

I-SEM 2022/23 T-4 Capacity Auction Independent Auction Monitor Report

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Commission for Regulation of Utilities and the Northern Ireland Authority for Utility Regulation



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CONTENTS

Importa	int notice	2
I. Inc	lependent assurance report	4
1.1.	Scope of this report	4
1.2.	Our approach	5
1.3.	Inherent limitations	5
1.4.	Conclusions	5
1.5.	Use of the report	5
2. Ba	ckground and Context	7
2.1.	Background	7
2.1	.I. Our role as Capacity Auction Monitor	7
2.2.	Objectives and scope	7
2.3.	Scope exclusions	8
3. Au	ction Results	9
4. Sui	mmary of issues identified with the Capacity Auction Process	18
4.1.	Further Considerations	19
4.1	.I. Chapter L: Data and information systems	19
4.2.	Applications for Review	19
4.3.	Publication of FAIP	20
4.4.	Publication of Final Qualification Results	20
4.5.	SO-generated Capacity Auction Offers	20
4.6.	Publication of Capacity Auction Results	21
Append	lix A Summary of work performed	22
Append	lix B Summaries of observed issues resulting from the Capacity Auction	25
B.1.	Issue Log 011	25
B.2.	Issue Log 012	26
B.3.	Issue Log 014	27
B.4.	Issue Log 015	28



I. INDEPENDENT ASSURANCE REPORT

This report sets out our conclusions in relation to the monitoring of the processes and procedures followed by the System Operators (EirGrid and SONI Ltd; SOs) in conducting the Capacity Market Auction for the 2022/2023 T-4 Capacity Auction, with respect to Capacity Auction Submissions submitted between Thursday 21/03/2019 10:00 and 28/03/2019 10:00, to ensure that it has been correctly carried out in accordance with the SOs' obligations under the Capacity Market Code (CMC).

Our monitoring duties have been carried out using the International Standard Assurance Engagements (ISAE) 3000 (Revised) "Assurance Engagements Other than Audits or Reviews of Historical Financial Information" issued by the International Federation of Accountants (IFAC).

I.I. SCOPE OF THIS REPORT

This report is produced in accordance with the terms of our engagement contract, dated 14th November 2017, for the purposes of reporting to the Regulatory Authorities – the Commission for Regulation of Utilities (CRU) and the Northern Ireland Authority for Utility Regulation (UR) – in connection with CEPA's arrangement as the Capacity Auction Monitor for the I-SEM Capacity Market Auctions.

Under the CMC, the SOs have various obligations with respect to qualification for and conducting of the Capacity Auctions. These obligations apply to Capacity Auctions which the SOs are required to satisfy under the CMC. The latest version of the CMC and its associated procedures are available here:

https://www.semcommittee.com/news-centre/publication-i-sem-crm-capacity-market-code-decision

Approved and pending modifications to this version of the CMC are available here:

https://www.sem-o.com/rules-and-modifications/capacity-market-modifications/

CEPA's role as the appointed Capacity Auction Monitor for the I-SEM is to provide independent assurance to the market and the Regulatory Authorities (RAs) that the SOs have correctly carried out their obligations under the CMC in respect of qualification for, and running of, Capacity Auctions, as set out in the Terms of Reference for the Capacity Auction Monitor.

We monitored the processes and procedures followed by the SOs for the Capacity Auction, as far as possible, in accordance with our Terms of Reference for this engagement. We provide our conclusions (in Section 1.4 below) in relation to compliance with the CMC based on our obligations. This report is provided in accordance with Section B.10.4 of the Capacity Market Code, which sets out the requirement for the Capacity Auction Monitor to provide a report to the RAs:

- confirming the list of Participants with Capacity Market Units that have been allocated Awarded Capacity;
- stating whether or not the Capacity Auction Monitor considers that the Capacity Auction was conducted in accordance with this Code; and
- identifying any of the SOs' actual or potential non-compliance with the CMC.



4

¹ SEM Committee (2017): 'Capacity Remuneration Mechanism – Terms of Reference for the Capacity Market Auditor and Capacity Auction Monitor', SEM-17-023.



Note that, except where expressly stated, we did not audit or otherwise verify the information provided to us by the SOs in the course of our work. A separate Capacity Market Auditor is required to be in place under the CMC with its obligations set out within the Capacity Market Auditor Terms of Reference. For the avoidance of doubt, CEPA would like to make clear that we are a professional economic advisory firm and not professional accountants.

I.2. OUR APPROACH

We developed a set of protocols and analytical tools to monitor the processes and procedures followed by the SOs for the Capacity Auction.

In carrying out our duties, we have followed a system of quality control, professional conduct and ethical behaviour which we consider to be of a standard at least as demanding as that required by ISAE 3000 (Revised). This includes documented policies and procedures related to our monitoring activities, leadership responsibilities for quality control in the firm, independence and ethical requirements and management of human resources.

We have performed our work as the appointed Capacity Auction Monitor based on our fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

I.3. INHERENT LIMITATIONS

Our conclusions are based on historical information. The projection of any information or conclusions in the attached report to any future periods would be inappropriate.

Our examination excludes audit procedures and accordingly we do not express an audit opinion on the information. We note that the procedures we performed were not designed to and are not likely to reveal fraud.

An outline of the work we performed for the Capacity Auction is included in Appendix A.

I.4. CONCLUSIONS

Our conclusions in this report reflect reasonable assurance.

We believe that the procedures performed, and the evidence obtained, provide us with a reasonable basis that, except for the matters described in Section 4 of our report, the Capacity Auction was conducted by the SOs in accordance with the requirements of the CMC.

Actual and potential instances of non-compliance are summarised in Section 4.

1.5. USE OF THE REPORT

This report has been prepared for the exclusive use of the RAs in accordance with the scope of our engagement contract and the RAs' Terms of Reference for the Capacity Auction Monitor.

Our work has been undertaken solely for the purpose of assessing that the SOs have correctly carried out the obligations placed on them under the CMC in carrying out the Capacity Auction. Our work was not planned or conducted with any other objective in mind, and so cannot be relied on for any other purpose. With the exception of providing it to the RAs and the SOs, and publishing it on the SEM Committee website, our report is not to be recited or referred to in any document, copied or made available (in whole



or part) to any person without our prior written express consent. To the fullest extent permitted by law, CEPA does not accept or assume responsibility to anyone, other than the RAs, for this report or for the conclusions we have formed.

Cambridge Econoric Policy Associates

Cambridge Economic Policy Associates Ltd London, United Kingdom 13th May 2019



2. BACKGROUND AND CONTEXT

2.1. BACKGROUND

In the I-SEM Capacity Market, capacity providers sell qualified capacity to the market to meet the capacity requirement in a future capacity year. Capacity providers who are successful in the Capacity Auction receive a regular capacity payment that assists with funding generation capacity and, in return, they have an obligation to generate when the system is stressed.

The operation of the Capacity Market and the roles and responsibilities of the market operator – split jointly between the SOs and Single Electricity Market Operator (SEMO) – are governed by the CMC and the Trading and Settlement Code.

2.1.1. Our role as Capacity Auction Monitor

The Terms of Reference for the Capacity Auction Monitor state that:

"The purpose of the Capacity Auction Monitor is to provide independent assurance to the market and the Regulatory Authorities that the System Operators' are correctly carrying out their obligations under the Capacity Market Code (CMC) in respect of qualification for and running of Capacity Auctions." and that:

"The Capacity Auction Monitor ("the Monitor") will be responsible for assuring the processes associated directly with Capacity Auctions, i.e. from the start of qualification through to the determination of the final auction results."

As Capacity Auction Monitor, we are required to produce a Report on the Capacity Auction, within two Working Days after the SOs have submitted the provisional Capacity Auction Results to the RAs, that:

- confirms the list of Participants with Capacity Market Units that have been allocated Awarded Capacity;
- states whether or not the Capacity Auction Monitor considers that the Capacity Auction was conducted in accordance with the CMC; and
- where applicable, identifies any actual or potential non-compliance with the CMC or other actual
 or potential irregularity in the conduct of the Capacity Auction, together with the Capacity Auction
 Monitor's assessment as to the likely consequences of the actual or potential noncompliance or
 irregularity.

This report summarises our findings in relation to the Capacity Auction run by the SOs on 28/03/2019.

2.2. OBJECTIVES AND SCOPE

The CMC paragraph B.10.2.1 sets out that:

"The Capacity Auction Monitor shall monitor the processes and procedures followed by the System Operators in carrying out the Qualification Process, conducting Capacity Auctions and related activities under this Code, in accordance with the terms of reference determined by the Regulatory Authorities."

The basic tasks set out for the Capacity Auction Monitor are:

- monitoring the Qualification Process to ensure that the SOs have complied with the CMC;
- being present at the auctions, with full read access to all key software, including access to all bids and all communications between the SOs and all bidders;



- monitoring the application of algorithms and calculations;
- reporting on whether it considers that the SOs have conducted the Capacity Auction in accordance with the CMC;
- identifying any actual or potential breach of the rules and regulations or other actual or potential irregularities in the conduct of the Capacity Auction by the SOs and an assessment of the consequences; and
- making recommendations on the changes to the CMC, Auction Guidelines and User Guides.

As Capacity Auction Monitor, we are required to report on all issues that we identify, irrespective of materiality.

Explicitly considered as within scope of the role of the Capacity Auction Monitor is to monitor compliance with the methodology employed by the SOs to determine Locational Capacity Constraints (LCCs) in the auction process (as referred to in Sections C.2 and F.4 of the CMC). Also, explicitly within scope is monitoring the application of the capacity auction algorithm used by the SOs to clear the Capacity Auction.

2.3. SCOPE EXCLUSIONS

In line with our Terms of Reference, the scope of our review excluded the following:

- Secondary trading arrangements (referenced specifically within Chapter H of the CMC).
- Direct investigation of market manipulation: However, the Terms of Reference state that the Capacity Auction Monitor should bring any incidents of potential market manipulation to the attention of the RAs, should it come across them in carrying out its duties.
- The determination of the LCCs and their underlying methodology: The Capacity Auction Monitor's scope in relation to LCCs is limited to assessing compliance by the SOs with the methodology for determining LCCs, including accordance with relevant procedures and process documentation.
- Auditing of the processes carried out by the SOs: The CMC requires a Capacity Market Auditor to
 be appointed separately from the Capacity Auction Monitor. Under our Terms of Reference we
 are not required to carry out an audit of the processes followed, or information provided, by the
 SOs in running the auction.
- Monitoring of compliance with obligations of Section L.7 of the CMC regarding SO reporting of REMIT Data on behalf of Participants.



3. AUCTION RESULTS

The Capacity Auction Submission Commencement date for the T-4 Auction was at 10:00 on 21st March 2019.

The Capacity Auction Submission End date took place at 10:00 on 28th March 2019. The Capacity Auction Run Start occurred at 12:00 on 28th March 2019 and was completed within a minute of initiation. The auction clearing process was completed within the 24-hour Allowed Timeframe.

The Capacity Auction was run using the Capacity Market Platform (CMP) version 1.1.0.11 according to information displayed in the CMP. The SOs provided the Monitor with the latest Capacity Auction Software certification report for version 1.1.0.10 of the CMP. The SOs have informed the Monitor that the latest CMP version includes a change to the user interface to correct an issue identified during the Mock Auction but there were no changes to the auction algorithm that was subject to certification testing.

In line with the Final Auction Information Pack (FAIP), the parameters of the Demand Curve used in the 2022/23 T-4 Auction are set out in Table 3.1.

Table 3.1: Final Demand Curve used in the Capacity Auction, as in FAIP 2022/23 T-4

De-Rated Capacity (MW)	Demand Curve Point (€/MW per year)
0	138,450
6,205	138,450
6,770	92,300
7,898	0

The capacity requirements to satisfy LCC requirements were as set out in Table 3.2.

Table 3.2: LCCs and minimum MW required, as in FAIP 2022/23 T-4

LCC Area Name	Minimum MW
LI-I: Northern Ireland	1,754
L1-2: Ireland	5,537
L2-1: Greater Dublin	1,682

A total of 179 offers were submitted from 112 CMUs (out of a total of 133 qualified CMUs) with the total capacity offered equal to 9,887.705 MW.

A total of 7,412.448 MW cleared in the auction with 93 CMUs being awarded capacity. The Auction Clearing Price was €46,150/MW per year (£43,030.26/MW per year).

In the unconstrained solution, a total of [>] MW of capacity was scheduled. The Price Setting Offer in the unconstrained solution was an inflexible offer. Based on the amount of capacity in-merit in the unconstrained solution, two of the LCCs (LI-I: Northern Ireland and L2-I: Greater Dublin) were not satisfied.

In the constrained solution an additional [\times]MW of capacity (net) was cleared, made up of [\times]MW removed and [\times]MW added as compared to the unconstrained solution. All of these added/removed



offers were for existing units, were inflexible and had a duration of I year. All LCC minimum MW requirements were satisfied in the constrained solution.

Previous I-SEM Capacity Auctions involved clearing additional capacity to satisfy LCC minimum MW requirements where relevant, but this Capacity Auction involved additional steps to 'remove' some capacity that was scheduled in the unconstrained solution. These steps were implemented as a result of a recent CMC Modification that affects the Interim Auction Solution Methodology, and which was required to comply with the State Aid decision to disallow the clearing of additional capacity to resolve local capacity constraints within an auction. ² Table 3.3 shows the relevant quantities.

Table 3.3: Summary of changes between the unconstrained and the constrained solution

CMU ID	Capacity Type	LCC Area	Offered Quantity (MW)	Cleared Q in unconstrained solution (MW)	Cleared Q in constrained solution (MW)	Difference (MW)
[%]	[×]	[×]	[%]	[×]	[%]	[%]
[%]	[×]	[%]	[%]	[×]	[%]	[×]
[%]	[%]	[%]	[%]	[×]	[×]	[×]
[%]	[%]	[%]	[%]	[×]	[×]	[×]
[%]	[%]	[%]	[%]	[×]	[×]	[×]
[%]	[×]	[%]	[%]	[×]	[×]	[%]
Total capacity of these units				[×]	[%]	[×]
Total for the entire Capacity Auction				[%]	[×]	[×]

The offers that were entirely cleared only in the constrained solution ([%] and [%]) were cleared at their respective offer prices of [%]/MW per year and [%]/MW per year, compared to the auction clearing price of $\{46,150\}$ /MW per year (£43,030/MW per year). [%] was also cleared in the constrained solution but its offer price was [%].

Based on the outcome of the T-4 Auction, Table 3.4 lists the participants and corresponding CMUs that have been awarded capacity.

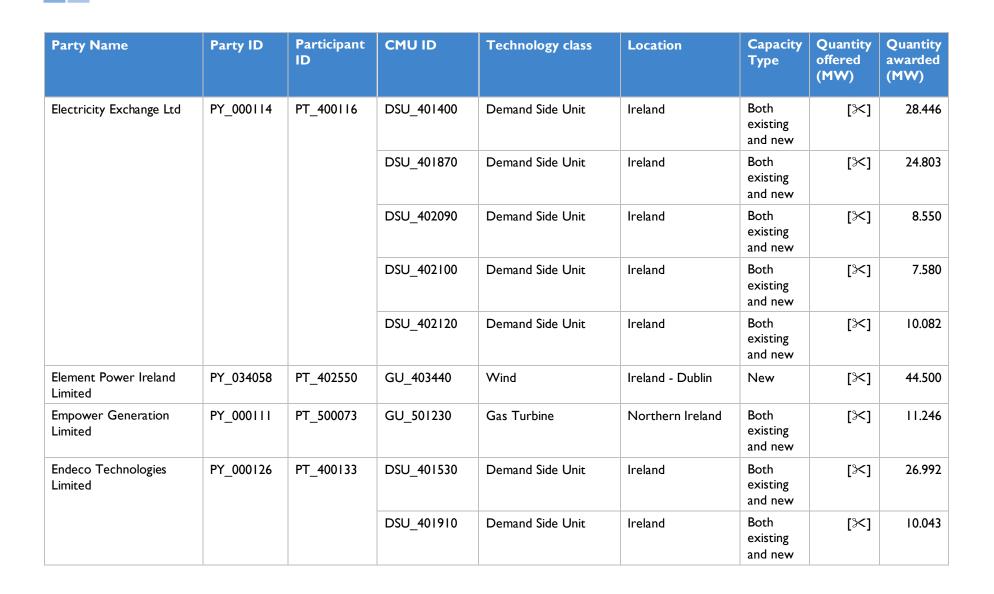
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² SEM-O (2019) "Capacity Market Code Urgent Modifications Set 2: Decision Paper"

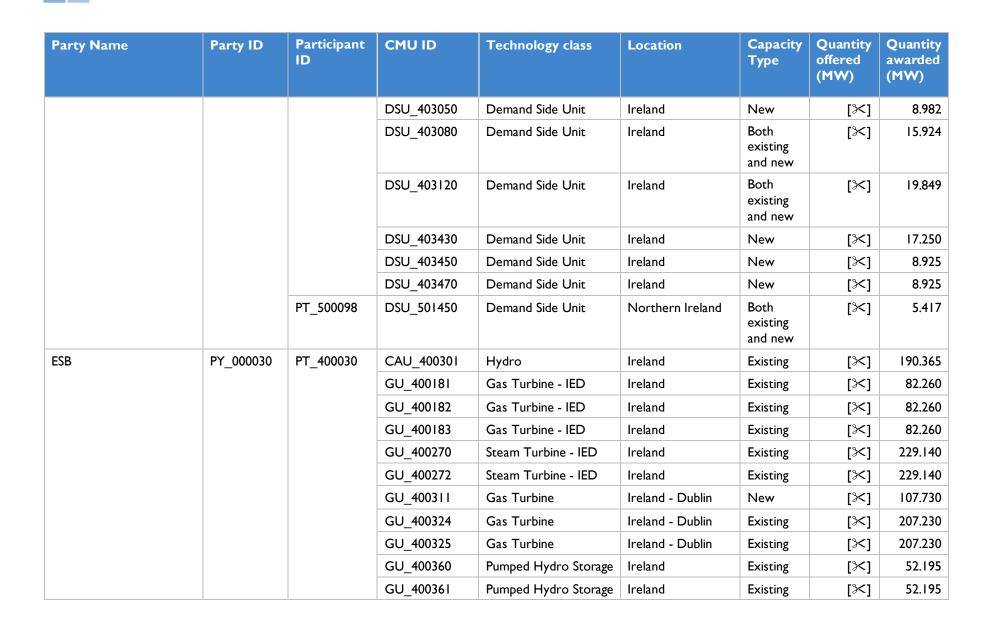


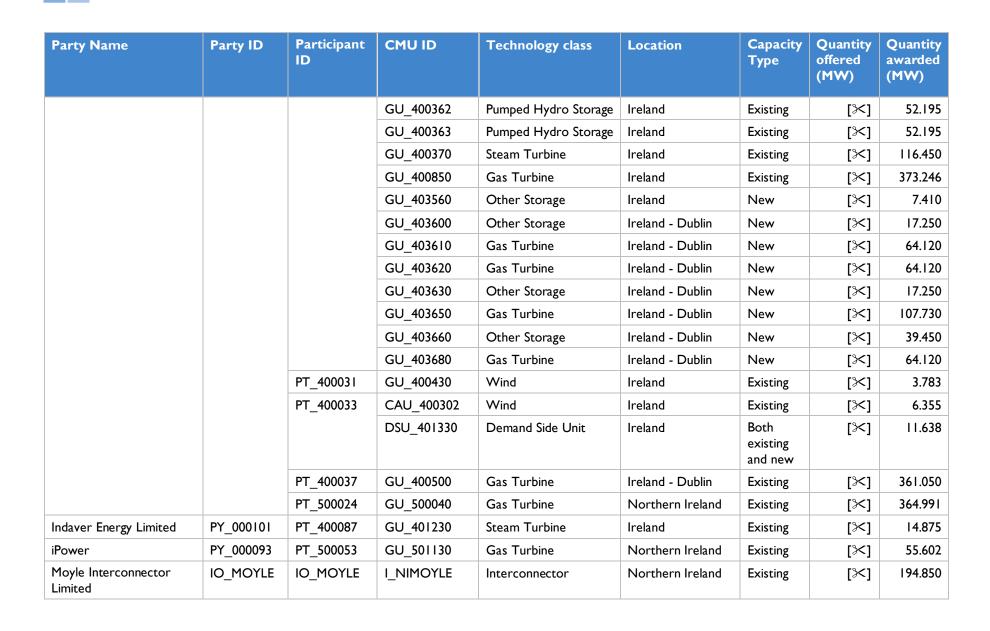
Table 3.4: List of participants and CMUs provisionally awarded capacity in the T-4 Capacity Auction for the Capacity Year 2022/23

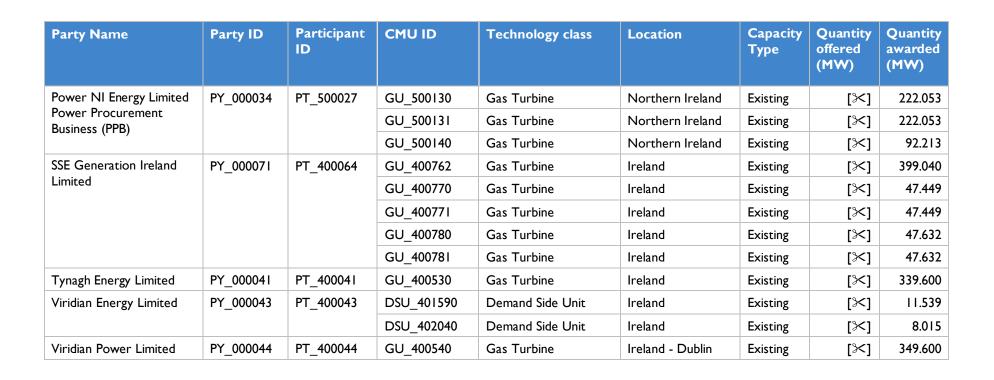
Party Name	Party ID	Participant ID	CMU ID	Technology class	Location	Capacity Type	Quantity offered (MW)	Quantity awarded (MW)
AES Ballylumford Limited	PY_000056	PT_500040	GU_500283	Gas Turbine	Northern Ireland	Existing	[※]	53.128
			GU_500284	Gas Turbine	Northern Ireland	Existing	[%]	53.128
AES Kilroot Power	PY_000070	PT_500045	GU_500820	Gas Turbine	Northern Ireland	Existing	[%]	38.156
Limited			GU_500821	Gas Turbine	Northern Ireland	Existing	[×]	38.156
			GU_500822	Steam Turbine - IED	Northern Ireland	Existing	[%]	207.781
			GU_500823	Steam Turbine - IED	Northern Ireland	Existing	[×]	209.946
			GU_500824	Gas Turbine	Northern Ireland	Existing	[%]	26.622
			GU_500825	Gas Turbine	Northern Ireland	Existing	[%]	26.622
Aughinish Alumina Ltd	PY_000024	PT_400024	GU_400120	Gas Turbine	Ireland	Existing	[%]	52.681
			GU_400121	Gas Turbine	Ireland	Existing	[%]	52.681
Bord Gais ROI	PY_000027	PT_400028	GU_400930	Gas Turbine	Ireland	Existing	[%]	383.616
BRI Green Energy Limited	PY_000068	PT_400062	GU_401720	Wind	Ireland	Existing	[%]	1.602
Contourglobal Solutions		PT_500048	GU_500900	Gas Turbine	Northern Ireland	Existing	[%]	2.770
(Northern Ireland) Limited			GU_500904	Gas Turbine	Northern Ireland	Existing	[%]	11.110
Cushaling Power Ltd	PY_000083	PT_400078	GU_401010	Gas Turbine	Ireland	Existing	[%]	53.128
			GU_401011	Gas Turbine	Ireland	Existing	[%]	53.128
Dublin Waste to Energy Supply Ltd.	PY_000152	PT_400198	GU_402030	Steam Turbine	Ireland - Dublin	Existing	[%]	53.198
Edenderry Supply Co	PY_000147	PT_400169	GU_401860	Steam Turbine - IED	Ireland	Existing	[×]	100.522
EirGrid Interconnector Designated Activity Company	PY_000097	IO_EIDAC	I_ROIEWIC	Interconnector	Ireland	Existing	[%]	209.500











The participants listed in Table 3.5 submitted offers for CMUs in the T-4 Auction but were **not** awarded any capacity.

Table 3.5: List of participants provisionally not awarded capacity in the T-4 Capacity Auction for the Capacity Year 2022/23

Party Name	Party ID	Participant ID	CMU ID	Technology class	Location	Capacity Type	Quantity offered (MW)	Quantity awarded (MW)
Belfast Power Limited	PY_034055	PT_502506	GU_503220	Gas Turbine	Northern Ireland	New	[%]	0.000
ESB	PY_000030	PT_400030	GU_400240	Steam Turbine	Ireland	Existing	[%]	0.000
			GU_400271	Steam Turbine - IED	Ireland	Existing	[×]	awarded (MW)
			GU_403670	Gas Turbine	Ireland - Dublin	New	[※]	
		PT_500024	GU_500041	Gas Turbine	Northern Ireland	Existing	[※]	0.000
Grange Backup Power Limited	PY_034059	PT_402551	GU_403450	Gas Turbine	Ireland - Dublin	New	[%]	0.000
Greener Ideas Ltd	PY_034060	PT_402552	GU_403460	Gas Turbine	Ireland - Dublin	New	[×]	0.000
Huntstown Power Company	PY_000033	PT_400035	GU_400480	Gas Turbine	Ireland - Dublin	Existing	[%]	0.000
Low Carbon Storage	PY_034061	PT_502507	GU_503230	Other Storage	Northern Ireland	New	[%]	[%] 0.000 [%] 0.000
Ireland Limited			GU_503240	Other Storage	Northern Ireland	New	[%]	
Powerhouse Generation	PY_000128	PT_400144	DSU_401660	Demand Side Unit	Ireland	Existing	[×]	0.000
Limited		PT_500078	DSU_501330	Demand Side Unit	Northern Ireland	Existing	[×]	0.000
SSE Generation Ireland	PY_000071	PT_400064	GU_400750	Steam Turbine - IED	Ireland	Existing	[×]	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
Limited			GU_400751	Steam Turbine - IED	Ireland	Existing	[%]	0.000
			GU_400752	Steam Turbine - IED	Ireland	Existing	[×]	0.000
			GU_400753	Steam Turbine - IED	Ireland	Existing	[×]	0.000
Viridian Energy Limited	PY_000043	PT_400043	GU_403510	Gas Turbine	Ireland - Dublin	New	[%]	0.000
			GU_403520	Gas Turbine	Ireland - Dublin	New	[×]	0.000
			GU_403530	Other Storage	Ireland - Dublin	New	[%]	0.000



4. SUMMARY OF ISSUES IDENTIFIED WITH THE CAPACITY AUCTION PROCESS

We performed our role as Capacity Auction Monitor in relation to the 2022/23 T-4 Capacity Auction, which took place on 28/03/2019, in line with our obligations to monitor the conduct of the SOs in operating the Capacity Auctions. In carrying out such duties, we identified four issues that we consider constitute non-compliance with the CMC, noting our obligation to report all issues to the RAs irrespective of materiality.

The table below sets out a high-level summary of actual or potential instances of non-compliance identified within the Capacity Auction process.

Table 4.1: Summary of issues identified within the Capacity Auction process³

Issue number	Description of issue
011	The SOs are required to inform Participants of changes to the Provisional Qualification Results (PQR), as published on the Provisional Qualification Results Date. In one case, a Capacity Market Unit's (CMU's) Net Firm Offer Requirement changed between the original published PQR and the PQR viewable on the CMP at the time the Capacity Auction took place. We consider that the CMC requires that the SOs notify a Participant of such changes, but no notification was given.
012	The CMC requires the SOs to inform the RAs of the final determination of the Locational Capacity Constraints at the same time as submitting the Final Qualification Decisions. The SOs did not provide the RAs with these parameters when submitting the Final Qualification Results.
014	An Application for Review lodged by Participant [$>$] for [$>$] was initially rejected by the SOs based on the fact that no valid application for connection existed in respect of this new capacity. The decision was subsequently reversed and the Application for Review accepted based on updated information regarding the unit's connection application. The final outcome was notified to the Participant after the Application for Review notification of outcome date specified in the Capacity Auction Timetable as required under CMC E.9.3.5.
015	The CMC requires that the RAs approve the Alternative Auction Solution Methodology (CMC M.6.1.2), and any amendments (CMC M.6.1.3), where this is used to clear the auction. The Interim Auction Solution Methodology (IASM) for the 2022/2023 T-4 Auction was approved by the SEM Committee (SEMC) on 6 th March 2019. This version of the IASM set out a value for the N parameter equal to 5. The SOs had noted in an email to the RAs that the value was subject to further testing. An amendment to the IASM was subsequently introduced by the SOs to ensure that the auction algorithm solves within the Allowed Timeframe of 24 hours by reducing the N parameter to a value of 4. The SOs considered this was a prudent approach to adopt. The RAs were aware of this amendment to the IASM, but did not explicitly approve it. Additionally, CMC M.6.1.5 requires that the Final Auction Information Pack (FAIP) shall specify whether the Alternative Auction Solution Methodology applies and also contain a description of the methodology. The FAIP referenced that the IASM would apply, but the IASM description was published at a later date.

³ Issue numbers are assigned to potential instances of non-compliance as they are identified. Issue numbers missing from the table (e.g. Issue 013) may reflect issues investigated as part of the 2022/23 T-4 Monitor's Qualification Report, or may reflect issues that have been investigated and determined not to represent non-compliance with the CMC.

18



4.1. FURTHER CONSIDERATIONS

4.1.1. Chapter L: Data and information systems

Chapter L of the CMC sets out the SOs' requirements in relation to data and information systems, including communication between SOs and Participants, any system failures which affect the qualification or auction process, as well as publication of auction data in relation to the qualification or auction process. We do not monitor all communications between SOs and Participants, but rather rely primarily on the SOs and RAs to notify us when issues arise. This is supplemented by onsite monitoring during the auction process.

We did not witness any communications failures (Section L.4 of the CMC) in relation to the T-4 Auction. In addition, SOs notified us directly during our site visit that no communications failures occurred.

In addition to participants being able to submit offers on the Capacity Market Platform, the SOs provide a Manual Offer Submission channel for participants who have difficulties in submitting offers on the Capacity Market Platform. There were no manual offer submissions by Participants. There were two SO-generated auction offers, i.e. two CMUs that were required to make an offer did not successfully make a valid offer of the required quantity – this is discussed further in Section 4.5.

In accordance with L.5.4.1, the SOs are to use consistent numerical rounding for all published quantities in accordance with the decimal places detailed in the CMC. In the Qualification Report, we identified some rounding issues with the Gross De-rated Capacity values in the Provisional Qualification Results, which had been incorrectly rounded to one or two decimal places rather than the three decimal places required by the CMC. All Gross De-Rated Capacity values that were incorrectly rounded to one or two decimal places in the Provisional Qualification Results were correctly amended to three decimal places in the Final Qualification Results. We found no further rounding errors in the Provisional Auction Results.

4.2. APPLICATIONS FOR REVIEW

While disputes and Applications for Review are not formally within the Monitor's scope, where a Participant raises a dispute in relation to the Qualification Process, claiming that the SOs were non-compliant with some aspect of the CMC, we consider it appropriate to examine whether it constitutes potential non-compliance. We also check whether the SOs followed the process correctly (e.g. compliance with the Capacity Auction Timetable requirements for Applications for Review). This is not intended to pre-judge the outcome of any Application for Review or dispute.

Two Parties submitted an Application for Review, relating to three CMUs.

Party [**※**]

Party [\gg] submitted an Application for Review in which they raised that the Initial Capacity (IC) given to the CMU [\gg] at Provisional Qualification Results (PQR) was incorrect.

At the Provisional Qualification Results Date, the SOs used an IC value different to that submitted by the Party in their Application for Qualification. After receiving the Application for Review, the SOs confirmed that the IC submitted by the Party was correct, and used that value in the Final Qualification Results (FQR) sent to the RAs on 19/02/2019 (Final Qualification Submission Date).

The SOs have informed us that the additional information provided at the Application for Review was not available to them when they determined the PQR, and that they did not yet have a relevant Connection



Agreement that reflects the higher IC. This means that the original PQR for this CMU did not reflect non-compliance with the CMC as the SOs were working with the information available to them at the time. The change in PQR for this CMU in response to the Application for Review, given the additional information provided, appears to be compliant with the CMC.

Party [X]

The SOs did not consider that this additional information was sufficient to approve the Applications for Qualification, and so rejected the Application for Review for both units on 22/01/2019. We have no reason to believe that the SOs were non-compliant in their treatment of this Application for Review.

The SOs later informed the Party, on 11/02/2019, that the Application for Review for [≫] was now approved, due to new information having been received regarding this GU's Connection Agreement. Issue Log 014, in Appendix B, discusses this further.

4.3. PUBLICATION OF FAIP

The Final Auction Information Pack (FAIP) was published on 08/03/19, one Working Day later than the FAIP Date of 07/03/19 in the Capacity Auction Timetable. This does not represent non-compliance: CMC F.5.1.2 requires that the FAIP is published on the **later** of the FAIP date and two Working Days after the RAs provide the Demand Curve and Exchange Rate. The RAs provided this information on 07/03/19, meaning that the SOs were compliant with F.5.1.2.

4.4. Publication of Final Qualification Results

Final Qualification Results were published in the CMP on 08/03/19, and Participants were alerted through an email sent at 17:16 on the same day. This was one day later than the FAIP Qualification Results Publication Date of 7/3/19, and Participants were notified of the delay through an email at 19:01 on 07/03/19.

Through emails with the SOs and RAs, we understand that the delay was due to discussions between the SOs and RAs, and due to the SOs awaiting confirmation from the RAs regarding approval of the Final Qualification Results.

CMC E.9.5.1 requires that the SOs "use reasonable endeavours" to publish the required information on or before the Final Qualification Results Date. Given the information available to us regarding the SOs' plan and efforts to get the results ready on time, we do not consider this delay to be an instance of non-compliance.

4.5. SO-GENERATED CAPACITY AUCTION OFFERS

CMC F.7.1.3 requires that the SOs must generate an offer in respect of the existing capacity of a CMU on behalf of a Participant if that Participant has not submitted a valid set of price-quantity pairs by Capacity Auction Submission End for any CMU with a non-zero Firm Offer Requirement.



SO-generated offers must include a single quantity step at the lesser of the CMU's qualified Net De-rated Capacity (Existing) (NDRCE) and its Firm Offer Requirement (FOR), and at the CMU's relevant price cap for their existing capacity. A CMU's price cap for existing capacity will be:

- a Unit Specific Price Cap (USPC) if the RAs have approved one for that CMU;
- the Auction Price Cap if the CMU is a DSU; or
- the "Existing Capacity Price Cap" from the FAIP (€46,150.00 or £43,740.97) for all other CMUs.

One Participant did not submit valid offers for two CMUs. The CMP software generated offers for these two CMUs at Capacity Auction Submission End, at the required quantity (the minimum of the NDRCE and FOR), but at an incorrect price. It used the Existing Capacity Price Cap, but because these CMUs are both DSUs, the relevant price cap is the Auction Price Cap. The SOs were aware in advance that this issue would arise, and promptly (by 10:49 on 28/03/19) requested that the software vendor amend the price to the Auction Price Cap in the appropriate currency. The original and final SO-generated offers are summarised in Table 4.1 below.

Table 4.1: Summary of SO-generated offers, including manual amendments

CMU	Automated SO-g 10:00 on	enerated offer at 28/03/19	Manually amended SO-generated offer as at 10:49 on 28/03/19 Price Quantity		
	Price	Quantity	Price	Quantity	
[%]	£43,740.97	[%]	£131,222.91	[%]	
[%]	€46,150.00	[%]	€138,450.00	[%]	

The manually amended offers were used in the Auction Run at 12:00 on 28/03/19. Although the CMP automatically generated an incorrect offer, the SOs were aware and ready to correct any such offers. As only valid offers were included in the Auction Run, we consider this to be compliant with F.7.1.3.

These offers were not in merit and neither CMU cleared in the Capacity Auction.

4.6. Publication of Capacity Auction Results

The Capacity Auction Results were released to Participants, and shared with the RAs and Monitor, on 02/04/2019, in line with the Capacity Auction Timetable. CMC F.9.1.1 sets out the requirements of Capacity Auction Results:

- F.9.1.1(a) requires that Participants are informed of all Awarded Capacity and the associated Capacity Payment Price and capacity duration. This was made available to the Participants through the CMP on 02/04/19, and Participants were notified by email of the publication.
- F.9.1.1(b) requires that SOs provide an updated Implementation Plan for any New Capacity that
 was awarded in the Capacity Auction. The SOs have informed us that they intend to issue this on
 05/04/2019.
- F.9.1.1(c) is not applicable for this auction as all LCCs were satisfied in the constrained solution.



APPENDIX A SUMMARY OF WORK PERFORMED

Our fieldwork was completed on the 28th and 29th of March 2019 at the System Operators' premises at The Oval, Shelbourne Road, Dublin.

The areas of the Code checked at the time of issuing this report are outlined in the table below.

CMC Chapter	CMC Subsection	CMC Paragraph
C. De-Rating and Capacity	C.2 Locational Capacity Constraints	C.2.1.2
Concepts		C.2.2.2
		C.2.3.1
		C.2.3.2
D. Pre Capacity Auction	D.2 Capacity Auctions and Timetables	D.2.1.14
Process		D.2.1.16
E. Qualification	E.I Purpose of Qualification Process	E.I.I.4
	E.9 Notification of Qualification Decisions	E.9.3.3
		E.9.3.5
		E.9.3.6
		E.9.4.1
		E.9.4.2
		E.9.4.3
		E.9.4.4
		E.9.4.9
		E.9.4.10
		E.9.4.11
		E.9.5.1
F. Capacity Auctions	F.I General	F.1.2.1
	F.I General	F.1.2.2
	F.2. Capacity Auction Participation	F.2.1.1
	F.3 Demand Curve	F.3.1.1
		F.3.1.2
		F.3.1.6
		F.3.1.7
	F.4 Determination of Locational Capacity Constraints for a	F.4.1.1
	Capacity Auction	F.4.1.2
		F.4.1.4
		F.4.1.5
		F.4.1.6



CMC Chapter	CMC Subsection	CMC Paragraph
		F.4.1.7
	F.5 Publication of Final	F.5.1.1
		F.5.1.2
		F.5.1.3
	F.6 Capacity Auction Submissions	F.6.1.1
		F.6.2.1
	F.7 Capacity Auction Offers	F.7.1.1
		F.7.1.2
		F.7.1.3
	F.8 Conduct of Capacity Auction	F.8.1.1
		F.8.2.1
		F.8.2.2
		F.8.3.2
		F.8.3.3
		F.8.3.4
		F.8.3.5
		F.8.4.2
		F.8.4.3
		F.8.4.4
		F.8.4.5
		F.8.4.6
		F.8.4.6A
		F.8.4.7
		F.8.5.1
		F.8.6.1
	F.9 Capacity Auction Results	F.9.1.1
		F.9.2.1
		F.9.3.1
K. Exchange Rates	K.2 Methodology	K.2.1.1
		K.2.1.6
L. Data and Information	L.2 Methodology	L.2.2.2
Systems		L.2.3.1
		L.2.4.3
		L.2.4.4
		L.2.5.1
		L.2.5.2



CMC Chapter	CMC Subsection	CMC Paragraph
		L.2.5.3
		L.2.5.4
		L.2.5.5
	L.3 Submission, Validation and Rejection of Data Transactions	L.3.1.1
		L.3.1.3
		L.3.1.6
		L.3.1.7
		L.3.1.8
	L.4 Communications Failures	L.4.2.1
		L.4.2.3
		L.4.3.1
		L.4.3.3
		L.4.3.4
		L.4.4.2
		L.4.4.3
		L.5.4.1
M. Interim Arrangements	M.3 Transitional Capacity Auctions	M.3.2.2
	M.4 Interim Solutions for Conducting Capacity Auctions	M.4.1.3
		M.4.1.4
		M.4.1.5
		M.4.1.7
	M.5 Locational Capacity Constraints	M.5.1.1
		M.5.1.2
	M.6 Alternative Auction Solution Methodology	M.6.1.2
		M.6.1.3
		M.6.1.5
		M.6.1.6
		M.6.1.7

We note that the above checks were conducted (where applicable) at the level of numerical rounding specified under CMC L.5.4 for calculations and published quantities.



APPENDIX B SUMMARIES OF OBSERVED ISSUES RESULTING FROM THE CAPACITY AUCTION

B.I. ISSUE LOG 011

Issue ID	Affected auction(s)	Issue status	Compliance status
011	2022/23 T-4 Capacity Auction	Closed	Non-compliant

Summary

The SOs are required to inform Participants of changes to the Provisional Qualification Results (PQR) as published on the Provisional Qualification Results Date. In one case, a Capacity Market Unit's (CMU's) Net Firm Offer Requirement changed between the original published PQR and the PQR at the time the Capacity Auction took place. We consider that the CMC requires that the SOs notify a Participant of such a change, but no notification was given.

Description of issue

CMC E.9.4.11 sets out that: "Where a Final Qualification Decision has changed relative to the relevant provisional SO Qualification Decision (if applicable), the System Operators shall include in the notification under paragraph E.9.4.9 both the provisional and final decision or value, so as to identify to the Participant what has changed."

In practice, Participants can access the provisional and final decisions on separate views in the Capacity Market Platform (CMP), and changes between the two are identified with 'qualification results notes' added onto the Final Qualification Results (FQR) as displayed in the CMP (e.g. IC_AMEND).

There are also 'qualification inputs notes' on the PQR in the CMP, which inform Participants of changes between their Application for Qualification and the PQR. This column remains visible on the FQR. The SOs also use these 'qualification inputs notes' to highlight changes to the PQR prior to the FQR, including to correct identified errors or in response to Applications for Review. We consider that changes to the original published PQR are also covered under E.9.4.11.

In one case, we consider that a Participant is missing a 'qualification input note' on their PQR. The relevant Participant is [%], specifically the CMU [%]. This CMU is made up of [%] Generator Units (GUs).

Between the original PQR (issued on 04/01/19) and the PQR viewable on the CMP at the time of the 2022/23 T-4 Capacity Auction Run Start (28/03/19), some changes were made to the PQR for several GUs within [><]. These changes were to correct rounding errors in the Gross De-Rated Capacity (Existing) (GDRCE), as discussed in Issue Log 008 of our Qualification Report for this Capacity Auction. These changes in turn affected the Net Firm Offer Requirement for the CMU as a whole ([><]), which increased from [><] to [><].

The SOs correctly notified the Participant of the changes to the GDRCE for the GUs, but the CMP does not display a note at CMU level that would inform them of the change to the Net Firm Offer Requirement for [%]. The SOs undertook tests which confirmed that the CMP does not allow the SOs to input a "Qualification Inputs Note" or a "Qualification Results Note" at CAU level. The SOs are working with the software vendor to find a fix for this for future Auctions.

Capacity Auction Monitor's comments

We consider this to be non-compliance with E.9.4.11, as the SOs should have included in the updated PQR a notification that enables the Participant to identify the change in the CMU's Firm Offer Requirement.

Although there were notifications on the PQR in the CMP highlighting changes to the GUs' GDRCE, this cannot be automatically assumed to cause a change in the overall CMU's Firm Offer Requirement, and both are part of the "SO Qualification Decisions" under CMC E.9.I.I. We therefore consider that CMC requires that CMU-level notifications are issued in addition to GU-level notifications, where relevant.



B.2. ISSUE LOG 012

Issue ID	Affected auction(s)	Issue status	Compliance status
012	2022/23 T-4 Capacity Auction	Closed	Non-compliant

Summary

The CMC requires the SOs to inform the Regulatory Authorities (RAs) of the final determination of the Locational Capacity Constraints at the same time as submitting the Final Qualification Decisions. The SOs did not provide the RAs with these parameters when submitting the Final Qualification Results.

Description of issue

For the determination of Locational Capacity Constraints, CMC F.4.1.5 states: "The System Operators shall make a determination under paragraph F.4.1.1. based on the Final Qualification Decisions and submit the values to the Regulatory Authorities at the same time as submitting the Final Qualification Decisions under paragraph E.9.4.3."

When submitting the Final Qualification Results to the RAs on 21st February 2019, the SOs did not provide the RAs with the Locational Capacity Constraints determined under paragraph F.4.1.5. Instead, the values were submitted to the RAs on 26th March 2019.

Capacity Auction Monitor's comments

We consider this to be technical non-compliance with F.4.1.5. Under this, the SOs should have informed the RAs of the Locational Capacity Constraints based on the Final Qualification Decisions at the same time as submitting the Final Qualification Decisions on 21st February 2019.

We do not consider that this has had any material impact on the Capacity Auction, particularly as the SOs have informed us that the RAs were already aware of the information that the request would have contained.



B.3. ISSUE LOG 014

Issue ID	Affected auction(s)	Issue status	Compliance status
014	2022/23 T-4 Capacity Auction	Closed	Non-compliant

Summary

An Application for Review lodged by Participant [\times] for [\times] was initially rejected by the SOs based on the fact that no valid application for connection existed in respect of this new capacity. The decision was subsequently reversed and the Application for Review accepted based on updated information regarding the unit's connection application. The final outcome was notified to the Participant after the Application for Review notification of outcome date specified in the Capacity Auction Timetable as required under CMC E.9.3.5.

Description of issue

An Application for Review was lodged by Participant [%] for [%]. Following consideration of the information provided by the Participant, the SOs rejected the Application for Review on the basis that no valid application for connection existed in respect of this new capacity. The Participant was informed of this decision by email on the 22nd January 2019 (the SOs' notification of outcome date for Application for Reviews specified in the Capacity Auction Timetable). The SOs' notification of outcome date represents the Prescribed Timeframe within which the SOs must consider an Application for Review and notify the Participant of the outcome of such application as per CMC E.9.3.5.

Subsequently, the SOs informed the Participant by email on the 11th February 2019 that the Application for Review can be accepted based on updated information received by the SOs on the Application for Connection in respect of [SC]. This updated information represented confirmation from the SOs connection team that the application for connection has been deemed complete and the relevant application fees have been paid. The CMU's PQR and FQR (in the CMP) were updated to reflect the accepted Application for Review.

The Monitor is not aware of the Participant lodging a Qualification Dispute under CMC E.9.3.7 following the initial rejection of the Application for Review.

The SOs informed the Monitor that "The decision was made to qualify [><] under paragraph E9.4.2(d) of the Capacity Market Code. This included consideration of the correspondence received from the EirGrid Connections team on 08/02/2019." E.9.4.2(d) requires that the FQR "reflect any updated information or change in circumstances affecting the Participant which the System Operators become aware of."

Capacity Auction Monitor's comments

We consider this to be technical non-compliance with E.9.3.5 which requires the SOs to consider an Application for Review within the timeframe specified in the Capacity Auction Timetable. While the Participant was notified of the initial outcome of the Application for Review by the date stated in the Capacity Auction Timetable (22nd January), the revised outcome was communicated on the 11th February.

The change to the Participant's FQR is allowed under CMC E.9.4.2 (d). We consider that this change should not have been made to the PQR in CMP.



B.4. ISSUE LOG 015

Issue ID	Affected auction(s)	Issue status	Compliance status
015	2022/23 T-4 Capacity Auction	Closed	Non-compliant

Summary

The CMC requires that the RAs approve the Alternative Auction Solution Methodology (CMC M.6.1.2), as well as any amendments (CMC M.6.1.3), where this is used to clear the auction.

The Interim Auction Solution Methodology (IASM) for the 2022/2023 T-4 Auction was approved by the SEM Committee (SEMC) on 6th March 2019. This version of the IASM set out a value for the N parameter equal to 5. The SOs had noted in an email to the RAs that the value was subject to further testing.

An amendment to the IASM was subsequently introduced by the SOs to ensure that the auction algorithm solves within the Allowed Timeframe of 24 hours by reducing the N parameter to a value of 4. The SOs considered this was a prudent approach to adopt. The RAs were aware of this amendment to the IASM, but did not explicitly approve it.

Additionally, CMC M.6.1.5 requires that the Final Auction Information Pack (FAIP) shall specify whether the Alternative Auction Solution Methodology applies and also contain a description of the methodology. The FAIP referenced that the IASM would apply, but the IASM description was published at a later date.

Description of issue

RA approval of the IASM

CMC M.6.1.2 requires that, in the case of a Capacity Auction where an Alternative Auction Solution Methodology applies, the SOs submit this methodology to the RAs for approval. According to CMC M.6.1.3, the SOs may also submit amendments to the approved methodology to the RAs for approval. The RAs may approve or reject any such proposed amendments by written notice, giving reasons in the case of rejection (CMC M.6.1.4).

The RAs sent a letter to the SOs on 6th March 2019 approving the Interim Auction Solution Methodology (IASM) version provided by the SOs on 25th February. This version of the IASM referred to the use of a N parameter value of 5. In an email to the RAs on 22nd February 2019, the SOs had noted that the N values in the IASM are subject to testing of the algorithm.

The IASM document was released to Participants on 25th March. This was an updated IASM version that reflected the CMC modifications required to implement the new methodology that were approved by the SEMC on 20th March (SEM-19-014). The IASM published to Participants also referred to an N value of 4 being used in the auction. We understand the change in the value of N was made following testing and the Mock Auction to ensure that the auction algorithm could solve the auction within the Allowed Timeframe.

The updated IASM was sent by the SOs to the RAs on 25th March, prior to its publication to Participants and following a call between the SOs and the RAs on 21st March 2019 to discuss the value of N for the T-4 Auction, but was not explicitly approved by the RAs. The updated IASM document provided to the RAs was accompanied by an associated note to the SEMC which set out the changes made to the approved version of the IASM as follows:

- Changes to N parameters to ensure auction solves within the Allowed Timeframe.
- Changes to reflect the SEM Committee approval of Modifications CMC 01 19 and CMC 03 19.

According to the IASM and the associated note provided to the RAs, setting the N parameter to a value of N=4 was considered prudent on the basis that N=5 would potentially breach the Allowed Timeframe (stipulated under CMC F.8.5.2), given the three Locational Capacity Constraints and an Allowed Timeframe of 24 hours. We note that CMC B.8.1.5 requires that all parties shall perform all their rights, functions and obligations under the CMC with the degree of care and to the standard expected of a Prudent Industry Operator and in accordance with Prudent Electric Utility Practice.

Publication of the IASM

According to CMC M.6.1.5, the FAIP should specify whether the Alternative Auction Solution Methodology applies and also contain a description of the methodology. While the approved FAIP contained a reference to the IASM being used in the 2022/2023 T-4 Capacity Auction (under section 2.7, which describes out the Allowed Timeframe), a description of the IASM was not included at the time. The IASM document was published on 25th March, later than the publication of the FAIP on 8th March.



Capacity Auction Monitor's comments

We consider that the use of an IASM with amendments that the RAs did not explicitly approve represents non-compliance with CMC M.6.1.3. However, the SOs were compliant with CMC B.8.1.5 by introducing the change to the IASM, on the basis that the original N parameter value included in the IASM version approved by the RAs was noted to be subject to further testing and the SOs having an obligation under the CMC to perform their functions as a Prudent Industry Operator.

A description of the IASM was not provided to Participants together with the FAIP, representing non-compliance with CMC M.6.1.5.

We are not aware of any evidence that these issues have had an impact on the outcome of the 2022/2023 T-4