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SEM Market Audit

Independent Market Auditor's Report
For the period ended 31 December 2023

Date: 16 September 2024



Market Auditor Report – Notice re Distribution and Publication

This notice concerns the Market Auditor Report to the Commission for Regulation of Utilities (CRU) and the Utility Regulator (UR) (together the Regulatory Authorities (the RAs)) on the SEM Market Audit for the 12 months ended 31 December 2023 dated 16 September 2024 (the "Report").

This notice does not apply to the RAs (including their employees acting within the scope of their employment duties).

The requirement for the Market Audit is set out in The Single Electricity Market (SEM) Trading & Settlement Code ("TSC" or "the Code") designated on 3 July 2007 and as amended from time to time. This Report was prepared by Deloitte Ireland LLP (a partnership established in Ireland and with its registered address at Deloitte & Touche House, Earlsfort Terrace, Dublin 2, Ireland) ("Deloitte").

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No work has been carried out nor have any enquiries of RAs or the management of the Single Electricity Market Operator been made since 10 May 2024. The Report does not incorporate the effects, if any, of any events or circumstances which may have occurred or information which may have come to light subsequent to that date. Deloitte makes no representation as to whether, had Deloitte carried out such work or made such enquiries; there would have been any material effect on the Report. Further, Deloitte has no obligation to notify you if any matters come to its attention after the date of this report which might affect the continuing validity of the comments or conclusions in the Report.

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This notice shall be governed and construed in accordance with the laws of Ireland. The courts of Ireland will have exclusive jurisdiction to settle any claim, dispute or difference which may arise out of or in connection with this notice.

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1 Introduction

1.1 Background

The Single Electricity Market ("SEM") was developed by the Commission for Regulation of Utilities ("The Commission" or "CRU") and the Utility Regulator ("UR"), together the Regulatory Authorities ("RAs"). The Single Electricity Market Operator ("SEMO") is responsible for the operation of the SEM. The Trading and Settlement Code ("TSC" or "the Code") was developed as part of the process of establishing the SEM and constitutes the trading and settlement arrangements for the SEM.

The Regulatory Authorities have engaged Deloitte as Market Auditor to undertake a Market Audit of the Code's application by SEMO, its operations and implementation and the operations, trading arrangements, procedures and processes under the Code by the SEMO. The requirement for a Market Audit is set out in section B.16.1 of the Code. As required under the Code, the RAs consulted on the scope of the Market Audit resulting in the publication of the Terms of Reference for the Market Audit (SEM-24-007) on 09 February 2024 ("TOR").

As defined in the TOR, the scope of the Market Audit focused on the activities of the SEMO under Part B of the Code applicable during the audit period ended 31 December 2023, with the most recent version issued on 18 August 2023 and associated Agreed Procedures and covered the systems and processes within the control of the SEMO. The TOR require that the audit is conducted under an ISAE 3000 Reasonable Assurance Engagement, and covers the following areas:

- Accession & Registration
- Imbalance Settlement Price Calculation and Recalculation
- Settlement Production and Reruns (to include all of the Market Operator Charges)
- Currency and balancing charges
- Invoices, payments and credit cover
- Queries and disputes
- Code development
- Information publication
- Communication channels, systems and operation

Unless otherwise specified, words and expressions used in this document have the same meaning as defined in the Code.

Introduction (Continued)

1.2 Requirement for Market Audit

The requirement for a Market Audit of the Code is set out in section B.16 of the Code in paragraphs B.16.1.1 to B.16.1.13. As specified in the TOR, the market audit covers the 12 months from 1 January 2023 to 31 December 2023 and aims to provide a reasonable level of assurance under ISAE 3000.

1.3 Report Structure

Section 2 contains our Market Audit Conclusion. The Market Audit Scope was agreed by the RAs in accordance with the Terms of Reference.

The Regulatory Authorities have specified in the TOR that materiality should be set at 0.5% of estimated annual market value, with a threshold of 10% of the materiality value set for the reporting of Significant Issues. Planning materiality for the Market Audit has therefore been set at €7.9m and it will be for signatories to the Code ("Parties") themselves to evaluate the financial impact of any errors or matters arising on their own businesses.

Section 3 contains our Report of Significant Issues, setting out matters identified during the course of the audit which, while not material in the context of the engagement, may have a significant impact on Parties to the Code. Where, in our professional judgement, matters arising may be significant to individual parties such matters have been included in the Report of Significant Issues with appropriate detail so as to allow the RAs and Parties to the Code to evaluate the impact of the cause and circumstances of matters reported. Qualitative and quantitative factors were taken into account when determining the significance of an issue. From a quantitative perspective, a threshold of 10% of the materiality value has been applied in determining whether a matter should be included in the Significant Issues Report. From a qualitative perspective, we consider a range of factors including the number and type of parties affected, cause of the issue, duration of the issue and whether this had already been identified by the Market Operator. The response for each of these points was provided by SEMO.

Section 4 contains details of Other Matters Arising which we wish to bring to the attention of the market. We include this section as we believe it may assist the RAs and Parties to the Code to judge for themselves the relative significance of all points reported.

Section 5 contains details of Follow up on prior year issues which we wish to bring to the attention of the market. We include this section to provide the RAs and Parties to the Code with the update around the resolution status of the Significant Issues and/or Other Matters Arising that had been documented in our report for the prior Trading and Settlement Code Audit for the 12 months ended 31 December 2022.

2 Market Auditor Conclusion

Independent Market Auditor's Assurance Report to the Commission for Regulation of Utilities ("The Commission" or "CRU") and the Utility Regulator ("UR") (together "The RAs")

We have performed procedures in order to obtain reasonable assurance work over the extent to which the Single Electricity Market Operator ("SEMO") has complied with Part B of the Trading and Settlement Code ("Code") and relevant Agreed Procedures as defined in the "Terms of Reference for the Market Audit 2023" (SEM-24-007) published by the RAs on 09 February 2024, during the 12 month period ending 31 December 2023. The engagement has been performed in accordance with ISAE 3000 (Revised) "Assurance Services Engagements other than Audits or Reviews of Historical Financial Information" ("ISAE 3000") issued by the International Auditing and Assurance Standards Board. In the context of this engagement the terms "Audit" and "Market Audit" mean a reasonable assurance engagement performed in accordance with ISAE 3000.

This report is made solely to the RAs, as a body, in accordance with paragraph B.16.1.3 of the Code. Our work has been undertaken so that we might state to the RAs those matters we are required to state to them in a reasonable assurance report in accordance with ISAE 3000 under the TOR and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the RAs and the Parties as a body, for our work, for this report, or for the conclusions we have formed. Parties to the Code may only rely on this report if they have agreed in writing to be bound by the conditions under which it has been prepared, in line with the engagement letter.

Unless otherwise specified, words and expressions used in this report have the same meaning as defined in the Code.

Responsibilities of the Single Electricity Market Operator, RAs and Parties to the Code (together the "Responsible Party")

The Code is a legal agreement which, inter alia, sets out the terms of the trading and settlement arrangements for the sale and purchase of wholesale electricity on the island of Ireland between participating generators and suppliers ("the Single Electricity Market"). The Code defines the Rules and Agreed Procedures, which are required to be followed by the Parties who are bound by its provisions.

The functions of the RAs are set out in the Electricity Regulation Act 1999, the Northern Ireland (Miscellaneous Provisions) Act 2006 and in the Code. In the context of the Market Audit, the role of the RAs as the Responsible Party is to appoint the Market Auditor and agree the terms of the Market Auditor's appointment, consult on and issue the Terms of Reference for the Market Audit, and receive Market Audit Reports.

The SEMO is responsible for the operation of the Single Electricity Market ("SEM") under the Code as set out in paragraph A.1.1.4 therein and for complying with the requirements of the Code and Agreed Procedures as listed in appendix D to the Code, insofar as they are applicable to the SEMO.

The responsibilities of the Parties in respect of the Market Audit are set out in paragraph B.16 of the Code, which requires Parties to provide, in a timely manner, subject to any obligations of confidentiality and without charge to the Market Auditor, such information as is reasonably required by the Market Auditor to enable the

Market Auditor to comply with the Terms of Reference for the purposes of conducting the audit and preparing and finalising the Audit Report. A person may only become a Party to the Code in accordance with the terms of the Code and the Framework Agreement.

Responsibilities of the Market Auditor

The requirements for the Market Audit are set out in paragraphs B.16.1.1 to B.16.1.13 of the Code, in particular paragraph B.16.1.3 of the Code which sets out that "The Market Auditor shall conduct an audit of the code, its operation and implementation and the operations, trading arrangements, procedures and processes under this Code at least once a year". It is our responsibility as Market Auditor to execute the Market Audit as required under the Code and as set out in the "Terms of Reference for the Market Audit 2023" and provide a reasonable assurance report thereon.

We comply with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

We apply International Standard on Quality Management 1 and accordingly maintain a comprehensive system of quality management including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and RAs requirements.

We include other matters arising identified during our work but which were not considered material / significant, based on the stipulated levels, in the "Other Matters Arising" section of the report as required by the Terms of Reference. As set out above, these do not represent issues of significant non-compliance however this section is included to assist the RAs and Parties to the Code to judge for themselves the relative significance of all points reported.

We draw attention to the Market Operator Performance Reports which lists all Code breaches identified by the SEMO. The Market Operator Performance Reports are issued by SEMO and are available on its website. In addition, SEMO maintains a Known Issues Report, which is also available on its website. The Market Operator is responsible for publishing the Market Operator Performance Reports and Known Issues Report and the availability and completeness of these reports is not in the scope of this engagement.

Inherent Limitations

There are inherent limitations in assurance engagements on controls as because of their nature they may not detect all errors or omissions in processing or reporting of transactions. The conclusions expressed herein only relate to the period under review, and as at the period end date specified and do not provide assurance in relation to any future period or date as changes to systems or controls subsequent to the period covered by this report may alter the validity of our opinions.

Market Auditor Conclusion (Continued)

Basis of assurance conclusion

We conducted our assurance work in accordance with ISAE 3000. ISAE 3000 requires that we plan and perform our work to obtain appropriate evidence about the subject matter of the engagement sufficient to support a conclusion providing reasonable assurance when evaluated against the applicable criteria. In the context of the Market Audit, the subject matter consists of relevant activities of the SEMO which are evaluated against the relevant paragraphs of the Code and applicable Agreed Procedures as set out in the Terms of Reference for the Market Audit 2023.

Our assurance work included examination, on a sample basis, of evidence relevant to the Code and Agreed Procedures including the review of risks, control objectives and controls associated with the SEMO's performance of their duties under the Code and operation of the settlement arrangements. Our testing of the controls comprised review of documentation, corroborative enquiry with key SEMO staff and, on a sample basis, testing the operation of controls and the validity and accuracy of the calculations underlying settlement output.

We planned and performed our assurance work so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the SEMO has complied with the Code and relevant Agreed Procedures as defined in the Terms of Reference for the Market Audit 2023.

We were not required to carry out an audit conducted in accordance with International Standards on Auditing (Ireland). Consequently, our conclusion is not expressed as an audit opinion.

For the purpose of our conclusion, a qualification, in terms of material non-compliance with the Rules and relevant Agreed Procedures of the Code, would arise if the financial impact of errors identified individually or in aggregate exceeded the materiality value as set out in section 1.3 above or where we considered the breach to be of such significance that it undermined the robust operation of the settlements process.

We have prepared a Report of Significant Issues which is attached to this conclusion setting out matters identified during the course of the audit which, while not material in the context of the audit, may have a significant impact for Parties to the Code. Our conclusion should be read in conjunction with the Report of Significant Issues, but is not qualified in respect of matters contained within the Report of Significant Issues.

Market Auditor Conclusion (Continued)

Conclusion

On the basis set out above and subject to the exclusions noted in the Responsibilities of the Market Auditor section above during the period from 1 January 2023 to 31 December 2023 the SEMO has, in all material respects, complied with the Code and relevant Agreed Procedures as set out in the "Terms of Reference for the Market Audit 2023" published by the RAs on 09 February 2024.

A handwritten signature in black ink, appearing to be 'J. Smith'.

For and on behalf of
Deloitte Ireland LLP
Chartered Accountants
Deloitte & Touche House
29 Earlsfort Terrace
Dublin 2

Date: 16 September 2024

3 Report of Significant Issues

Issue	Effect	SEMO Response
Settlement Production and Reruns		
3.1 Incorrect Removal or Application of Capacity Payment for Certain Participants		
<p>From our sample of 8 sampled settlement dates (for which all units were tested), we identified a number of differences in the calculation of Capacity Payment (CCP) for a number of capacity units in the May 2023 and October 2023 capacity periods.</p> <p>Investigation by SEMO confirmed the underlying cause to be related to changes introduced to the settlement system to correct a previously identified defect (which caused units with no commissioned capacity to receive capacity payments). Application of the change caused some units that should have continued to receive payment not to receive CCP due to issues in the underlying Commissioned Capacity Quantity (qCCOMMISS) data.</p> <p>This issue had been identified by SEMO following participant queries and adhoc settlement performed to correct the issue where necessary as outlined in the Code.</p>	<p>Combined impact across the audit period was €1,055,781. The majority of the value (€981,200) impacted October 2023 and has already been corrected in Ad Hoc resettlement.</p>	<p>Accepted.</p> <p>October 2023 issue: Materiality of this issue was €981,199.59. This has already been corrected in Ad Hoc resettlement and was included in Settlement Documents on 08/12/2023.</p> <p>May 2023 issue: Materiality of this issue is €24,581.86. As this was upheld with low materiality based on the M+4 run, it has not yet been corrected in resettlement. It will be resettled in the next scheduled resettlement run i.e. M+13 which is due to be included in Settlement Documents on 28/06/2024.</p>

4 Other Matters Arising

Issue	Effect	SEMO Response
Accession and Registration		
4.1 Party Registration - Fully Executed Accession Deed not submitted to Applicant within the required timeframe		
<p>For 2 of the 2 parties sampled, the Market Operator did not submit the fully executed Accession Deed to the Applicant within 10 WD of receipt of signed Accession Deed. The fully executed Accession Deed was submitted by the Market Operator to the Applicant more than 1 and 6 months after the required timeframe in the two cases identified.</p>	<p>This represents a non-compliance with AP 1, Section 3.1, step 7.</p> <p>Step Description: Market Operator executes and dates the Accession Deed and sends a copy to the Applicant. Applicant becomes a Party to the Code on the date specified in the Accession Deed.</p> <p>Timing: Within 10 WD of receipt of signed Accession Deed</p> <p>Method: Email</p>	<p>Finding Accepted</p> <ul style="list-style-type: none"> • The Registrations team have applied for a modification as this timeline has continuously been difficult for us to achieve. • The Process/Procedure document and the Accession Deed require legal approval. • Wet signatures are required from the party, the board members of Eirgrid and SONI. The Registrations team also needed to arrange suitable times for the hard copies to be signed and delivered to the NI office. • The process of arranging for these signatures and also receiving the hard copies from the participant, can take longer than anticipated. <p>The 6 month delay in one case was exacerbated by delays in the previous batch of Accession Deed approvals and leave of one of the required Directors.</p>
4.2 Party Registration - Applicant became a Party to the Code not within the required timeframe		
<p>For 2 of the 2 parties sampled, the registration date of the party was not the date specified in the Accession Deed.</p>	<p>This represents a non-compliance with AP 1, Section 3.1, step 7.</p> <p>Step Description: Market Operator executes and dates the Accession Deed and sends a copy to the Applicant. Applicant becomes a Party to the Code on the date specified in the Accession Deed.</p> <p>Timing: Within 10 WD of receipt of signed Accession Deed</p> <p>Method: Email</p>	<p>Finding Accepted</p> <p>Execution date on the Accession Deed doesn't match the date the party goes live in the market as we are unable to predict and therefore align the date by which the document becomes fully executed to the date chosen by the participant for the party to become effective in the market</p>

Issue	Effect	SEMO Response
4.3 Unit Registration - Initial Unit Registration Meeting was not conducted within the required timeframe		
<p>For 1 of the 5 samples selected, the Initial Unit Registration Meeting for the purposes of identification of a possible Meter Data Export Date and to agree a target Effective Date was not conducted within the required timeframe. The meeting was conducted 2 working days after the required timeframe.</p>	<p>This represents non-compliance with Agreed Procedure 1, Section 3.2.3 and Step 3.1</p> <p>Step description: Organise and hold initial Unit registration meeting for the purposes of identification of a possible Meter Data Export Date. Agree a target Effective Date.</p> <p>Timing: Within 1 WD of completion of Stage 2</p> <p>Method: Conference Call / Meeting</p>	<p>Finding Accepted</p> <ul style="list-style-type: none"> • We accept this finding, however please note in this case, when we e-mail the participant to arrange a call, they responded to us with a range of different dates for the call to be held. • The completion of this action within 1WD of stage 2 can depend on the availability of those who are required to attend the call
Settlement Production and Reruns		
4.4 Incorrect Reporting of Difference Charge Quantities for a Single Unit		
<p>We identified a number of differences in the calculation of the Day-Ahead Difference Charge Metered Quantity (QMDIFFCDA) for one unit from our sample of 8 sampled settlement dates (for which all units were tested) due to an error in the settlement system. This is an autoproducer unit. Autoproducer units are grouped together for difference charges and the unit which is first alphabetically (in the trading site) is used for issuing the charges. A defect in the system means this rule was applied to the "Account Name" fields rather than the "Charged Account" field and hence the charge was applied to a different unit.</p>	<p>No financial impact in 2023 as this would only impact periods where the imbalance price is greater than the strike price, which did not occur during 2023. There is a negligible impact for the M13 settlement run testing of 2022 dates as the imbalance price was greater than the strike price for only 4 ISPs in 2022.</p>	<p>Accepted.</p>

Issue	Effect	SEMO Response
4.5 Incorrect Determination of Combined Loss Adjustment Factor (FCLAF) for a Single Supplier Unit		
<p>We identified a number of differences in the calculation of FCLAF for one supplier unit from our sample of 8 sampled settlement dates (for which all units were tested). The Market Operator calculated a value of 1 where it should be lower. The Market Operator raised a ticket with their vendor who confirmed this is a defect and is the same error as identified in item 4.7 below.</p>	<p>No financial impact in 2023 as this would only impact periods where the imbalance price is greater than the strike price, which did not occur during 2023. There is a negligible impact for the M13 settlement run testing of 2022 dates as the imbalance price was greater than the strike price for only 4 ISPs in 2022.</p>	<p>Accepted. Vendor confirmed this is a defect and is the same error as reported in "QCNET Calculation - Incorrect LF. Same error as SysAid 347160." i.e. finding 4.7 below.</p> <p>"The function to calculate TSSU and CAU LF which is run as part of Post Value Import has an error in an initialization of a variable."</p> <p>Material impact is minimal.</p>
4.6 Incorrect application of Dispatch Instructions in No Load Cost Calculation and BOA Calculation		
<p>We identified a number of differences in the calculation of CNL for one generation unit for one settlement day from our sample of 8 sampled settlement dates (for which all units were tested) caused by a missing SYNC in pseudo dispatch instructions. This was also identified in QBOA testing as no BOAs were created and CNL was not applied.</p> <p>SEMO have reviewed the differences and agreed the system calculation is not consistent with the Code.</p>	<p>Only found in one unit for sampled date with total impact across all settlement periods on this date of €23,591 in CNL and an underpayment of €860 in CPREMIUM.</p> <p>SEMO have analysed the full audit period and have not identified any further occurrences of the issue over this period therefore the total impact in the period is as noted above..</p>	<p>Accepted (pending confirmation from vendor). Agree with impact assessment and no other occurrences identified at this time.</p>
4.7 Incorrect Loss Factor Applied to capacity aggregation units (CAUs)		
<p>We identified a number of differences in the calculation of Net Capacity Quantity (QCNET) from our sample of 8 sampled settlement dates (for which all units were tested) due to a defect in SEMO systems whereby the Loss Factor (LF) for CAUs is being determined incorrectly.</p>	<p>The quantity impact of the observed differences amounts to 645 MW. This issue only impacts CAUs when the imbalance price is greater than the strike price, which did not occur in 2023.</p> <p>For the M13 resettlement runs from 2022 tested as part of the current period Market Audit, this only happened in 4 ISPs on 12/07/2022 and the total value was CDIFFCNP: -€15,712, CDIFFCWD: -€7,117. The impact of the incorrect Loss Factor is a fraction of these values which is minimal.</p>	<p>Accepted.</p>

Issue	Effect	SEMO Response
4.8 Dispatch Quantity set equal to Metered Quantity for PSUs in pumping mode		
<p>We identified a number of differences in the calculation of Dispatch Quantity (QD) from our sample of 8 sampled settlement dates (for which all units were tested) due to a previously identified defect. The CSB system reports QD as equal to the Metered Quantity (QM) value for Pump Storage Units in pumping mode. This is done for purposes of CUNIMB not applying to Pump Storage Units in pumping or transition mode, as per TSC Part B F.9.4.2. The QD profile used in the QBOA calculation is correct however.</p> <p>This issue was reported in the 2020 Market Auditor Report and later raised as a defect (210568).</p>	<p>No financial impact as the incorrect QD value is not used in further settlement calculations.</p>	<p>Accepted.</p>
4.9 Incorrect application of Actual Availability (QAA) in Dispatch Quantity		
<p>We identified a number of differences in the calculation of QD from our sample of 8 sampled settlement dates (for which all units were tested) as a result of SEMO systems applying different QAA across the INIT and M4 Settlement Runs for the same Imbalance Settlement Period (ISP). This is not expected behaviour and was caused by a processing error at the Market Operator.</p> <p>Following an investigation, it became apparent that the QD data in the M4 matched that off the indicative run, caused by a human error in executing the wrong import job which caused a repull of old indicative data to be brought into CSB for M4.</p>	<p>Total net impact across all units is -3.953MW on sampled dates and monetary impact was €612. As an individual human error there is no impact on other settlement dates.</p>	<p>Accepted.</p> <p>Issue occurred due to a processing error. Material impact is €611.57.</p>
4.10 Incorrect determination of Dispatch Quantity for NI Wind Units for a specific ISP.		
<p>We identified a number of differences for the calculation of Dispatch Quantity in the first imbalance settlement period (ISP) (00:30 end) in various wind units across NI from our sample of 8 sampled settlement dates (for which all units were tested). This difference was as a result of incorrect Dispatch Instructions feeding into the</p>	<p>No financial impact as intention of instructions cannot be determined.</p>	<p>Accepted. The Instruction Profiler correctly calculated DQ based on the DIs received from the TSO. However this DI file contained anomalies, specifically for wind units. SEMO will consider the suggestion of a modification to clarify TSC Appendix O. However, our initial thoughts are that it would not be appropriate to</p>

Issue	Effect	SEMO Response
<p>DQ calculation which were provided by the System Operator.</p> <p>The Dispatch Instructions included 'standing' midnight instructions which did not represent new dispatch instructions and are not expected to be provided by the System Operator. For the affected Wind Units only an MWOFF dispatch instruction was provided without a corresponding wind instruction.</p> <p>In this case, the code does not state how the unit should be profiled. This finding therefore does not represent a non-compliance by SEMO however identifies that consideration should be given to updating the Code (Appendix O) to clarify what action should be taken when calculating QD under this circumstance.</p>		<p>update TSC to account for a situation that should, in theory, never arise and only happened on this occasion due to an error in the data we received from the TSO.</p>

4.11 Non-Firm Access Registration Data Update Error

<p>A number of differences were observed within the Non-Firm Accepted Bid Quantity (QABNF) calculation from our sample of 8 sampled settlement dates (for which all units were tested) as a result of an error applying an update to the Non-Firm flag in the Registration Data. This resulted in QABNF being incorrectly calculated in SEMO systems. SEMO advised that select units were set up as a firm when it should have been fully non firm.</p> <p>A formal query (15083) was raised on 07/03/2023 to correct this and covered the date range 13/02/2022 to 07/03/2023. After formal query 15083 was raised, a script was provided from the vendor to backdate the resource balancing table so that the period prior to 07/03/2023 is now listed as being fully non-firm. For one of our sample testing dates falling in this period it was identified that application of the workaround was missed.</p>	<p>QABNF manual workaround was not applied in M+4 resettlement for three units on six dates across the year prior to the date of fix on 07/03/2023. The impact of missing this workaround is €3,481.</p>	<p>Accepted. QABNF manual workaround was not applied in M+4 resettlement for three units on six dates. Material impact of missing this workaround is €3,481.16</p>
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Issue	Effect	SEMO Response
4.12 Incorrect QBOA calculated for NI Wind Units		
<p>We identified a number of differences in the calculation of Bid Offer Acceptance Quantity (QBOA) from our sample of 8 sampled settlement dates (for which all units were tested) due to SEMO profiling small parts of the ISP as higher than Actual Availability (QAA) where there is a Dispatch Instruction (DI) that is higher than QAA.</p>	<p>Difference across the sampled date was -2.3MWh. Extrapolating for potential other occurrences across the year, a reasonable estimate for the maximum financial impact is -€50,000.</p>	<p>Accepted (pending confirmation from vendor). This has resulted in difference in DQ of -2.314MWh across 9 units on the sampled date. Therefore, we expect the material impact to be minimal.</p>
4.13 Incorrect QBOA calculated for a specific Demand Side Unit.		
<p>We identified a number of differences in the calculation of Bid Offer Acceptance Quantity (QBOA) from our sample of 8 sampled settlement dates (for which all units were tested) due to the Instruction Profiler skipping the unit. The profiler reported an error message, which is attributed to multiple instructions overlapping each other causing OVL pseudo instructions</p>	<p>Monetary impact of this is a €22,120 underpayment in CDISCOUNT on sampled date. No additional examples of this error were identified by SEMO in the period.</p>	<p>Accepted. A ticket has been raised with our vendor. During the Instruction Profiler run on 04/01/2023, this unit received the error message "QBOA Calculation Error - Skipping Unit". Material impact of this is €22,119.71 underpayment in CDISCOUNT.</p>
4.14 Incorrect QBOA calculated for Multi Fuel Units		
<p>We identified a number of differences in the calculation of Bid Offer Acceptance Quantity (QBOA) from our sample of 8 sampled settlement dates (for which all units were tested) where unit has a QAA value of 0MW and therefore should have no associated BOA.</p>	<p>This resulted in overcharging the participant €10 in CAOPO. This issue was noted for one resource unit in 4 ISP across all sampled dates. An extrapolation therefore suggests a reasonable upper limit on the potential impact over the audit period of below €1,000.</p>	<p>Accepted (pending confirmation from vendor). A ticket has been raised with vendor. Resulted in overcharging the participant €10.11 in CAOPO.</p>

Issue	Effect	SEMO Response
Credit Cover Management		
4.15 Default notice not issued within the required timeframe		
<p>For 1 of the 5 samples tested, default notice was not issued to the participants, who failed to comply to the CCIN, within the required timeframe. The notice was issued 7 working days after the required timeframe.</p>	<p>This represents non-compliance with Agreed Procedure 18, Section 3.3.2. Step 1</p> <p>Step description: In the circumstances set out in paragraph B.18.3.2 of the Code, issue a Default Notice in accordance with paragraph B.18.2.3 of the Code</p> <p>Timing: (i) Immediately on becoming aware of a Default in relation to a Party; or (ii) if a Participant fails to comply with a Credit Cover Increase Notice, within 2 WD of its issue (or as agreed by the Regulatory Authorities in accordance with paragraph G.12.1.5 of the Code)</p> <p>Method: Registered post and a copy by email</p>	<p>Accepted finding, default not issued with the TSC Timelines. Further checks from the MO have been introduced to avoid this occurring in the future.</p>
4.16 Credit Cover Increase Notice and Default Notice not issued		
<p>As part of the analysis of the Credit Cover Increase Notices (CCIN) and Default Notices population received, it was noted that at least 3 CCINs and 2 Default notices were not issued by the Market Operator during the audit period.</p>	<p>This represents non-compliance with AP 9, Sec 3.1, Step 5</p> <p>Step description: Confirm issuance of any Credit Cover Increase Notice, rescinding of Credit Cover Increase Notice or Warning Notice to each Participant. If a Credit Cover Increase Notice has been issued and has not been rescinded in accordance with paragraph G.12.1.7 of the code continue to step 6, otherwise end process.</p> <p>Timeframe: Each WD by 17:00</p>	<p>Accepted findings, non-compliant with AP 9. Further checks have been introduced from MO to avoid this occurring.</p>

Issue	Effect	SEMO Response
Settlement Queries		
4.17 Settlement Query submitted to the External Data Provider not within the required timeframe		
<p>For 1 of the 5 queries sampled, the Market Operator did not submit the Settlement Query to the External Data Provider within the timeframe required by the Code. The query was submitted 1 WD after the required timeframe.</p>	<p>This represents non-compliance with AP 13, Section 3.1, Step 14</p> <p>Step description: Send Settlement Query to External Data Provider. Note that the Market Operator may request a manual communication of the estimation of the change to data items which are being queried or may request a full formal update of all data from the External Data Provider over Communication Channel Type 2 Channel or Type 3 Channel.</p> <p>Timing: "Within 3 WD of receiving the Settlement Query"</p> <p>Method: Email / Facsimile</p>	<p>Accepted.</p>
Settlement Reallocation		
4.18 Settlement Reallocation Agreement termination became effective prior to the receipt of the termination request		
<p>For the 1 sample tested, the Market Operator had given effect to the termination of the Settlement Reallocation Agreement prior to the receipt of the termination request. The termination request was received 8 days after the Settlement Reallocation Agreement termination was given effect.</p>	<p>This represents a non-compliance with code AP 10, Section 3.2, Step 4</p> <p>Step description: Give effect to the termination of the Settlement Reallocation Agreement. Update the Market Operator's Isolated Market System to reflect termination.</p> <p>Timing: From the time when the next Settlement Document is issued after the later of the termination time specified in the termination request at step 1 (if any) and 20 WD following the Market Operator receiving the termination request at step 1</p> <p>Method: Email / Facsimile</p>	<p>Accepted findings, non-compliant with AP10. The Credit Team have introduced further checks to avoid this occurring.</p>

Issue	Effect	SEMO Response
4.19 Process activity documentation not located		
<p>We noted the following instances from our testing where the MO was unable to locate specific process activity documentation to evidence that the required process steps / activity had been followed as required by the Code:</p> <p>a) For the 1 sample tested, the MO could not provide evidence to show that they provided notification of the termination of the Settlement Reallocation Agreement to the Secondary Participant.</p> <p>b) For the 1 sample tested, the MO could not provide evidence to show that they issued notification of the acceptance or rejection of the Settlement Reallocation Agreement to the Secondary Participant.</p>	<p>a) This represents non-compliance with code AP 10, Section 3.2, Step 5</p> <p>Step description: Provide notification of the termination of the Settlement Reallocation Agreement.</p> <p>Timing: Within 2 WD of termination of Settlement Reallocation Agreement</p> <p>b) This represents non-compliance with code AP 10, Section 3.1, Step 8</p> <p>Step Description: Issue notification of the acceptance or rejection of the Settlement Reallocation Agreement, detailing results of validity check.</p> <p>Timing: -</p> <p>Method: Email / Facsimile</p>	<p>Accepted findings, non-compliant with AP 10. Future checks have been introduced to avoid this occurring.</p>
Communication channels, systems, and operation		
4.20 Agreed Procedure 3 - Communication Channel Qualification		
<p>For 3 out of 5 samples selected, we determined that the Market Operator provided details of the tests required and fixed scripted schedule of test after more than 3 working days post the request to perform Communications Channel testing submitted by the Party.</p>	<p>This represents non-compliance with 2.2 Communication Channels Qualification Testing which requires the market operator to notify Party of tests required and fixed scripted schedule of test within 3 working days.</p>	<p>Accepted. The team are to be reminded of the requirement to issue the pack in a timely manner upon receipt of request.</p>
4.21 Agreed Procedure 5 - Data Storage and IT Security		
<p>For 5 out of 14 leavers, we identified a delay in access revocation ranging between 10-17 working days. Access was not removed in a timely manner, i.e. 5 working days post HR termination date.</p>	<p>This represents non-compliance with 2.4.2 Market Operator User Access Management where the user access revocation should be completed within defined timelines.</p>	<p>Accepted. The team are to be reminded of the requirement to action leaver requests in a timely manner upon receipt of request.</p>

Issue	Effect	SEMO Response
4.22 Agreed Procedure 11 - Market System Operation, Testing, Upgrading and Support		
<p>We identified that Help Desk requests are not classified into General Urgent Query, General Important Query and General Standard Query as required in the AP3 paragraph 2.1.4 Helpdesk Requests - Category 3, 4 and 5. All the requests are marked as General Standard Query. There is no formal documentation or procedure in place to guide the help desk operators to classify the requests in the right category and thus the prioritisation of response guidelines is not followed.</p>	<p>This represents non-compliance with 2.1.4 Helpdesk Requests - Category 3, 4 and 5 which requires the market operator to maintain a criteria for classifying a query which is defined in consultation with Participants and are kept in a list maintained by the Helpdesk.</p>	<p>The Stakeholder Engagement Team accepts this finding. We did not meet the June modification meeting, we are aiming to submit the housekeeping modification before the end of this year, to have all general queries classified as General Standard Query. We believe without this modification, our KPI will not be reported accurately. We will continue to investigate the best option.</p>
4.23 AP11: Publication of Market Release Timetable and Plan		
<p>The Market Operator did not publish a Release Timetable and Plan for 2023.</p> <p>In addition as the Release Plan for 2023 was not published, we were unable to perform testing against certain aspects of the agreed procedure AP11 items 2.2.4 Testing and 2.2.5 Implementation Procedures which are reliant on the Release Plan.</p>	<p>This represents non-compliance with AP11 2.2.2 - Release Management (Scheduled Releases) where each year, before the final Working Day in June, the Market Operator shall provide all Parties with a Release Timetable and Release Plan for the following year that identifies the dates for Scheduled Releases of the Market Operator's Isolated Market System.</p>	<p>Finding is accepted and we will review the process to ensure it happens on a yearly basis.</p>
4.24 AP7: General Communication Failure notification		
<p>As per General Communication Failure(GCF) Procedure Step 4 impacted parties should be notified of a best estimate when the Market Operator Isolated Market System will be available.</p> <p>For the GCF that occurred in March 2023 notification of the GCF was raised on 21.03.2023 at 14.00 This stated a further update would be provided 'as soon as possible'. A best estimate of when the MO system would be available was not quantified.</p>	<p>This represents non-compliance 3.2 General communication Failure Step 4 where Market Operator is responsible to notify all impacted Parties of best estimate of when the Market Operator's Isolated Market System shall be restored.</p>	<p>Finding accepted. This requirement will be reiterated to the team and applied in any future cases.</p>

5 Follow up on prior year issues

The following table provides an update on the status of findings raised in the 2022 Market Audit Report, note this report was issued 16 November 2023. Updates on findings that were not Resolved were provided by SEMO.

Title	2022 Classification	2023 Status (as per Market Operator)	Market Operator Update (where not resolved)
Settlements Production and Reruns			
Incorrect Application of Start Up Costs for DSUs	Significant	Resolved	
Incorrect Application of Complex Order Flag	Significant	Resolution in progress	SEMO is liaising with RAs on a modification to clarify the rules and wording on this section of the Code. Workaround currently in place to apply CSU/CSUR if any ISP in PPOP/MPOP is settled on Complex COD. No further instances of this issue were noted in our 2023 testing.
Non-Firm Access Registration Data Update Error	Significant	Resolved	
Accession and Registration			
Unit Registration – Initial registration meeting was not conducted as per the timeline requirement	Other Matter	Resolved	
Party Registration – Fully Executed Accession Deed not submitted to Applicant within the required timeframe	Other Matter	Resolution in progress	Modification request was submitted but rejected. The Process/Procedure document and the Accession Deed require legal approval. See related finding 4.1 above for 2023 period.

Title	2022 Classification	2023 Status (as per Market Operator)	Market Operator Update (where not resolved)
Settlements Production and Reruns			
Incorrect Profiling of Dwell Time on Closing of Instruction Profile	Other Matter	Resolved	
Incorrect determination of Heat State in Recoverable Start Up Cost Calculation	Other Matter	Resolution in progress	<p>Settlement team are aware of additional checks required before beginning processing following system update.</p> <p>No further instances of this issue were noted in our 2023 testing.</p>
Incorrect Determination of Price-Quantity Bands in Bid Offer Acceptance Price Calculation	Other Matter	Resolved	
Incorrect Commissioned Capacity Recorded for a Single Unit	Other Matter	Resolution in progress	<p>To Prevent this from happening again we have deployed second checks and distributed the work in smaller batches (as per categories of capacity) to identify if any unit has been missed which changing the dates and status in MPI. Alternatively, we are also working on an interface which will enable Capacity Market Team to send the ROs to CSB automatically but implementation of this will take time, till then we have to keep working as is.</p> <p>No further instances of this issue were noted in our 2023 testing.</p>
Incorrect Loss Factor Applied to CAUs	Other Matter	Open	See related finding 4.7 above for 2023 period.
Incorrect determination of Demand Side Non-Delivery Percentage	Other Matter	Open	<p>The underlying calculation has not changed, however as noted in the 2022 Market Audit Report this factor does not impact any settlement calculations.</p> <p>No further instances of this issue were noted in our 2023 testing as the issue only impacts periods where the imbalance price is greater than the strike price, which did not occur during 2023.</p>

Title	2022 Classification	2023 Status (as per Market Operator)	Market Operator Update (where not resolved)
Error in setting Priority Dispatch in the Registration Process	Other Matter	Resolved	
Incorrect QBOA calculated for NI Wind Units	Other Matter	Open	Defect not yet prioritised for a release. See related finding 4.12 above for 2023 period.
Dispatch Quantity set equal to Metered Quantity for PSUs in pumping mode	Other Matter	Open	See related finding 4.8 above for 2023 period.
Incorrect application of Actual Availability (QAA) in Dispatch Quantity	Other Matter	Open	Defect not yet prioritised for a release. No further instances of this issue were noted in our 2023 testing.
Incorrect Heat State applied in Dispatch Quantity	Other Matter	Resolution in progress	Settlement team are aware of additional checks required before beginning processing following system update. No further instances of this issue were noted in our 2023 testing.
Incorrect Application of Curtailment Instruction in Dispatch Quantity	Other Matter	Open	No further instances of this issue were noted in our 2023 testing.
Incorrect Commercial Offer Data (COD) selection	Other Matter	Resolved	
Incorrect ordering of Curtailment Instructions	Other Matter	Open	On hold. Scheduling & Dispatch Project in progress with potentially conflicting changes.
Trading Site Unit Loss Factors incorrectly applied to Capacity Aggregation Units	Other Matter	Resolved	
Difference Charge Quantity reporting issue	Other Matter	Open	See related finding 4.4 above for 2023 period.
Incorrect determination of Difference Charge Quantities	Other Matter	Open	See related finding 4.4 above for 2023 period.

Title	2022 Classification	2023 Status (as per Market Operator)	Market Operator Update (where not resolved)
Queries and Disputes			
Settlement Query submission to the External Data Provider submitted not within the required timing	Other Matter	Open	See related finding 4.17 above for 2023 period.
Invoices, payments and credit cover			
Credit Cover Management – Default notice was issued earlier than the required timeframe	Other Matter	Resolved	
Information and Publication			
Disaster Recovery Plan was not submitted to the Regulatory Authority	Other Matter	Resolved	
Proposals for the parameters was not submitted to the Regulator as per the required timeframe	Other Matter	Resolution in progress	<p>In their prior year response SEMO had identified an intent to raise a modification in relation to the definition and use of Year vs Tariff Year in the relevant paragraphs of the Code</p> <p>SEMO would note that consideration has been given to modification to the TSC in this regard. However, it would not be as simple as replacing every reference to 'Year' with 'Tariff Year'. A review of each clause where such a change is proposed would need to be looked at and considered by reference to underpinning algebra, interlinkages in the TSC and CMC, and the systems and dependency on inputs outside of the TSC (e.g. Demand Forecasts).</p> <p>Such a mod would also need to be mindful that the TSC also employs 'year' in the lower case in some 200 instances excluding subscripts etc. 'year' being per A.4.1.1(g) 'a period of 12 months', and any proposed modification of any terms would need to be assessed to ensure they did not have an inadvertent impact on operational clauses elsewhere in the TSC.</p>

Title	2022 Classification	2023 Status (as per Market Operator)	Market Operator Update (where not resolved)
Communication channels, systems and operation			
Market System Operation, Testing, Upgrading and Support	Other Matter	Resolution in progress	We are aiming to submit the housekeeping modification before the end of this year. See related finding 4.20 above for 2023 period.
Communication Channel Qualification	Other Matter	Open	See related finding 4.20 above for 2023 period.



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