536	AU_500124	30/08/2023
Electricity Exchange Limited	PY_000114	PT_400116	DSU_403730	06/09/2023
Electricity Exchange Limited	PY_000114	PT_400116	DSU_403760	06/09/2023
Electricity Exchange Limited	PY_000114	PT_400116	SU_400385	06/09/2023
Electricity Exchange Limited	PY_000114	PT_400116	SU_400386	06/09/2023
Enzee Commodities A/S	PY_034167	PT_502553	AU_500138	06/09/2023
Powerhouse Generation Limited	PY_000128	PT_400144	DSU_403500	20/09/2023
Powerhouse Generation Limited	PY_000128	PT_400144	SU_400394	20/09/2023
iPower Solutions Limited	PY_000093	PT_500053	DSU_503450	27/09/2023
iPower Solutions Limited	PY_000093	PT_500053	SU_500315	27/09/2023

Aughinish Alumina Limited	PY_000024	PT_400024	DSU_403790	27/09/2023
Aughinish Alumina Limited	PY_000024	PT_400024	SU_400376	27/09/2023
Vis Algorithmics ApS	PY_034163	PT_502550	AU_500135	05/07/2023
Respect Energy Spółka Akcyjna	PY_034162	PT_502549	AU_500134	30/08/2023
Electroroute Energy Trading Limited	PY_000098	PT_400096	AU_400151	13/09/2023
Electroroute Energy Trading Limited	PY_000098	PT_400096	AU_400152	13/09/2023
Energia Customer Solutions	PY_000043	PT_400043	GU_405830	23/08/2023

Table 15 - Registrations October 2022- September 2023

The below units de-registered from the Market between 1 October 2022 and 30 September 2023:

Party Name	Party ID	Participant ID	Unit ID	Effective date
SSE Airtricity Energy Supply (NI) Limited	PY_000022	PT_500021	GU_504190	05/07/2023
ESB	PY_000030	PT_400030	GU_400311	05/07/2023
ESB	PY_000030	PT_400030	SU_400103	05/07/2023
NIE Power Procurement Business	PY_000034	PT_500027	GU_500130	24/09/2023
NIE Power Procurement Business	PY_000034	PT_500027	GU_500131	24/09/2023
NIE Power Procurement Business	PY_000034	PT_500027	GU_500140	24/09/2023
Power NI	PY_000035	PT_500028	GU_503910	11/01/2023
Energia Customer Solutions Limited	PY_000043	PT_400043	GU_400610	22/05/2023
Slivereagh Power (CS) Limited	PY_000065	PT_400057	GU_400670	14/12/2022
Slivereagh Power (CS) Limited	PY_000065	PT_400057	GU_400671	14/12/2022
Slivereagh Power (CS) Limited	PY_000065	PT_400057	GU_401460	14/12/2022
Megawatts Power Trading Limited	PY_000166	PT_400219	SU_400221	19/07/2023
Derrysallagh Supply Limited	PY_000269	PT_400450	GU_403820	23/08/2023
Derrysallagh Supply Limited	PY_000269	PT_400450	SU_400344	23/08/2023

Statkraft Markets GmbH	PY_034046	PT_402540	GU_404300	28/06/2023
Iberdrola Ireland Limited	PY_034066	PT_402557	GU_404450	26/07/2023

Table 16 - De-Registrations October 2022 – September 2023

Termination of Participants

There were no terminating parties between 1 October 2022 and 30 September 2023.

Suspension of Participants

No Suspension Orders were issued by the Market Operator between 1 October 2022 and 30 September 2023.

Supplier of Last Resort (SoLR)

No SoLR events were called by the Regulators between 1 October 2022 and 30 September 2023.

8 Stakeholder Engagement

8.1 Structured Approach to Regulatory interface

SEMO and the Regulatory Authorities have developed a good working relationship around a number of formal interactions. The highlights of 2022-2023 are summarised below:

- Yearly parameters for SEM issued according to Trading & Settlement Code requirements.
- Ongoing collaboration in the area of Trading & Settlement Code modification with a large volume of proposals delivered as required.
- Monthly discussion with the Market Monitoring Unit (MMU) to track items of interest relating to market monitoring, compliance, and surveillance.
- Monthly meetings in relation to Guarantees of Origin (GO) and Fuel Mix Disclosure (FMD) processes, including the rolling and annual Fuel Mix Disclosure calculations, and the Green Source Product Verification, as well as collaboration on developing areas of the GOs and FMD such as granular GOs, transparency of FMD etc.
- Ongoing collaboration with regards to analysis underpinning consultation and market changes with recurrent biweekly meetings.

8.2 Facilitate Interaction with Customers

SEMO is proactive in interaction with its stakeholders. In the past 12 months SEMO has:

- Facilitated Bi-monthly Market Operator User Groups (MOUG), more details can be found in Appendix E.
- Held one SEMO Focus Group meeting with Industry participants and Regulatory Authorities.
- Held weekly Participant calls providing Market Operator updates.
- Facilitated calls and meetings with Market Participants on specific topics.
- Facilitated Registration calls and meetings for both new and existing Market Participants.

9 KPI Incentives 2022-2023

9.1 KPI Overview

The SEMC published on the 10 September 2021 its SEMO 2021 – 2024 Price Control Decision Paper SEM-21-073. Under this paper SEMO is subject to performance assessment against six KPIs related to

1. Invoicing
2. SEMO Resettlement Queries
3. General Queries
4. System Availability
5. Storage Technology Facilitation
6. Ad hoc Resettlement Process Rate

Please see Appendix F for a summary of each of the KPIs.

These KPIs are intended to:

- Incentivise Improvements in performance by attaching financial rewards to specific measures of performance.
- Allow for increased visibility of the operation of a regulated entity which can help inform future price reviews and lead to better outcomes for market participants and consumers.

As per the current SEMO price control decision, SEMO Key Performance targets are set out in Table 17¹ below.

¹ Extract from Table 5.4 of SEM-21-073 Decision Paper.

KPI Number	Final Annual KPIs 2021-2024						KPI Reward in year 2021/22
	Metric	Weighting			Target	Upper Bound	
		2021/22	2022/23	2023/24			
1	Invoicing	15%	15%	25%	97%	100%	€ 73,800
2	SEMO Re-settlement Queries	20%	20%	30%	<15 per Qtr	<5 per Qtr	€ 98,400
3	Process Rate for Ad Hoc Resettlement to Clear Known Backlog	20%	20%	0%	6 weeks ad hoc completed in 4 week period	8 weeks ad hoc completed in 4 week period	€ 98,400
4a	General Queries (resolved within 20 business days)	5%			95%	99%	€ 24,600
4b	General Queries (resolved within 17 business days)		10%		95%	99%	
4c	General Queries (resolved within 15 business days)			15%	95%	99%	
5	System Availability	15%	15%	25%	99%	99.9%	€ 73,800
6	Storage Technology Facilitation	25%	20%	5%	Successful Implementation of enduring solution enabling full participation in BM	N/A	€ 123,000
	Maximum Available Reward Per Year based on 4% of Opex Allowance for 2021/22	100%	100%	100%			€ 492,000

Table 17 - Summary of the agreed Key Performance Indicators as per SEM-21-073

Conditions applied to the KPIs

The decision paper SEM-21-073 also outlines the following KPI parameters:

- The KPIs determined by the SEM Committee will come into effect from 1 October 2021 and apply until 30 September 2024.
- The incentive reward available to SEMO is 4% of the total proposed Opex allowance provided across the three-year period (equates to €1.5M) and KPIs will be measured on a quarterly basis.

9.2 Invoicing

9.2.1 Invoicing Outturn Performance 2022/23

The target for the Invoicing KPI was 97% with an upper bound limit of 100%.

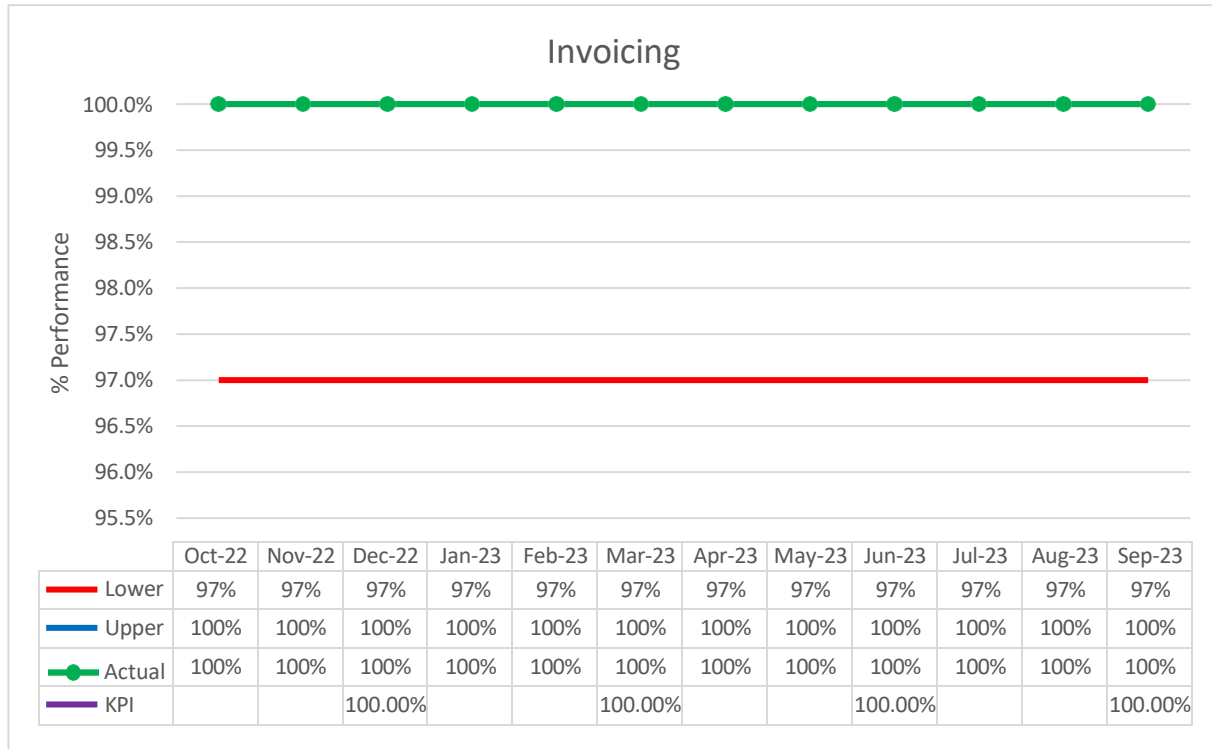


Figure 14 - Invoicing Performance

The upper bound target was achieved in all four quarters of the Financial Year as shown in Figure 14 above.

Please see Appendix F for further detail on the invoicing performance.

9.3 SEMO Resettlement Queries

9.3.1 SEMO Resettlement Queries Outturn Performance 2022/23

The target for SEMO Resettlement Related Queries was <15 per Quarter upheld queries which require Resettlement per Quarter, with an upper bound limit of <5 per Quarter.

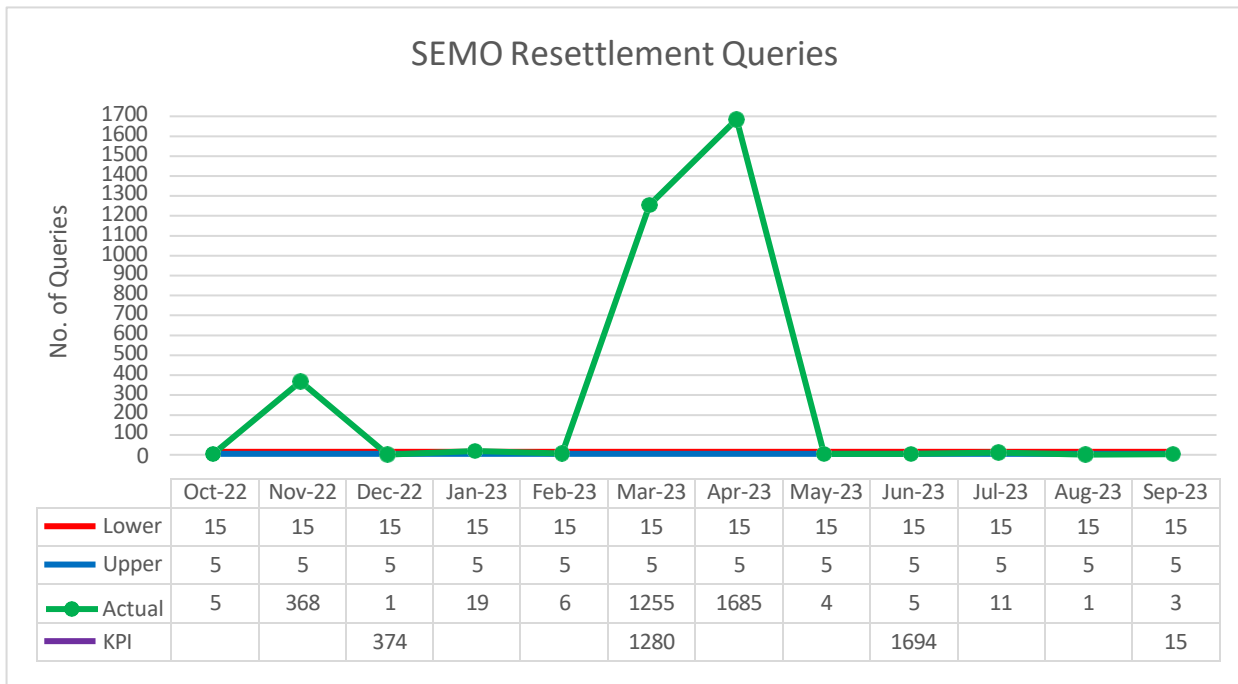


Figure 15 - SEMO Resettlement Related Queries Performance

The upper bound of this metric was five per Quarter. This target was not achieved in any four Quarters of the financial year, as shown in Figure 15 above.

The lower bound of this metric was fifteen per Quarter. This target was achieved in one Quarter of the financial year, as shown in Figure 15 above.

In 22/23 there were 59 upheld formal queries which equated to 3,363 incidents due to each trade day being classified as individual incidents. These related to several formal queries that were raised in relation to registration errors. The large number of trading periods impacted is due to queries relating back to the start of the market.

There are three broad categories of areas driving formal queries:

1. Registration errors
2. Defects
3. Operational Errors

Registration errors accounted for 3,283 or 98% of incidents. During this financial year we received three formal queries that impacted several years.

9.4 Process Rate for Ad Hoc Resettlement to Clear Known Backlog

9.4.1 Process Rate for Ad Hoc Resettlement to Clear Known Backlog Performance Outturn 2022/23

The target for the Process Rate for Ad Hoc Resettlement to Clear Known Backlog is 6 weeks ad hoc resettlement to be completed in a 4 week period, with the upper bound target of 8 weeks hoc resettlement to be completed in a 4 week period.

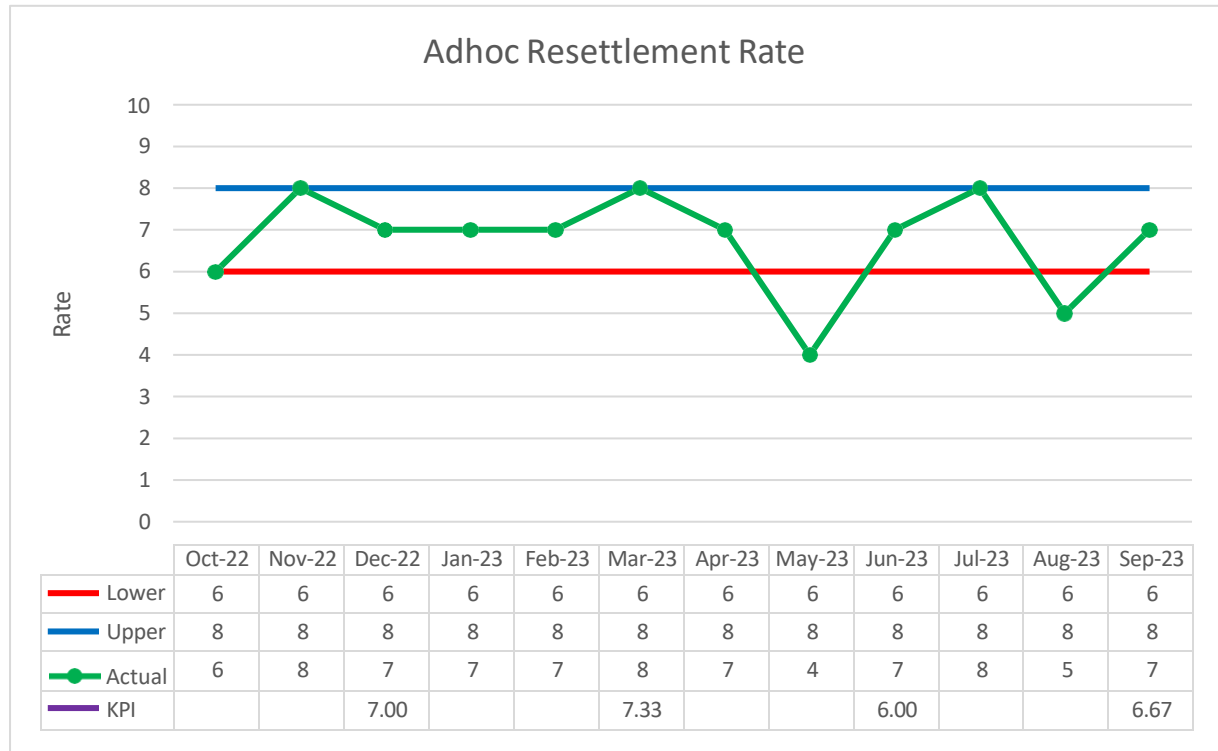


Figure 16 - Process Rate for Ad Hoc Resettlement

The upper bound of this metric equates to an average of 8 weeks ad hoc resettlement in a 4 week period over the course of each quarter. The lower bound of this metric equates to an average of 6 weeks ad hoc resettlement in a 4 week period over the course of each quarter. This target was achieved in all four quarters of the financial year, as shown in Figure 16 above.

9.5 General Queries

9.5.1 General Queries Outturn Performance 2022/23

The target for the General Queries Delivery KPI was 95% with an upper bound limit of 99%. The KPI requires that SEMO resolves 99% of its queries within 17 working days during 2022/23.

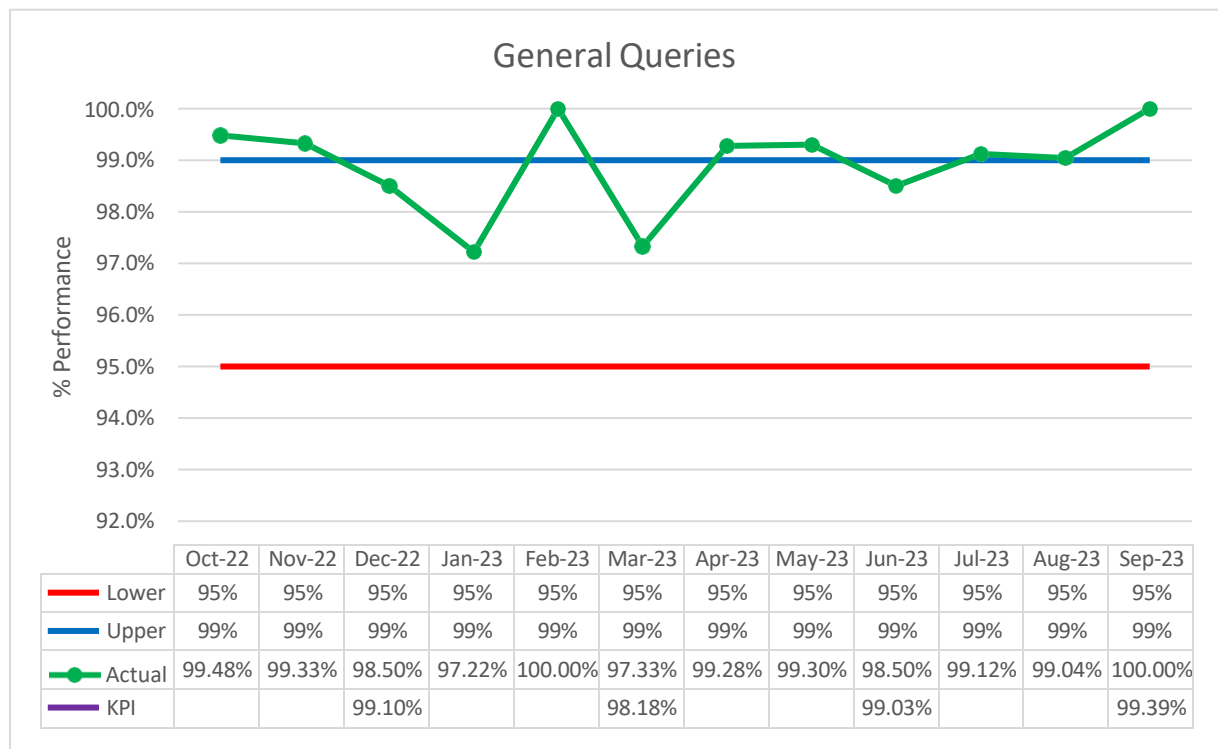


Figure 17 - General Queries Performance

In financial year 2022-2023 SEMO resolved 1609 helpdesk general queries. Query resolution time is impacted by several factors. For example, the complexity and scale of the query received, operational resources availability and the fact that formal and urgent queries have to be prioritized, and often the nature of the request requires cross functional assistance and/or escalation to a third-party vendor.

The lower bound target of this metric was achieved in all four Quarters of the financial year. The upper bound target was exceeded in Quarters 1, 3 and 4 as shown in Figure 17 above.

9.6 System Availability

9.6.1 System Availability Outturn Performance 2022/23

The target for the System Availability KPI was 99% with an upper bound of 99.9%.

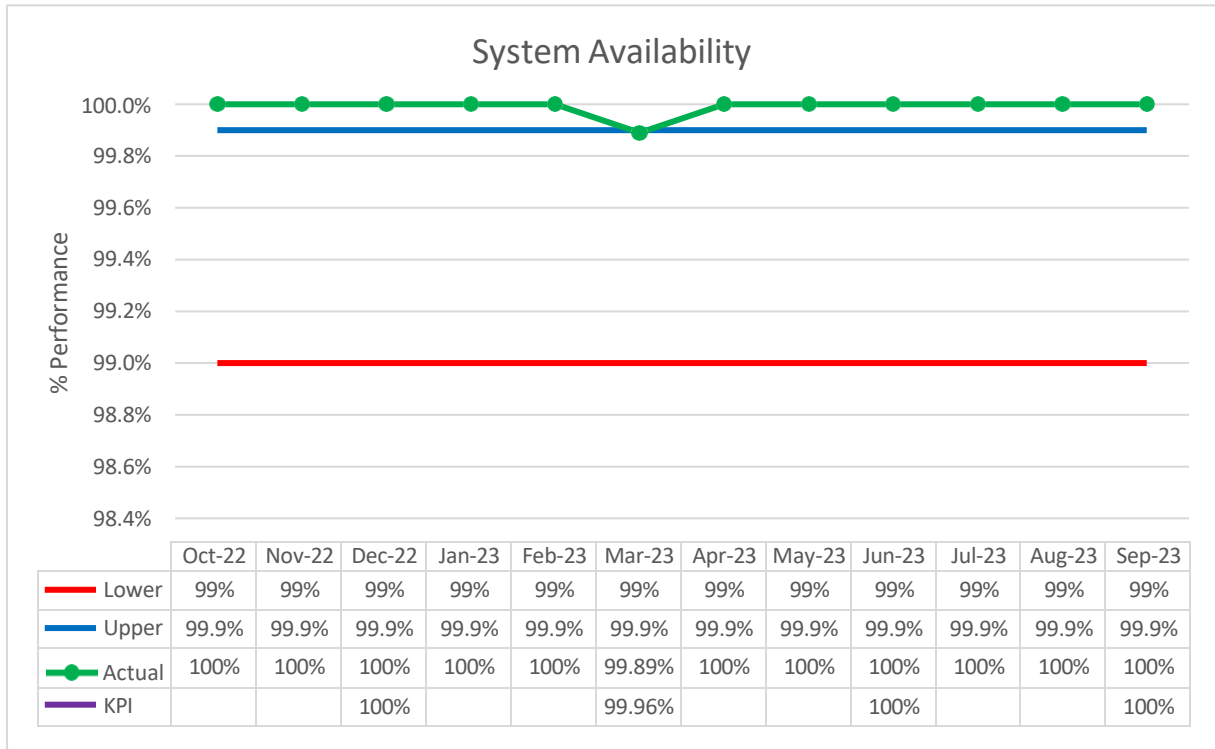


Figure 18 – System Availability Performance

The lower bound target of this metric was achieved in all four Quarters of the financial year. The upper bound target of this metric was exceeded in all four Quarters of the financial year.

The System Availability KPI is assessed against the following 5 systems as per SEM-21-073:

1. Balancing Market systems on a 24-hour basis Monday to Sunday
2. Settlement and Credit Clearing system between 9am-5pm Monday to Friday
3. Market Participant Interface on a 24-hour period Monday to Sunday.
4. Registration system between 9am-5pm Monday to Friday
5. Website availability between 8am-6pm Monday to Friday

As per SEM-21-073, please see a breakdown of the system availability for each of the 5 system in the table below.

System / Application	2022/2023 Availability %																
	Oct-22	Nov-22	Dec-22	Q1	Jan-23	Feb-23	Mar-23	Q2	Apr-23	May-23	Jun-23	Q3	Jul-23	Aug-23	Sep-23	Q4	Annual Availability %
Settlements (CSB)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Market Interface (MI)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Market Applications (MA)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Reporting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Website	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.43%	99.81%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.95%
Average System Availability	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.89%	99.96%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.99%

Table 18 – System Availability Performance per System

9.7 Storage Technology Facilitation

9.7.1 Storage Technology Facilitation Outturn Performance 2022/23

The target for the Storage Technology Facilitation KPI requires –

“Successful Implementation of enduring solution enabling full participation in the Balancing Market including:

- Registration difficulties resolved;
- Negative PNs can be accepted and processed;
- Overall level playing field for storage technology providers”

As stipulated in SEM-21-073, the storage technology assumptions to be applied is that assessment of this KPI will include RAs engagement with SEMO and industry.

This work is currently being progressed under initiative SDP_02, Electricity Storage Power Station (ESPS), of the Scheduling and Dispatch Programme (SDP).

There are six initiatives, divided in to two delivery tranches, in scope for SDP:

The initiatives in Tranche 1 were identified as the highest priority for delivery following industry feedback and considering TSOs & MO and consumer interests. The SDP commenced Phase 2 (Requirements and Design) in mid- March '23 and System Design for ESPS is scheduled to complete in the first quarter of 2024. The Plain English description of the Trading and Settlement and Grid Code changes of SDP_02 (ESPS) was published via Market Message in September 2023, with the SEMC Modification introduced to the committee in October 2023. The completion of the System Design will bring Phase 2 of the initiative to a close. Phase 3 “Execution” which is planned to follow on after Phase 2 will include system implementation along with operational capability development and business procedures for operations delivered. The delivery timeline for Phase 3, which includes the go live of all six initiatives, has been agreed with vendors and published.

9.8 Performance Summary against KPI Targets

Table 19 below, summarises the overall Regulatory Approved KPI targets and the outturn KPI figures per Quarter. The light grey area indicates the KPI targets agreed in the SEMO Revenue Requirement Decision Paper (SEM-21-073). The darker grey columns show the percentage outturn achieved by SEMO for each KPI per Quarter while the blue column indicates the average performance over the four Quarters. SEMO scored quite well in some of the KPIs, in particular Invoicing, General Queries, and System Availability. However, SEMO Settlement Queries performed quite poorly throughout the year based on the metric criteria as set out in the price control decision. SEMO achieved its target regarding the Process Rate for Ad Hoc Resettlement to Clear Known Backlog in all four quarters. This demonstrates a strong indication of SEMO's focus to clear the known backlog. As stated above, the Storage Technology Facilitation is currently being progressed through the Scheduling and Dispatch Programme and did not achieve its target during FY2022/23.

SEMO KPI Outturn 2022/2023								
SEMO KPIs - as per SEM-21-073				Performance by Quarter				Overall Performance
Metric	Weighting	Target	Upper Bound	Oct-Dec Q1	Jan-Mar Q2	Apr-June Q3	Jul-Sept Q4	2022/23
Invoicing	15%	97%	100%	100.00%	100.00%	100.00%	100.00%	100%
SEMO Settlement Queries	20%	<15 per Q	<5 per Q	374.00	1280.00	1694.00	15.00	3363.00
Process Rate for Ad Hoc Resettlement to Clear Known Backlog	20%	6 wks adhoc in 4 wk period	8 wks adhoc in 4 wk period	7.00	7.33	6.00	6.67	6.75
General Queries	5%	95%	99%	99.10%	98.18%	99.03%	99.39%	98.93%
System Availability	15%	99%	99.9%	100.00%	99.96%	100.00%	100.00%	99.99%
Storage Technology Facilitation	25%	Successful implementation on enduring solution enabling full participation in the Balancing Market	N/A					

Table 19 - SEMO Performance 2022-2023

9.9 Incentive earned by SEMO

The SEMO Revenue Requirement Decision Paper (SEM-21-073) states that the ‘The incentive reward available to SEMO is 4% of the total proposed opex allowance provided across the three-year period (which equates to €1.5M).’ The approved OPEX revenue for 2022-2023 was €12,300,000 (2020 Monies)¹. 4% of this amount translates to a KPI pot of €492,000² in 2020 monies³.

Table 20 below illustrates:

- The earned reward per Quarter
- The maximum available reward per Quarter
- The percentage KPI reward achieved per Quarter

Incentive earned per Quarter 2022/23					
Performance Indicator	Oct-Dec	Jan-Mar	Apr-June	Jul-Sept	
	Q1	Q2	Q3	Q4	TOTAL
Invoicing	€9,225	€9,225	€9,225	€9,225	€36,900
SEMO Settlement Queries	€0	€0	€0	€0	€0
Process Rate for Ad hoc Resettlement to Clear Known Backlog	€12,300	€16,400	€0	€8,200	€36,900
General Queries	€12,300	€10,496	€12,300	€12,300	€47,396
System Availability	€18,450	€18,450	€18,450	€18,450	€73,800
Storage Technology Facilitation	€0	€0	€0	€0	€0
KPI reward per Quarter (in March 2020 monies)	€52,275	€54,571	€39,975	€48,175	€194,996
Maximum Available Reward in Quarter	€113,775	€113,775	€113,775	€113,775	€455,100
Percentage of Total Achieved in Quarter	45.95%	47.96%	35.14%	42.34%	42.85%

Table 20 - Summary of the KPI monetary reward 2022-2023

Based on a comprehensive set of KPI data SEMO have calculated the KPI reward in Table 22 above to be €194,996 (in 2020 monies). This represents an overall percentage reward of 42.85% of the maximum amount available.

It is assumed that this KPI reward is recovered through the adjustment of the K Factor as per previous price controls (see section 2.5 of the SEMO Key Performance Indicators Decision Paper – SEM-19-033⁴)

¹ Reference figure 3.4 of SEM-21-073

² It is noted that the invoicing target has been amended and the overall available award has been reduced by 50%, which has been reflected in Table 22. Please see Appendix F for further detail on the updated invoicing performance metrics.

³ RPI-x will be applied to the incentive earned by SEMO as part of the adjustment to the K-Factor.

⁴ [SEM-19-033](#)

Appendix A: Trading and Settlement Code Breaches

Meter Data Provider Breaches

Ops Date Identified	Run Type	Issue	MDP Provider	Issue Type	Description T&SC Breach	T&SC Breach	Status
02/10/2022	D+4	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
05/10/2022	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
06/10/2022	D+1	Timing	SONI	File submission of ACTA data	Delay of 29 mins	Minor	Closed
12/10/2022	D+1	Timing	SONI	File submission of ACTA data	Delay of 3 hrs 20 mins	Minor	Closed
15/10/2022	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
10/11/2022	D+4	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
13/11/2022	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
28/11/2022	D+1	Timing	SONI	File submission of Metering data	Delay of 1hrs 10 mins	Minor	Closed
18/12/2022	D+1	Timing	SONI	File submission of DI data	Delay of 17 mins	Minor	Closed
04/01/2023	D+1	Timing	EirGrid	File submission of Metering data	Delay of 2 hrs	Minor	Closed
04/01/2023	D+1	Timing	SONI	File submission of Metering data	Delay of 2 hrs 14 mins	Minor	Closed
03/02/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 hr 41 mins	Minor	Closed
05/02/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 hr 40 mins	Minor	Closed
08/02/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 2 hrs 35 mins	Minor	Closed
19/04/2023	D+1	Timing	SONI	File submission of Metering data	Delay of 1 day	Minor	Closed
14/05/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
30/05/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
12/06/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
20/06/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 2 days	Minor	Closed
21/06/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
15/07/2023	D+1	Timing	EirGrid	File submission of DI data	Delay of 2 days	Minor	Closed
17/07/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
02/08/2023	D+1	Timing	SONI	File submission of Metering data	Delay of 1 hr	Minor	Closed
09/08/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
28/08/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed
06/09/2023	D+1	Timing	SONI	File submission of ACTA data	Delay of 1 day	Minor	Closed

Table 21 - Meter Data Provider Breaches

Market Participant Breaches

Month	Default Notices Issued	No. of Parties
Oct-22	7	4
Nov-22	7	6
Dec-22	4	4
Jan-23	5	4
Feb-23	4	4
Mar-23	10	6
Apr-23	5	5
May-23	7	5
Jun-23	8	6
Jul-23	5	3
Aug-23	4	3
Sep-23	7	7
Total	73	57

Table 22- Clearing Default Notices

Month	Default Notices Issued	No Participants
Oct-22	0	0
Nov-22	1	1
Dec-22	0	0
Jan-23	0	0
Feb-23	0	0
Mar-23	1	1
Apr-23	0	0
May-23	0	0
Jun-23	3	2
Jul-23	5	1
Aug-23	13	1
Sep-23	3	1
Total	26	7

Table 23 - Credit Default Notices

Market Operator Defaults

Indicative			
Month	On Time	Same Day Late	> 1 Day Late
Oct 2022	24	0	7
Nov 2022	24	3	3
Dec 2022	23	1	7
Jan 2023	30	0	1
Feb 2023	27	0	1
Mar 2023	26	0	5
Apr 2023	26	1	3
May 2023	28	0	3
Jun 2023	27	0	3
Jul 2023	27	1	3
Aug 2023	25	0	6
Sep 2023	27	2	1
Totals	314	8	43

Table 24- Delays to Indicative Settlement Runs

Initial			
Month	On Time	Same Day Late	> 1 Day Late
Oct 2022	30	1	0
Nov 2022	30	0	0
Dec 2022	30	1	0
Jan 2023	31	0	0
Feb 2023	28	0	0
Mar 2023	30	1	0
Apr 2023	30	0	0
May 2023	31	0	0
Jun 2023	30	0	0
Jul 2023	29	1	1
Aug 2023	30	1	0
Sep 2023	30	0	0
Totals	359	5	1

Table 25- Delays to Initial Settlement Runs

Market Operator Breaches (Credit Risk)

Ops Date Identified	Non -Publications	PT Name	Date	Time	Reason
06/12/2022	Yes	All	06/12/2022	9am	Deployment Release J
14/08/2023	Yes	All	14/08/2023	3.30pm	Late receipt of IDT Results
22/08/2023	Yes	All	22/08/2023	3.30pm	Internal processing system issue
23/08/2023	Yes	All	23/08/2023	9am	Internal processing system issue

Table 26 - Non-Publications of Credit Reports

Ops Date Identified	PT Name	Date	Time	Reason	Reason
03/10/2022	All	03/10/2022	3.30pm	Delayed Publication	Delayed due to loading of Capacity Data
04/10/2022	All	04/10/2022	9am	Delayed Publication	Issue with internal processing system
05/10/2022	All	05/10/2022	9am	Delayed Publication	Issue with internal processing system
04/11/2022	All	04/11/2022	12pm	Delayed Publication	Issue with internal processing system
10/11/2022	All	10/11/2022	9am	Delayed Publication	Issue with internal processing system
30/11/2022	All	30/11/2022	9am	Delayed Publication	Issue with internal processing system
11/01/2023	All	11/01/2023	9am	Delayed Publication	Internal Processing system issue
12/01/2023	All	12/01/2023	3.30pm	Delayed Publication	Analysis required on Fixed Credit Cover
07/03/2023	All	07/03/2023	9am	Delayed Publication	Internal Processing system issue
16/03/2023	All	16/03/2023	9am	Delayed Publication	Internal Processing system issue
16/06/2023	All	16/06/2023	9am	Delayed Publication	Issue with internal processing system
15/08/2023	All	15/08/2023	9am	Delayed Publication	Late due to late publication of Indicative processing

Table 27 - Delayed – Credit Publications

Appendix B: Settlement Publication Delays

Indicative Settlement

Month	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Oct	5th,6th,12th, 15th, 16th	5	Indicative	Timing	SEMO	Late Settlement Data	Late Actual Availabilities (ACTA) files	NI ACTA files received late	ACTA data received and Indicatives completed late after target date	Minor	Closed
Oct	30th,31st	2	Indicative	Timing	SEMO	Processing Issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Indicatives completed late after target date	Minor	Closed
Nov	01st,02nd	2	Indicative	Timing	SEMO	Processing Issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Indicatives completed late after target date	Minor	Closed
Nov	13th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Actual Availabilities (ACTA) files	NI ACTA files received late	ACTA data received and Indicatives completed late after target date	Minor	Closed
Nov	17th	1	Indicative	Timing	SEMO	Processing Issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Indicatives completed late after target date	Minor	Closed

Nov	23rd	1	Indicative	Timing	SEMO	Processing Timeline	Longer than expected processing times	Processing delayed due to longer than expected processing times	IP issue resolved and Indicatives completed late on target date	Minor	Closed
Nov	28th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	SONI MDP data received late	MDP data received and Indicatives completed late on target date	Minor	Closed
Dec	8th -14th	7	Indicative	Timing	SEMO	Processing Issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Indicatives completed late after target date	Minor	Closed
Dec	18th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	EirGrid MDP data received late	MDP data received and Indicatives completed late on target date	Minor	Closed

Month	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Jan	4th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	EirGrid/SONI MDP data received late	MDP data received and Indicatives completed late after target date	Minor	Closed
Feb	8th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Actual Availabilities (ACTA) files	NI ACTA files received late	ACTA data received and Indicatives completed late after target date	Minor	Closed
Mar	9th	1	Indicative	Timing	SEMO	Processing Issue	Issue with PUSH processing	PUSH failure	PUSH issue resolved and Indicatives completed late after target date	Minor	Closed
Mar	28th-31st	4	Indicative	Timing	SEMO	Operational Error	Data Import issue	Data update	Issue resolved and Indicatives completed late after target date	Minor	Closed

	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Apr	1st-2nd	2	Indicative	Timing	SEMO	Operational Error	Data Import issue	Data update	Issue resolved and Indicatives completed late after target date	Minor	Closed
Apr	10th	1	Indicative	Timing	SEMO	Processing Timeline	Overrun of processing time required	Processing delayed due to longer than expected processing times	Processing continued and Indicatives completed late on target date	Minor	Closed
Apr	19th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	SONI MDP data received late	MDP data received and Indicative completed late after target date	Minor	Closed
May	10th	1	Indicative	Timing	SEMO	Processing Issue	Database Table issue	Oracle Database error	Issue resolved and Indicative completed late after target date	Minor	Closed
May	14th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	NI ACTA files received late	MDP data received and Indicative completed late after target date	Minor	Closed
May	30th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	NI ACTA files received late	MDP data received and Indicative completed late after target date	Minor	Closed
Jun	12th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	NI ACTA files received late	MDP data received and Indicative completed late after target date	Minor	Closed
Jun	20th-21st	2	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	NI ACTA files received late	MDP data received and Indicatives completed late after target date	Minor	Closed

Month	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Jul	9th	1	Indicative	Timing	SEMO	Processing issue	System issue	Internal system calculation error	Issue resolved and Indicative completed late after target date	Minor	Closed
Jul	15th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Dispatch Instruction (DI) files	EirGrid DI files received late	DI data received and Indicatives completed late after target date	Minor	Closed
Jul	16th	1	Indicative	Timing	SEMO	Processing Timeline	Processing backlog	Backlog from previously delayed runs	Backlog worked through and Indicative completed late after target date	Minor	Closed
Jul	17th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	NI ACTA files received late	ACTA data received and Indicative completed late after target date	Minor	Closed
Aug	2nd	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	SONI Metering Data received late	MDP data received and Indicative completed late on target date	Minor	Closed
Aug	9th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	NI ACTA files received late	ACTA data received and Indicative completed late after target date	Minor	Closed
Aug	11th-13th	3	Indicative	Timing	SEMO	Processing issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Indicatives completed late after target date	Minor	Closed
Aug	28th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	NI ACTA files received late	ACTA data received and Indicative completed late after target date	Minor	Closed
Sep	2nd-3rd	2	Indicative	Timing	SEMO	Processing Timeline	Overrun of processing time required	Processing delayed due to competing processes running in parallel	Processing continued and Indicatives completed late after target date	Minor	Closed
Sep	6th	1	Indicative	Timing	SEMO	Late Settlement Data	Late Meter Data Provider (MDP) data	NI ACTA files received late	ACTA data received and Indicative completed late after target date	Minor	Closed

Initial Settlement

Month	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Oct	2nd	1	Initial	Timing	SEMO	Late Settlement Data	Late Actual Availabilities (ACTA) files	NI ACTA files received late	ACTA data received and Initials completed late on target date	Minor	Closed
Dec	6th	1	Initial	Timing	SEMO	Processing Issue	Issue with Instruction Profilers (IPs)	IP had to be re-run	IP issue resolved and Initials completed late on target date	Minor	Closed

Month	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Mar	13th	1	Initial	Timing	SEMO	Processing Issue	Issue with PUSH processing	PUSH failure	PUSH issue resolved and Initials completed late on target date	Minor	Closed

Month	Settlement Date	Periods Affected	Run Type	Quality or Timing	Party	Issue Type	Description	Cause	Resolution	T&SC Breach	Status
Jul	19th-20th	2	Initial	Timing	SEMO	Processing Issue	Issue with Meter Data Provider (MDP) data	Manual update required for ROI DI file	MDP data uploaded and Initials completed late after target date	Minor	Closed
Aug	29th	1	Initial	Timing	SEMO	Processing Timeline	Overrun of processing time required	Delayed due to longer than expected processing times	Processing continued and Initial completed late on target date	Minor	Closed

Appendix C: List of Queries by Type

Formal Queries	Upheld	Not Upheld	Rejected	Withdrawn	Total
CIMB	44	6	2	0	52
CDISCOUNT	25	3	0	0	28
CFC	23	5	0	0	28
CUNIMB	17	6	0	1	24
CPREMIUM	10	1	0	0	11
CCP	6	5	0	0	11
CCURL	1	0	0	0	1
Total	126	26	2	1	155

Table 28- Upheld and Not Upheld Queries

Appendix D: Imbalance Prices

Month	Published Imbalance Prices	Expected Count of Imbalance Prices	Missed Imbalance Prices
Oct	8940	8940	0
Nov	8640	8640	0
Dec	8776	8928	152
Quarter 1 Total	26356	26508	152
Jan	8928	8928	0
Feb	8064	8064	0
Mar	8628	8916	0
Quarter 2 Total	25620	25908	0
Apr	8640	8640	0
May	8928	8928	0
Jun	8640	8640	0
Quarter 3 Total	26208	26208	0
Jul	8928	8928	0
Aug	8882	8928	46
Sep	8570	8640	70
Quarter 4 Total	26380	26496	116

Table 29 – Missed 5-Min Imbalance Prices

Month	Market Back Up Prices	Ex-Ante Market Back Up Price	Published Imbalance Settlement Prices	Expected Count of Imbalance Settlement Prices
Oct	0	0	1490	1490
Nov	2	0	1438	1440
Dec	12	26	1450	1488
Quarter 1 Total	14	26	4378	4418
Jan	0	0	1488	1488
Feb	0	0	1344	1344
Mar	0	0	1438	1486
Quarter 2 Total	0	0	4270	4318
Apr	0	0	1440	1440
May	0	0	1488	1488
Jun	0	0	1440	1440
Quarter 3 Total	0	0	4368	4368
Jul	2	0	1486	1488
Aug	1	9	1478	1488
Sep	1	12	1427	1440
Quarter 4 Total	4	21	4391	4416

Table 30 – Application of 30-Min Market Back Up Price

Month	Period Starting	Min Price	Period Starting	Max Price	Avg Price
October	20/10/2022 22:35	-€ 445.22	13/10/2022 04:30	€ 781.89	€ 133.36
November	21/11/2022 04:25	-€ 1,000.00	17/11/2022 23:05	€ 762.49	€ 156.15
December	21/12/2022 04:50	-€ 952.66	12/12/2022 14:45	€ 827.54	€ 282.49
January	10/01/2023 21:10	-€ 1,000.00	21/01/2023 17:45	€ 593.25	€ 162.80
February	18/02/2023 03:00	-€ 1,000.00	17/02/2023 18:40	€ 576.33	€ 150.32
March	23/03/2023 22:25	-€ 328.51	06/03/2023 07:30	€ 767.52	€ 149.14
April	08/04/2023 09:20	-€ 385.86	13/04/2023 18:35	€ 534.68	€ 122.52
May	08/05/2023 02:55	-€ 165.00	05/05/2023 06:30	€ 623.71	€ 93.26
June	13/06/2023 22:35	-€ 826.02	12/06/2023 15:45	€ 497.60	€ 113.42
July	03/07/2023 04:40	-€ 1,000.00	17/07/2023 22:25	€ 511.15	€ 99.87
August	19/08/2023 09:25	-€ 285.33	06/08/2023 22:55	€ 576.85	€ 106.61
September	24/09/2023 08:20	-€ 166.21	14/09/2023 19:45	€ 397.06	€ 119.61

Table 31 – High/Low/Average 5Min Imbalance Prices

Month	Period Starting	Min Price	Period Starting	Max Price	Avg Price
October	14/10/2022 19:30	-€ 153.73	05/10/2022 09:00	€ 566.58	€ 140.65
November	26/11/2022 21:30	-€ 155.91	30/11/2022 16:30	€ 518.34	€ 156.16
December	30/12/2022 13:00	-€ 318.69	12/12/2022 15:30	€ 827.54	€ 282.48
January	14/01/2023 20:30	-€ 235.65	15/01/2023 17:30	€ 544.79	€ 162.80
February	18/02/2023 03:00	-€ 120.83	27/02/2023 19:30	€ 462.55	€ 150.32
March	23/03/2023 22:00	-€ 96.95	20/03/2023 15:30	€ 446.67	€ 149.14
April	15/04/2023 13:30	-€ 135.49	22/04/2023 17:30	€ 450.19	€ 122.52
May	08/05/2023 02:30	-€ 65.56	11/05/2023 06:30	€ 330.35	€ 93.26
June	13/06/2023 22:30	-€ 60.11	12/06/2023 15:30	€ 495.50	€ 113.42
July	03/07/2023 04:30	-€ 179.43	18/07/2023 16:30	€ 298.11	€ 99.87
August	01/08/2023 01:30	-€ 33.04	09/08/2023 16:00	€ 399.94	€ 106.62
September	23/09/2023 15:00	-€ 43.71	14/09/2023 19:30	€ 372.04	€ 119.59

Table 32 – High/Low/Average 30Min Imbalance Settlement Prices

Appendix E: Market Operator User Group

Market Operator User Group (MOUG)	
Date	Location
10/11/2022	MS Teams
15/12/2022	MS Teams
26/01/2023	MS Teams
19/04/2023	MS Teams
25/05/2023	MS Teams
14/09/2023	MS Teams

Table 33 – MOUG Dates

Appendix F: KPI Metrics Overview

Invoicing

The Invoicing targets refer to the percentage of occurrences where invoices to all participants are published on time. As per the Trading and Settlement Code Part B and Agreed Procedure 15 document:

- The target for the weekly Balancing/Imbalance (BALIMB) Settlement Documents is as per the Settlement Documents for Trading Payments and Trading Charges which, in respect of each Billing Period, shall be produced and issued to all Participants in respect of their Units by 12:00 on Billing Period +5 Working Days.
- The target for Capacity settlement documents is 12:00 ten working days after the end of each month.

The invoicing assumptions to be applied are as follows:

- i. System Operator system failures and issues outside of SEMO's control are to be excluded from the KPI measurement.
- ii. Planned outages, planned releases and releases that have an impact on measurement of this KPI are excluded.

Please note that due to a discrepancy in the invoicing timeframes stated in the Price Control and those in the Trading & Settlement Code Agreed Procedure 15, identified by SEMO as part of the submission of the 2021/2022 iteration of this report to the RA's, the Invoicing KPI has been revised from 4 KPI's to 2. This reflects the RA's decision to remove the Variable and Fixed Market Operator Charge targets and to reduce the invoicing incentive by 50%. SEMO continues to issue the Variable and Fixed Market Operator Charge as per the specific timelines in the revised Market Operator Settlement Calendar publishing schedule, introduced in May 2021.

SEMO Resettlement Queries

This KPI refers to the number of upheld formal queries from market participants who have identified errors in settling the market which are attributed to SEMO's operations and processes, including defects and pricing issues. Correction of such errors is completed in either the scheduled Resettlement (M+4 and M+13) or in an ad hoc Resettlement.

Measurement of this KPI is related to the number of SEMO upheld query incidents and Resettlements per Quarter. Multiple Upheld Queries for one incident shall be classified as one Upheld Query Incident. A Formal Query referencing a number of days shall be classified as Multiple Upheld Queries Incidents.

The SEMO resettlement queries assumptions to be applied are as follows:

- i. Multiple Upheld Queries for one incident shall be classified as one Upheld Query Incident.
- ii. Planned outages, planned releases and ad-hoc releases that have an impact on measurement of this KPI are excluded.

General Queries

The General Queries targets refer to the percentage of occurrences where a General Query is not resolved within 17 business days within 2022/23¹. A General Query is defined within this metric as any request logged at the SEMO helpdesk.

The general queries assumptions to be applied are as follows:

- i. Queries unresolved for more than 17 business days during 2022/23 are only counted once against the metric per quarter and not on a rolling basis.
- ii. If further information is requested following resolution of a query this can be counted as a new query.
- iii. If information requested is dependent on third parties and is outside of SEMO's control this does not impact on the calculation of the metric.

System Availability

System availability is the availability of central market systems which the Market Operator has responsibility for according to their required availability. This is the ratio of the time systems are said to be in a functioning condition to the total time they are required to be available and covers the following:

1. Balancing Market systems on a 24-hour basis Monday to Sunday
2. Settlement and Credit Clearing system between 9am-5pm Monday to Friday
3. Market Participant Interface on a 24-hour basis Monday to Sunday
4. Registration system between 9am-5pm Monday to Friday
5. Website availability between 8am-6pm Monday to Friday

The system availability assumptions to be applied are as follows:

- i. Planned outages, planned releases and ad-hoc releases that have an impact on measurement of this KPI are excluded.
- ii. System Operator events beyond the control of the Market Operator are excluded from the metric.
- iii. Reporting and Market Monitoring system is not yet operational and therefore the Market Participant Interface will be monitored in its place until it is built and implemented.

¹ The number of business days in which SEMO is required to resolve General Queries within for this KPI changes from year to year, with 17 business days during 2022/23 and 15 business days 2023/24. The proposed weighting for this KPI also changes for 2022/23 and 2023/24. See Table A3 of SEM/21/073 for further breakdown.

- iv. The overall calculation of system availability is based on the average of the measured availability of systems 1-5 in the KPI, however when reporting on this KPI the system availability should be provided for each of the 5 systems.

Storage Technology Facilitation

The Storage Technology Facilitation KPI is the Successful Implementation of enduring solution enabling full participation in the Balancing Market including:

- Registration difficulties resolved;
- Negative PNs can be accepted and processed;
- Overall level playing field for storage technology providers

The storage technology assumption to be applied is:

- i. Assessment of this KPI will include RAs engagement with SEMO and industry.

Ad hoc Resettlement Process Rate

The Ad hoc Resettlement Process Rate KPI relates to the Accelerated approach to known backlog of ad hoc resettlement existing since SEM Go Live in October 2018.

The ad hoc resettlement process rate assumptions to be applied are:

- i. Known backlog refers to information provided in table below:

Adhoc (AH) Run Type	Resettlement Period	Formal query count	Billing periods	Ad hoc status July 2021
AH Sequential (1st Iteration)	Oct-2018 to May-2020	Multiple: Settlements and pricing manifest errors	~ 85	In progress, 16 weeks completed out to Jan 2019
AH Targeted	Oct-2018 to May-2020	10	~ 15	M13 will resolve, potential AH solution & timing in review
AH Sequential (2nd Iteration)	Oct-2018 to Jan-2020	19	~ 27	AH solution & timing in review, pending defect fixes & testing
AH Targeted	June-2020 - today	4	~ 2	AH solution & timing in review, pending defect fixes & testing

Table 34 - Ad hoc resettlement backlog as per SEM-21-073