Low Carbon Inertia Service Procurement - Phase 2

Recommendations paper on the requirements, contractual and procurement arrangements

9 December 2025

EirGrid SONI

Executive Summary

In 2021, the SEM Committee (SEMC) requested EirGrid and SONI (the Transmission System Operators, TSOs) to evaluate and develop proposals for the fixed-term procurement of Low Carbon Inertia Services (LCIS). Following consultation, the TSOs submitted recommendations that led to the SEMC's 2023 decisions on the contractual design and procurement approach for LCIS Phase 1. EirGrid and SONI subsequently launched their competitive procurement processes in Ireland and Northern Ireland, concluding in 2024 with the award of contracts for a total of 10,963 MVA.s (6,963 MVA.s in Ireland and 4,000 MVA.s in Northern Ireland).

The SEM Committee also decided that subsequent phases of LCIS procurement would be subject to additional consultation and procurement processes. Accordingly, building on the success of Phase 1, the LCIS Phase 2 procurement aims to further reduce reliance on carbon-intensive conventional generation across both jurisdictions, supporting greater integration of renewable energy in line with the 2030 Renewable Energy Source (RES) targets.

In response to the SEMC's directive, EirGrid and SONI have developed a comprehensive plan for LCIS Phase 2, targeting the procurement of 14,000 MVA.s (with a maximum of 18,000 MVA.s). This phase introduces several enhancements based on lessons learned from Phase 1, including an increased contract duration of 8 years, higher performance security requirements, and a new approach to grid connection assessment (EirGrid only) to mitigate deliverability risks.

Key elements of the LCIS Phase 2 procurement include:

- **Volume of Inertia to Procure**: EirGrid will target 10,000 MVA.s (Max 12,000 MVA.s) and SONI 4,000 MVA.s (Max 6,000 MVA.s), there will be no incentivised zones.
- **Service Definition:** LCIS will comprise the provision of synchronous inertia, reactive power support, and short-circuit contribution.
- **Connection Requirements:** LCIS providers must connect directly to the transmission system at 110kV or above.
- **Performance Security:** The performance security requirements have been increased to €2,500 / £2,100 per MVA.s of the Providing Unit's Contracted Maximum Available Volume.
- **Payment Mechanism:** Payments will be based on availability, with a target availability of at least 97%, and will include product and performance scalars.
- **Procurement Strategy:** EirGrid will implement a Qualification System to facilitate further potential procurement rounds, while SONI will use a standard two-stage negotiated procedure.

The consultation on the LCIS Phase 2 Requirements, Contractual and Procurement Arrangements closed on 5 September 2025. The TSOs received 14 responses (13 responses via the EirGrid portal and 1 response via the SONI portal) to this consultation

This recommendations paper outlines the proposed contractual arrangements and procurement approach for LCIS Phase 2, considering feedback from stakeholders to ensure the successful implementation of this initiative. The TSOs aim to launch the LCIS Phase 2 procurement processes in Q1 2026, with the target go-live date set for 48 months after the effective date of each LCIS Agreement.

This paper is submitted to the SEMC for consideration alongside the following supporting documentation:

- AFRY Management Consulting report entitled 'Low Carbon Inertia Services (LCIS) – price cap and imbalance price proposals' (unchanged)
- EirGrid LCIS Agreement (post-consultation, clean and redline version)
- SONI LCIS Agreement (post-consultation, clean and redline version)
- LCIS Protocol (unchanged)

Glossary of terms

Acronym	Meaning
BAFO	Best and Final Offer
BESS	Battery Energy Storage System
CIGRE	International Council on Large Electric Systems
CRU	Commission for Regulation of Utilities
DER	Distributed Energy Sources
DSO	Distribution System Operator
ECP	Enduring Connection Policy
EDIL	Electronic Dispatch Instruction Logger
ENTSO-E	European Network of TSOs for Electricity
FRT	Fault Ride Through
GFM	Grid-Forming
G-PST	Global Power System Transformation Consortium
HVDC	High Voltage Direct Current
LCIS	Low Carbon Inertia Service
MEC	Maximum Export Capacity
MUON	Minimum Number of Units ON
MVA	Mega Volt-Ampere
OEM	Original Equipment Manufacturer
PQQ	Pre-Qualification Questionnaire
RES	Renewable Energy Sources
RES-E	Renewable Energy Sources-Electricity
RESS	Renewable Electricity Support Scheme
RfP	Request for Proposal
RoCoF	Rate of Change of Frequency
SEMC	Single Electricity Market Committee
SNSP	System Non-Synchronous Penetration
SOEF	Shaping Our Electricity Future
SONI	System Operator for Northern Ireland
STATCOM	Static Synchronous Compensator
TSC	Trading and Settlement Code
TSO	Transmission System Operator

Table 1 Glossary of terms

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1 Introduction

1.1 Background

EirGrid and SONI are the Transmission System Operators (TSOs) in Ireland and Northern Ireland. It is our job to manage the electricity supply and the flow of power from generators to consumers. Electricity is generated from gas, distillate oil and renewable sources (such as wind, solar and hydro power) at sites across the island. Our high voltage transmission network then transports electricity to high demand centres, such as cities, towns and industrial sites.

We have a responsibility to facilitate connections to the power system including increased levels of renewable sources to generate on the power system while continuing to ensure that the system operates securely and efficiently.

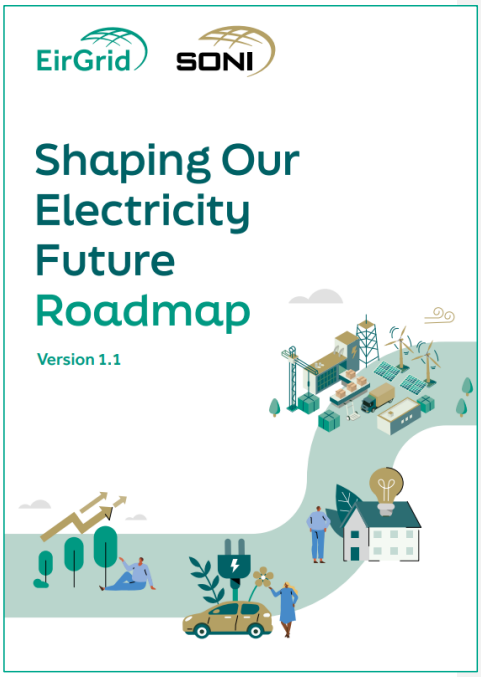
1.2 Shaping Our Electricity Future (SOEF)

In July 2023 we published an updated Shaping Our Electricity Future Roadmap[1] following consultation with stakeholders across society, government, industry, market participants and electricity consumers.

This Shaping Our Electricity Future Roadmap provides an outline of the key developments from a networks, engagement, operations and market perspective needed to support a secure transition to at least 80% electricity from renewable generation sources (RES-E) by 2030.

Inherent in this is a secure transition to 2030 whereby we continue to operate, develop and maintain a safe, secure, reliable, economical and efficient electricity transmission system.

A key action identified in this roadmap was the development of a process to procure Low Carbon Inertia Services (LCIS) that would support these RES-E objectives.



[1] Shaping Our Electricity Future Roadmap: Version 1.1 (eirgridgroup.com)

1.3 Low Carbon Inertia Service (LCIS) Procurement

The SEM Committee, through its SEM-21-021 decision on the System Services Future Arrangements[2], tasked the Transmission System Operators (TSOs) with developing a procurement process for a Low Carbon Inertia Service (LCIS) to support the integration of renewable energy and reduce reliance on carbon-intensive generation in Ireland and Northern Ireland.

Phase 1 of the LCIS initiative involved extensive stakeholder engagement and parallel competitive procurement processes in both jurisdictions. The procurement targeted a total of 10,000 MVA.s of services, including synchronous inertia, reactive power, and short circuit capability. In 2024, SONI awarded two contracts for a total of 4,000 MVA.s and EirGrid awarded four contracts for a total of 6,963 MVA.s, successfully securing the required service volumes.

For Phase 2, the target volume is 14,000 MVA.s (with a maximum of 18,000 MVA.s), split between an EirGrid target of 10,000 MVA.s (maximum 12,000 MVA.s) and a SONI target of 4,000 MVA.s (maximum 6,000 MVA.s).

Building on LCIS Phase 1, EirGrid and SONI have now launched LCIS Phase 2 and held a public consultation focused on the proposed service requirements, contractual arrangements, and procurement approach. This recommendations paper presents the TSOs' recommendations for Phase 2 to ensure continued progress toward 2030 decarbonisation targets.

1.4 LCIS Phase 2 - Procurement plan

EirGrid and SONI have developed a project plan which will ultimately provide fixed term contracts for LCIS (including inertia, reactive power and short circuit contribution capability).

Table 2 provides the high-level procurement plan. More details on TSOs recommended procurement process and award of contracts are provided in Section 6.

Description	Start Date	Finish Date
Studies to identify the technical requirements considering inertia, reactive power and short circuit level **(Completed)**	Q2 2024	Feb-25
Consultation, recommendation and SEMC decision on the requirements, procurement and contractual arrangements (Ongoing)	July-25	Feb-26
Procurement Processes	See Section 6.1	See Section 6.1
Award of contracts	See Section 6.1	See Section 6.1

Table 2: High-level Procurement plan

1.5 Consultation on the Requirements, Contractual and Procurement Arrangements

The purpose of our consultation on the requirements, contractual and procurement arrangements for LCIS Phase 2 was to seek industry views on:

- the proposed product definition and volumes to procure
- the proposed principles, approach, rules and requirements to be used to run the procurement competitions
- the LCIS Agreements for the provision of LCIS;

[2] SEM-21-021 System Services Future Arrangements - Decision Paper 1 | SEM Committee

- the LCIS Protocol which sets out the operational requirements and performance monitoring procedures, including the calculation of performance scalars; and
- the price cap to be applied in the LCIS procurement process.

This consultation ran from 11 July 2025 to 5 September 2025.

1.6 Structure of the Recommendations Paper

This recommendations paper is structured as follows:

Section 2 provides a list of respondents to the consultation;

Section 3 provides an overview of the TSOs' recommendations;

Section 4 provides an overview of responses and recommendations related to the system needs and the procurement volume, as well as the definition of the service which is being procured and the requirements for potential providers.

Section 5 provides an overview of responses and recommendations related to the contractual arrangements, including start date, end date and duration of the contract as well as the payment mechanism based on availability, the performance bond and details of the application of scalars.

Section 6 provides an overview of responses and recommendations related to the procurement arrangements, including procurement procedure to be used and timeline, qualification and award criteria as well as the approach to mitigate deliverability risks.

Section 7 provides an overview of next steps.

Appendix 1 provides worked examples of how performance scalars are calculated.

2 Respondents to the Consultation

The consultation on the LCIS Phase 2 Requirements, Contractual and Procurement Arrangements closed on 5 September 2025. In total, 14 responses were received (13 responses via the EirGrid portal and 1 response via the SONI portal). The 10 non-confidential respondents are listed below:

- Bord Gáis Energy
- Bord na Móna
- Energia
- Energy Storage Ireland, Renewable NI, Wind Energy Ireland
- EP UK Investments
- ESB Generation and Trading
- Hanwha Energy
- Siemens
- SSE
- Mutual Energy

Note that all non-confidential responses have been published on the EirGrid consultation portal[3] and on the SONI consultation portal[4].

3 Overview of TSOs' recommendations

Table 3 provides an overview of the recommendations which are contained within this paper.

Section	Category	TSOs' Recommendations	Change from Consultation Proposal
4.1.4	Volume of inertia to procure	EirGrid will target the procurement of 10,000 MVA.s (Max 12,000 MVA.s) and SONI the procurement of 4,000 MVA.s (Max 6,000 MVA.s).	No changes
4.1.4	Future needs	Beyond LCIS Phase 2, additional procurement phases may be required subject to procurement outcomes, further analysis and regulatory considerations.	No changes
4.2.4	Locational aspects and restrictions	There will be no incentivised zones or zonal requirements other than the jurisdictional requirements. However, participation will not be permitted in certain substations, as outlined in Table 4.	No changes
4.3.4	Service to procure	LCIS comprises the provision of Synchronous Inertia, Reactive Power support and Short-Circuit contribution. Grid Forming technology will not meet the procurement eligibility requirements, however, the TSOs will consider the	No changes to service definition. Note that a report on our Grid Forming Strategy has been published in February

[3] https://consult.eirgrid.ie/node/2837/submissions
[4] https://consult.soni.ltd.uk/node/413/submissions

Section	Category	TSOs' Recommendations	Change from Consultation Proposal
		integration of this technology as part of the broader Grid Forming Strategy.	2026[5] and a webinar is taken place on 10 March 2026.
4.4.4	Inertia capability contracted	The LCIS inertia capability contracted should be no lower than 900 MVA.s and no higher than 4000 MVA.s at the Connection Point.	No changes
4.5.4	Connection requirements	LCIS providers shall connect directly to the transmission system or share a connection to the transmission system provided they meet the contractual, regulatory and legal frameworks in place at the time of the procurement. A LCIS provider can only be connected to a transmission station controlled by the TSO at 110kV or above. The LCIS unit must accurately reflect the LCIS unit's capability to synchronise and deliver reactive power at the connection point in real-time, including any limitations arising from the connection arrangement— particularly in cases of shared connections. LCIS units must register as separate market units. For Synchronous Condensers, the Scheduling and Dispatch Programme (SDP_06) will outline details on registration, Technical Offer Data (TOD), availability declarations, and the treatment of energy consumed.	Further clarity has been provided relating to obligations, availability, penalties, and registration requirements.
4.6.4	Maximum Inertia at a transmission station	The maximum inertia limits at a transmission station will be 2,000 MVA.s at 110 kV and 4,000 MVA.s at 220 kV and above. Note that the 4,000 MVA.s limit will also apply to any station with multiple voltage levels (e,g, a 220/110 kV, 275/110 kV, 400/110 kV and 400/220 kV stations will have a total limit of 4000 MVA.s). These limits include the inertia contributions from any LCIS devices connected to that station via 'tail-fed' transmission stations and any LCIS devices at that station already contracted in LCIS Phase 1. Due the contract awarded in LCIS Phase 1, the following limits will apply to the additional Phase 2 volumes allowable at the following substations: • Wexford 110kV: Max 1037 MVA.s • Knockranny 110kV: Max 0 MVA.s	Further clarity has been provided.

[5] Grid-Forming-Strategy-February-2026.pdf (EirGrid Website) & Final_Grid_Forming_Strategy_External_Report_Feb_2026 (002).pdf (SONI Website)

Section	Category	TSOs' Recommendations	Change from Consultation Proposal
		• Srananagh 220/110kV: Max 2000 MVA.s • Kilpaddoge 220/110kV: Max 2000 MVA.s • Coolkeeragh 275kV/110kV and Coleraine 110kV substations have been excluded from SONI's procurement scope, as outlined in Section 4.2 of this recommendations paper.	
4.7.4	Maximum transformer rating limits	The transformer rating limits for the different voltage levels are as follows: • 100 MVA max at 110 kV; • 250 MVA max at 220 kV; • 300 MVA max at 275 kV; • 400 MVA max at 400 kV. These limits apply per transformer but do not apply to transformers that are already energised.	MVA rating increased from 260 MVA to 300 MVA at 275kV to maintain a consistent ratio with other voltage levels. Limit not applicable to transformers already energised.
4.8.4	Minimum technical requirements	Unlike LCIS Phase 1, requirements on minimum reactive power and short circuit contribution will be removed from the procurement requirements although these capabilities will continue to be incentivised through application of scalars. LCIS units will still need to meet minimum Grid Code standards.	No changes
5.2.4	Commencement and Duration of Agreement	The Target Go-Live date will be 48 months after the Effective Date of each LCIS Agreement, and no earlier than 1 Oct 2026. The Contract Duration will be 8 years from the Target Go-Live date.	No changes
5.3.4	Performance Security	The Performance Security requirements will be €2,500 / £2,100 per MVA.s of the Providing Unit's Contracted Maximum Available Volume.	No changes
5.4.4	Payment	Payment will be based on availability, with a target availability of at least 97%. Product and Performance Scalars will apply, but there will be no Locational Scalar.	No changes
5.5.4	Performance Scalar	The first tolerance band for the Consumption Performance Scalar will be extended from <5% to <20%. There will be no further changes to the: • Availability, Synchronisation Dispatch and Consumption Performance Scalars; • Trip Charge.	The TSOs confirm that the Consumption Performance Scalar is intended to operate as a static scalar. However, the TSOs reserve the right to review and update this scalar based on further monitoring and additional testing. No further changes.

Section	Category	TSOs' Recommendations	Change from Consultation Proposal
0	Product Scalar	The Product Scalar will be the product of the Short Circuit Contribution Scalar and the Reactive Power Scalar. The Reactive Power Scalar will be the product of the leading and lagging Reactive Power Scalars. There will be no Inertia Constant Product Scalar. There will be no minimum requirement for Short Circuit Contribution or Reactive Power in this tender, notwithstanding Grid Code obligations that will apply to successful units. The Short Circuit Contribution Scalar and the leading and lagging Reactive Power Scalars will be calculated by reference to the capability of a specified "Reference Unit" at the connection point. The reactive power capabilities will need to be provided across the full voltage ranges while the Short-Circuit will be assessed according to IEC standard.	No changes
6.2.4	Procurement Strategy	EirGrid will implement a Qualification System which will offer flexibility to address future uncertainties and evolving system needs. Any procurement rounds beyond LCIS Phase 2 would remain subject to Regulatory approval. SONI will use a standard two-stage negotiated procedure, as used in LCIS Phase 1.	No changes
6.3.4	EirGrid Qualification Process	In Ireland, applications for qualification may be submitted at any time after the Qualification System is established, with qualification evaluations completed within two months. To participate in the LCIS Phase 2 Tender, applications must be submitted within four weeks of the Qualification System establishment. For potential future Tenders, EirGrid will inform stakeholders of the Tender timeline and the final date for qualification submissions.	No changes
6.3.4	SONI Qualification Process	Applicants will need to submit their application by the Prequalification Questionnaire (PQQ) closing date.	No changes
6.4.4	Qualification criteria	To qualify for the ability to submit an LCIS tender in Ireland or Northern Ireland, candidates will need to meet a set of pass/fail criteria. These criteria will include a minimum financial turnover in one of the last 3 financial years and demonstration of previous experience through the delivery of 2 major projects connecting to an Electricity Transmission System in the last 7 years, *or*	The definition of "Previous Experience", "Major Project" and "Significant Role" have been clarified.

Section	Category	TSOs' Recommendations	Change from Consultation Proposal
		currently owns and operates transmission level electrical infrastructure.	
0	Tender – Planning, Property and Access Rights Criteria (EirGrid Procurement only)	For the EirGrid procurement, by the date of tender submission, tenderers must have: • Final grant of planning permission for the proposed facility with the period for taking an appeal having expired without such an appeal being taken or alternatively with any or all appeals withdrawn or dismissed, and with the period for making an application for leave to apply for judicial review or the period for making an application to commence judicial review having expired without such an application being made or alternatively with any or all judicial reviews withdrawn or dismissed or otherwise finally concluded with no question in proceedings over the validity of the final grant of planning permission, and without any condition(s) which restrict the development, commissioning or operation of the Providing Unit (or part thereof) such that the Service Provider would, or would reasonably likely to, be prevented or limited in delivering and/or performing the Services in accordance with the EirGrid Agreement; • All necessary property and access rights to construct and operate the proposed LCIS units on the proposed site in place	Further detail on what may constitute unacceptable conditions have been specified
0	Tender – Planning, Property and Access Rights Criteria (SONI Procurement only)	For the SONI procurement, by the date of tender submission, tenderers must have: • Full planning permission for the proposed facility with the period for taking an appeal having expired without such an appeal being taken or alternatively with any or all appeals withdrawn or dismissed, and with the period for making an application for leave to apply for judicial review or the period for making an application to commence judicial review having expired without such an application being made or alternatively with any or all judicial reviews withdrawn or dismissed or otherwise finally concluded with no question in proceedings over the validity of the full	No changes. However, the SONI procurement timeline has been revised in Section 6.1.2 to allow additional time for this criterion to be met. Tender is now planned for January 2027.

Section	Category	TSOs' Recommendations	Change from Consultation Proposal
		planning permission, and without any conditions deemed unacceptable at the TSO's sole discretion. • All necessary property and access rights to construct and operate the proposed LCIS units on the proposed site in place	
6.6.4	Tender – Grid Connection Criteria (SONI Procurement only)	Tenderer must have an accepted offer and a detailed programme developed with a Final Energisation Date no later than 48 months after the tender closing date. The expiry date of the validity of this connection offer must fall beyond this 48-month period.	No changes. However, the SONI procurement timeline has been revised in Section 6.1.2 to allow additional time for this criterion to be met. Tender is now planned for January 2027.
6.7.4	Tender – Price Cap and Scalar Adjusted Offer Price	Offer prices must not exceed the Price Cap when adjusted by the applicable scalars. The Price Cap will be €1.81/MVA.s or £1.54/MVA.s per hour.	No changes
6.8.4	Tender – Offer Price and Cost	The Tenderer shall submit a single Offer Price per unit of inertia per hour (MVA.s/h). Multiple bids will not be accepted. A pay-as-bid approach will apply, meaning the submitted Offer Price will directly determine the Payment Rate for the provision of the service (subject to the application of scalars). The cost to be used for the evaluation will be based on the Offer Price plus the estimated cost of imported energy, expressed in €/MVA.s or £/MVA.s per hour. The imbalance price[6] to be used for the purpose of factoring the cost of imported energy into the tender evaluation is €119.9/MWh in Ireland and £101.6/MWh in Northern Ireland.	No changes
Error! Reference source not found.6.9.3	Shortlisting, Grid Connection Assessment and BAFO (EirGrid Procurement only)	The tender process will adopt a two-step approach. In the first step, all bidders will submit an initial offer price in €/MVA·s/h. In the second step, the highest-ranked bidders will be shortlisted and provided with a detailed Grid Connection Assessment, which includes the Target Energisation Date. Based on this assessment, shortlisted bidders will be invited to submit a Best and Final Offer (BAFO) incorporating a discount (€/MVA.s/h)	EirGrid has clarified how the Best and Final Offer (BAFO) process will operate.

[6] The price applied to the net energy imbalance of a market participant in a given settlement period.

Section	Category	TSOs' Recommendations	Change from Consultation Proposal
		which will apply to their initial offer. Any discount submitted as a BAFO will determine the final offer used for ranking and selecting preferred bidders.	
6.10.4	Preferred Bidders and Contract Award process	Preferred bidders must sign the LCIS Agreement and achieve all conditions precedent to contract execution within 30 business days of notification of preferred bidder status.	Extended the timeline from 20 to 30 business days for signing the Agreement
6.11.4	Pre-Tender Engagement (EirGrid only)	Pre-tender meetings will provide guidance on the feasibility of proposed connection methods, compliance with connection policies, and the potential exclusion of substations from the LCIS Phase 2 tender. To ensure fairness and transparency, the TSO will standardise the information shared across all participants. Written feedback will be provided to participants following each meeting. EirGrid contacted industry separately in December 2025 via info@eirgrid.com, and these meetings are expected to take place shortly after the SEMC Decision on these arrangements.	Timeline in Section 6.1.1 has been adjusted. Recommendation's wording adapted to clarify that standardise information will be shared across all participants.
6.11.4	Excluded Substations (EirGrid only)	In order to reduce the potential for LCIS tenderers to seek connection at substations at which connection is deemed infeasible in advance of the LCIS Phase 2 Longstop Date (anticipated as Q4 2031), EirGrid will identify a list of excluded substations from the tender process.	The anticipated Longstop Date has been pushed from Q3 to Q4 2031 to reflect updated timeline in Section 6.1.1.
6.11.4	Grid Connection Assessment (EirGrid only)	The main purpose of the Grid Connection Assessment is to develop an indicative connection programme that will be used to determine the Target Energisation Date to be set in the LCIS Agreement at Contract Execution stage if the tender is successful.	No changes
6.11.4	Grid connection offer (EirGrid only)	In Ireland, successful LCIS Phase 2 tenderers who do not already have a grid connection offer, and who have signed an LCIS Agreement, will be entitled to receive a connection offer outside of the ECP process by direction from CRU.	No changes

Table 3: Overview of recommendations

4 System Needs and Service Providers requirements

4.1 Volume to procure

4.1.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the Volume of inertia to procure:

> TSOs' Proposal:
>
> Volume of inertia to procure: EirGrid will target the procurement of 10,000 MVA.s (Max 12,000 MVA.s) and SONI the procurement of 4,000 MVA.s (Max 6,000 MVA.s).

The following question was asked:

Question 1: Do you have any comments on the proposed procurement volumes for LCIS Phase 2?

We also outlined the following proposal to take into consideration uncertainties and potential future needs:

> TSOs' Proposal:
>
> Beyond LCIS Phase 2, additional procurement phases may be required subject to procurement outcomes, further analysis and regulatory considerations.

Question 2: Do you have any comments on the uncertainties and potential future needs?

4.1.2 Summary of consultation responses

Most respondents expressed support for the proposed LCIS Phase 2 procurement volumes, welcoming the ambition to secure 14,000 MVA·s as an important and necessary step toward maintaining system stability while increasing SNSP levels. These respondents view the proposed volumes as aligned with climate and operational targets and broadly appropriate for meeting 2030 objectives.

However, approximately five respondents raised concerns that the proposed volumes may be insufficient. Key reasons include future demand growth, system uncertainties, and the risk of project attrition. Several highlighted evidence of high attrition rates in similar markets and the cumulative impact of outages, recommending over-procurement based on an N-1 standard and the inclusion of buffers to ensure sufficient system services are procured.

Additional suggestions focused on stronger contractual measures, independent monitoring, and flexibility in procurement design to mitigate delivery risks and adapt to evolving system needs. Some respondents also questioned the use of 2028 as the study year, warning that this may underestimate future requirements and jeopardize the achievement of 2030 climate targets unless higher volumes are secured.

In response to question 2 on the uncertainties and potential future needs, further considerations raised by respondents include the need for long-term planning aligned with 100% SNSP and zero MUON targets, proactive procurement to address demand volatility from AI and data centres, and realistic attrition assumptions of 15–30%.

Respondents also called for greater transparency on technical assumptions such as short circuit levels, offshore wind integration, and interconnector impacts, alongside publishing updated models to support

developers. Several highlighted the critical role of grid-forming inverters and advanced battery energy storage systems (BESS) in providing inertia and maintaining stability, recommending their integration into future procurement frameworks.

Finally, concerns were expressed that LCIS Phase 2 may be the last major tender for new capacity, prompting calls for clear market signals, strong contractual measures, and flexibility to allow additional procurement phases if system needs evolve.

4.1.3 TSOs' response

The TSOs welcome the broad support from respondents for the proposed LCIS Phase 2 procurement volumes. The ambition to secure 14,000 MVA·s is widely recognised as a necessary and timely step to maintain system stability while enabling higher levels of SNSP.

At the same time, the TSOs acknowledge the concerns raised by several respondents regarding the potential risk of under-procurement. These concerns reflect important considerations, including the Fault Ride Through (FRT) performance of Large Energy Users, future demand growth, system uncertainties, and the possibility of project attrition. Suggestions to apply an N-1 standard or include buffers to ensure sufficient system services are secured are noted.

To mitigate these concerns, the TSOs wish to highlight that LCIS Phase 2 is specifically designed to support the 2030 operational goals—namely, operating the All-Island grid with 3 MUON and 95% SNSP—while also progressing toward the 2035 targets of 0 MUON and 100% SNSP. Although the technical studies supporting LCIS Phase 2 have considered operation with 0 MUON, the TSOs are confident that the proposed volume should be sufficient to achieve the 2030 targets, which focus on operating with 3 or fewer MUON.

Recognising the uncertainties ahead, the TSOs have introduced a qualification system in Ireland to provide flexibility for procuring additional capabilities as more clarity emerges.

The TSOs also wish to recall the MUON relaxation timeline as published in the Operational Policy Roadmap 2025-2035, which sets out the following targets:

	2029	2030	2032	2035
MUON	4 or less	3 or less	2 or less	0
SNSP	90%	95%	95%	100%

Finally, the TSOs acknowledge the feedback regarding the use of 2028 as the study year and the potential need to secure higher volumes to meet future system requirements. While this misalignment is noted, the TSOs remain confident that the proposed procurement volumes are appropriate for achieving the 2030 goals, with possibly further opportunities to procure additional capability in support of the 2035 targets.

4.1.4 TSOs' recommendation

Given the above, we recommend the following regarding the volume of inertia to procure:

TSOs' Recommendation:

Volume of inertia to procure: EirGrid will target the procurement of 10,000 MVA.s (Max 12,000 MVA.s) and SONI the procurement of 4,000 MVA.s (Max 6,000 MVA.s). Beyond LCIS Phase 2, additional procurement phases may be required subject to procurement outcomes, further analysis and regulatory considerations.

4.2 Locational aspects and restrictions

4.2.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the locational aspects and restrictions:

> TSOs' Proposal:
>
> There will be no incentivised zones or zonal requirements other than the jurisdictional requirements. However, participation will not be permitted in certain substations, as outlined in Table 4 [of the consultation paper].

The following question was asked:

Question 3: Do you have any comments on the proposed locational restrictions?

The list of the substations where participation will not be permitted is recalled in Table 4. For the EirGrid Procurement, excluded substations will be identified at Tender stage.

	EirGrid Procurement	SONI Procurement
Substations where participation is not permitted	• Participation in certain substations will not be permitted. These stations will be listed in the relevant Tender documentation. Pre-Tender meetings will be offered to provide guidance to potential tenderer.	• Brockaghboy 110 kV • Cam 110 kV • Coleraine 110 kV • Coolkeeragh 275 kV and 110 kV • Drumquin 110 kV (tail-fed station) • Garvagh 110kV (tail-fed station) • Kells 110 kV • Killymallaght 110 kV • Limavady 110 kV • Loguestown 110 kV • Magherakeel 110 kV (tail-fed station) • Omagh 110 kV • Rasharkin 110 kV • Slieve Kirk 110 kV • Springtown 110 kV • Strabane 110 kV If 2 or more devices are to be procured, these must not be within two 110 kV nodes of each other

Table 4: Substations where participation is not permitted for LCIS Phase 2 Procurement

4.2.2 Summary of consultation responses

No incentivised zones:

Most respondents welcome the removal of incentivised zones, noting that this creates a more balanced and competitive procurement process.

However, one respondent suggests considering locational incentives in areas like Dublin where LCIS units could address existing voltage issues, and another respondent highlights that optimal LCIS placement can deliver wider system benefits, such as reducing network reinforcement costs.

Substations exclusion:

All respondents expressed concerns about the lack of early clarity on which substations will be excluded for the EirGrid Procurement, as this uncertainty forces developers to incur planning costs without assurance of eligibility.

Many recommend publishing a list of unsuitable substations and those with lower volume limits well in advance of the qualification and tender stages to avoid wasted effort and ensure transparency.

Some respondents agree that excluding substations with insufficient bay capacity is prudent to prevent undeliverable projects, while others stress that early visibility of restrictions—similar to SONI's approach—is essential for timely planning and permitting.

Additional comments include calls to prohibit LCIS Phase 1 projects from participating in Phase 2 to maintain integrity.

4.2.3 TSOs' response

No incentivised zones:

The TSOs welcome the broad support from respondents for the decision not to include incentivised zones in LCIS Phase 2. In response to specific suggestions regarding locational incentives—such as targeting areas like Dublin to address voltage issues or reduce network reinforcement costs—the TSOs note that system studies did not identify a need for a specific incentivised zone.

Substations exclusion:

The TSOs acknowledge the concerns raised by respondents regarding the lack of early clarity on substation eligibility. The TSOs recognise that this uncertainty can lead to unnecessary planning costs and inefficiencies for developers.

While the TSOs have considered publishing a list of excluded ahead of the tender, it is challenging to make definitive exclusions without prior engagement with developers. Additionally, parallel processes such as ECP and the Capacity Market may influence substation availability, and early exclusions risk overlooking these evolving factors.

To ensure that contracts are awarded only to deliverable projects, the TSOs believe that final substation assessments should be made as close as possible to the tender stage. Instead of publishing a list at an early stage, EirGrid proposes to organise a pre-tender meeting and provide clear and structured feedback to all LCIS developers, as further detailed in Section 6.11.3 of this recommendations paper.

4.2.4 TSOs' recommendation

Given the above, we recommend the following regarding the locational aspects and restrictions:

TSOs' Recommendation:

There will be no incentivised zones or zonal requirements other than the jurisdictional requirements. However, participation will not be permitted in certain substations, as outlined in Table 4.

4.3 Service to procure

4.3.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the Service to procure:

TSOs' Proposal:

Service Definition: LCIS comprises the provision of Synchronous Inertia, Reactive Power support and Short-Circuit contribution.

Grid Forming technology will not meet the procurement eligibility requirements, however, arrangement to enable a grid-forming technology pilot will be progressed and consulted upon separately by the TSOs.

The following questions were asked:

Question 4: Do you have any comments on the proposed LCIS definition?

Question 5: Do you have any comments on the proposed approach to Grid-Forming technology?

4.3.2 Summary of consultation responses

LCIS Definition

Most respondents agree with the proposed LCIS definition, noting that it provides clarity and aligns with system stability and operational needs by including synchronous inertia, reactive power support, and short-circuit contribution.

However, some concerns were raised. One respondent questioned the inclusion of reactive power and short-circuit levels, arguing these are already covered by Grid Code standards and that adding them complicates the framework; they suggested additional payments for units providing services beyond baseline requirements.

Another highlighted that the current definition may not be future-proof, as it does not account for synthetic or virtual inertia, and suggested revisiting terminology in future procurements.

There were also calls to ensure that waste-to-energy and biomass facilities are not excluded, as these could provide cost-effective solutions and additional system services if appropriately incentivised.

Grid-Forming technology

In response to the proposed approach to Grid-Forming Technology, most respondents support the cautious approach to grid-forming technology, recognising it as a nascent and unproven solution at system scale. Many agree that focusing LCIS Phase 2 on synchronous inertia is appropriate to avoid delays and ensure timely delivery of low-carbon inertia, while developing grid-forming capability through a separate pilot project and strategy.

Several respondents welcome the planned pilot and the development of a Grid-Forming Strategy in collaboration with ENTSO-E, but stress the need for clear timelines, early engagement, and a funding model to accelerate progress. Some argue that pilots should run in parallel with LCIS Phase 2 to avoid missed opportunities and foster innovation.

Others highlight the benefits of grid-forming batteries—such as modularity, black-start capability, and multi-service provision—and recommend enabling their participation in future procurements.

Overall, respondents emphasise the importance of EU-level coordination, robust technical standards, and stakeholder engagement to ensure successful integration of grid-forming technologies in the future.

4.3.3 TSOs' response

The TSOs welcome the broad support from respondents for the proposed LCIS definition, which includes synchronous inertia, reactive power support, and short-circuit contribution. This definition is intended to reflect the operational needs of the system and the services required to maintain stability as conventional generation is replaced.

In response to concerns about the inclusion of reactive power and short-circuit capability, the TSOs note that while these elements are covered under Grid Code standards, their inclusion in the LCIS definition is deliberate. The aim of LCIS is not only to provide inertia, but to replace the full suite of capabilities traditionally delivered by conventional synchronous plants, which are essential to enable the relaxation of the MUON constraint.

Regarding the eligibility of waste-to-energy and biomass facilities, the TSOs note that these technologies typically have non-zero MEC and therefore do not align with the LCIS framework, which is designed for units that do not export MW.

On grid-forming technology, the TSOs acknowledge the strong support for a cautious and phased approach. LCIS Phase 2 will focus on synchronous inertia to ensure timely delivery of low-carbon system services. In parallel, the TSOs are progressing a Grid-Forming Strategy.

The TSOs welcome stakeholder interest in this strategy and acknowledge the calls for clear timelines, early engagement, and a funding model to accelerate progress. The potential of grid-forming batteries and other advanced technologies is recognised, and the TSOs will consider their integration as part of the broader Grid Forming Strategy. Note that a report on our Grid Forming Strategy has been published in February 2026[7] and a webinar is taken place on 10 March 2026.

4.3.4 TSOs' recommendation

Given the above, we recommend the following regarding the LCIS Definition and Grid-Forming technology:

TSOs' Recommendation:

Service Definition: LCIS comprises the provision of Synchronous Inertia, Reactive Power support and Short-Circuit contribution.

Grid Forming technology will not meet the procurement eligibility requirements, however, the TSOs will consider the integration of this technology as part of the broader Grid Forming Strategy.

4.4 Inertia capability to be contracted

4.4.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the Inertia Capability to be Contracted:

TSOs' Proposal:

The LCIS inertia capability contracted should be no lower than 900 MVA.s and no higher than 4000 MVA.s at the Connection Point.

[7] Grid-Forming-Strategy-February-2026.pdf (EirGrid Website) & Final_Grid_Forming_Strategy_External_Report_Feb_2026 (002).pdf (SONI Website)

The following question was asked:

Question 6: Do you have any comments on the proposed minimum and maximum inertia capabilities contracted at the Connection Point?

4.4.2 Summary of consultation responses

Most respondents welcome the increase in maximum inertia capability from 2,000 MVA·s to 4,000 MVA·s, noting that it reflects economies of scale and could deliver cost efficiencies.

Several agree that the proposed minimum and maximum values are appropriate and encourage a range of solutions, which can help drive competition and reduce costs.

However, some respondents question the rationale for the change from Phase 1, where smaller units were preferred for system diversity and stability. They request clarification on the technical basis for allowing larger units in Phase 2.

Concerns were also raised that concentrating large volumes in fewer projects could increase delivery risk and reduce geographic diversity. Additionally, transformer rating limits may restrict some bidders from offering maximum capability.

4.4.3 TSOs' response

The TSOs welcome the broad support from respondents for increasing the maximum contracted inertia capability from 2,000 MVA·s to 4,000 MVA·s. This adjustment reflects economies of scale, vendor capabilities, and the need to deliver cost efficiencies.

In LCIS Phase 1, the maximum unit size was limited to promote geographic diversity and ensure inertia was distributed across the system. This objective has now been achieved. For LCIS Phase 2, the focus shifts to procuring a significantly larger volume of inertia—14,000 MVA·s, with a potential maximum of 18,000 MVA·s—to support the transition to lower MUON levels and higher SNSP targets.

To meet this requirement efficiently, the TSOs propose a minimum and maximum contracted inertia capability of 900 MVA·s and 4,000 MVA·s, respectively. Increasing the upper band allows for fewer individual units, reducing the number of grid connections required and helping to mitigate connection challenges for new projects.

The TSOs acknowledge concerns about delivery risk and reduced diversity. To address these, stronger measures are being introduced to manage the risk of non-delivery. These include:

- Enhanced grid connection assessments throughout the procurement process for EirGrid,
- Robust grid connection criteria for SONI, and
- Stronger developer commitments through the payment of an increased performance security.

4.4.4 TSOs' recommendation

Given the above, we recommend the following regarding the inertia capability to be contracted:

TSOs' Recommendation:

The LCIS inertia capability contracted should be no lower than 900 MVA.s and no higher than 4000 MVA.s at the Connection Point.

4.5 Connection requirements

4.5.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the connection requirements:

TSOs' Proposal:

LCIS providers shall connect directly to the transmission system or share a connection to the transmission system provided they meet the contractual, regulatory and legal frameworks in place at the time of the procurement. A LCIS provider can only be connected to a transmission station controlled by the TSO[8] at 110kV or above.

The following question was asked:

Question 7: Do you have any comments on the proposed connection requirements?

4.5.2 Summary of consultation responses

Most respondents agree with the proposed connection requirements, supporting the rationale for LCIS units to connect at 110 kV or above directly to TSO-controlled stations. This approach is seen as technically appropriate to ensure system stability and avoid the operational and planning complexities associated with lower-voltage connections.

Several respondents highlight that shared connections carry higher delivery risk, particularly if not yet designed or operational, and should be approached cautiously.

One respondent requests clarification on how obligations, availability, and penalties would apply under shared or hybrid connections, as well as guidance on registration and market participation requirements.

Overall, respondents view the proposed requirements as necessary to deliver effective system benefits and maintain control by the TSOs, while ensuring LCIS units are located where they provide the greatest value.

4.5.3 TSOs' response

The TSOs welcome the broad support for the proposed connection requirements, including the requirement for LCIS units to connect at 110 kV or above directly to TSO-controlled stations, which is considered technically appropriate for system stability.

The TSOs acknowledge the concerns raised regarding obligations, availability, penalties, and registration requirements. In response, the following clarifications are provided:

- **Availability declarations** must accurately reflect the LCIS unit's capability to synchronise and deliver reactive power at the connection point in real-time. If a connection arrangement restricts this—for example, when another unit is sharing the connection:
    - Prevents synchronisation of the LCIS unit – the LCIS unit should be declared unavailable for synchronisation and reactive power (zero)
    - Is importing MW, exporting MW, or contracted for reserve provision – the LCIS unit should declare the reactive power levels available under those conditions.
- **Obligations and penalties** will apply based on the declared availability and actual performance of the LCIS unit.
- **Registration and market participation:** LCIS units must register as separate market units. For Synchronous Condensers, the Scheduling and Dispatch Programme (SDP) will outline details on registration, Technical Offer Data (TOD), availability declarations, and the treatment of energy consumed. TSOs will continue stakeholder engagement and provide further guidance as the programme evolves.

[8] Where TSOs have operational control of the LCIS unit, meaning the possibility to instruct the unit to come on and off and to produce/consume reactive power

4.5.4 TSOs' recommendation

Given the above, we recommend the following regarding the connection requirements:

TSOs' Recommendation:

LCIS providers shall connect directly to the transmission system or share a connection to the transmission system provided they meet the contractual, regulatory and legal frameworks in place at the time of the procurement. A LCIS provider can only be connected to a transmission station controlled by the TSO[9] at 110kV or above.

The LCIS unit must accurately reflect the LCIS unit's capability to synchronise and deliver reactive power at the connection point in real-time, accounting for any limitations arising from the connection arrangement—particularly in cases of shared connections.

LCIS units must register as separate market units. For Synchronous Condensers, the Scheduling and Dispatch Programme (SDP_06) will outline details on registration, Technical Offer Data (TOD), availability declarations, and the treatment of energy consumed.

4.6 Maximum inertia level at a transmission station

4.6.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the maximum inertia level at a transmission station:

TSOs' Proposal:

The maximum inertia limits at a transmission station will be 2,000 MVA.s at 110 kV and 4,000 MVA.s at 220 kV and above. These limits include the inertia contributions from any LCIS devices connected to that station via 'tail-fed' transmission stations and any LCIS devices at that station already contracted in LCIS Phase 1.

Question 8: Do you have any comments on the proposed inertia limits at a transmission station?

4.6.2 Summary of consultation responses

Most respondents agree with the proposed inertia limits at transmission stations, noting that they help prevent over-concentration of inertia at single locations and promote geographic diversity.

Several respondents request clarification on how competing projects at the same station will be assessed and whether both can progress to the Best and Final Offer stage. This is to avoid reducing competition if one project later withdraws.

Some suggest that inertia limits should be more dependent on the station voltage and transformer limits. For example:

1. 1600 MVA·s at 110 kV, 4000 MVA·s at 220 kV, 6000 MVA·s at 400 kV, or
2. 1000 MVA·s at 110 kV, 2200 MVA·s at 220 kV, 4000 MVA·s at 400 kV.

One respondent supports applying the 4,000 MVA·s limit to any station with multiple voltage levels (e.g. a 220/110 kV, 275/110 kV, 400/110 kV, or 400/220 kV station would have a total limit of 4,000 MVA·s).

[9] Where TSOs have operational control of the LCIS unit, meaning the possibility to instruct the unit to come on and off and to produce/consume reactive power

There is also support for excluding substations already contracted under LCIS Phase 1 to avoid overlap.

4.6.3 TSOs' response

The TSOs welcome the broad support for the proposed inertia limits at transmission stations, particularly the recognition that these limits help prevent over-concentration of inertia, promote geographic diversity, and enhance system resilience. We also note the specific support for applying a single limit across stations with multiple voltage levels.

In response to queries on how competing projects at the same station will be assessed, EirGrid clarifies the following:

- Any individual project that exceeds the maximum limit at a substation will be excluded and will not progress to the Best and Final Offer (BAFO) stage.
- Where two or more projects at the same substation could collectively breach the limit (but not individually), all will remain in the process initially. At the BAFO stage, projects will be re-ranked based on BAFO submissions, and the most expensive project causing the breach will be excluded.

The TSOs acknowledge suggestions to refine inertia limits based on station voltage and transformer capacity. However, as 4,000 MVA·s can already be accommodated at 220 kV, and higher inertia levels—whether from a single unit or multiple units at the same station—are not preferred by the TSOs, we do not consider it necessary to differentiate between 220 kV and 400 kV stations.

4.6.4 TSOs' recommendation

Given the above, we recommend the following regarding the maximum inertia level at a transmission station:

TSOs' Recommendation:

The maximum inertia limits at a transmission station will be 2,000 MVA.s at 110 kV and 4,000 MVA.s at 220 kV and above. Note that the 4,000 MVA.s limit will also apply to any station with multiple voltage levels (e,g, a 220/110 kV, 275/110 kV, 400/110 kV and 400/220 kV stations will have a total limit of 4000 MVA.s).

These limits include the inertia contributions from any LCIS devices connected to that station via 'tail-fed' transmission stations and any LCIS devices at that station already contracted in LCIS Phase 1. Due to the contracts awarded in LCIS Phase 1, the following limits will apply to the following substations:

- Wexford 110kV: Max 1037 MVA.s
- Knockranny 110kV: Max 0 MVA.s
- Srananagh 220/110kV: Max 2000 MVA.s
- Kilpaddoge 220/110kV: Max 2000 MVA.s
- Coolkeeragh 275kV/110kV and Coleraine 110kV substations have been excluded from SONI's procurement scope, as outlined in Section 4.2 of this recommendations paper.

4.7 Transformer rating limits

4.7.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the maximum inertia level at a transmission station:

TSOs' Proposals:

The transformer rating limits for the different voltage levels are set as follow:
• 100 MVA max at 110 kV;
• 250 MVA max at 220 kV;
• 260 MVA max at 275 kV;
• 400 MVA max at 400 kV.

The following question was asked:

Question 9: Do you have any comments on the proposed transformer rating limits?

4.7.2 Summary of consultation responses

Most respondents broadly support the proposed transformer rating limits, recognising their role in mitigating voltage steps during energisation.

However, a small number of respondents raised concerns and suggestions. One respondent argued that uniform limits across the network are unnecessary and recommended a case-by-case approach based on node-specific studies, with published maximum MVA values for transparency.

Another requested clarification on whether the limits apply per transformer or per connection point, warning that applying them to the total connection could restrict machine size and complicate achieving upper inertia limits.

A few respondents suggested flexibility, such as granting dispensations for shared connections or allowing higher ratings where inrush current can be controlled.

While some respondents accept the limits as reasonable, one questioned whether existing Grid Code requirements already address the underlying issue, suggesting that additional restrictions may be redundant.

4.7.3 TSOs' response

We acknowledge the strong support for the proposed transformer rating limits and the constructive suggestions received. To clarify:

- The limit applies per transformer, not per connection point.
- For shared connections where a transformer already exists, the limit does not apply to that existing transformer.
- We propose increasing the limit for 275 kV transformers from 260 MVA to 300 MVA, ensuring a consistent ratio between MVA rating and voltage level, in line with transformer ratings applied at other voltage levels.

4.7.4 TSOs' recommendation

Given the above, we recommend the following regarding the transformer rating limits:

TSOs' Recommendation:

The transformer rating limits for the different voltage levels are set as follow:
• 100 MVA max at 110 kV;
• 250 MVA max at 220 kV;
• 300 MVA max at 275 kV;
• 400 MVA max at 400 kV.
The limit applies per transformer but does not apply where a transformer is already energised.

4.8 Technical requirements to provide LCIS

4.8.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the maximum inertia level at a transmission station:

> TSOs' Proposal:
>
> Unlike LCIS Phase 1, requirements on minimum reactive power and short circuit contribution will be removed from the procurement requirements although these capabilities will continue to be incentivised through application of scalars. LCIS units will still need to meet minimum Grid Code standards.

Question 10: Do you have any comments on the proposed approach regarding the minimum requirements?

4.8.2 Summary of consultation responses

Most respondents agree with the proposed approach that LCIS units should only be required to meet Grid Code standards, with no additional minimum requirements for inertia constant, short-circuit contribution, or reactive power.

Several respondents support incentivising additional capabilities through scalars but some request clarity on whether the values in the consultation align with Grid Code standards and whether modelling has been done to ensure fair competition across machine types.

One respondent cautions that high incentives for reactive power and short-circuit capability could disadvantage projects focused on delivering inertia and suggests reducing these weightings in favour of inertia provision.

Others highlight the need for transparency by publishing the latest Grid Code requirements alongside the consultation and note potential technical implications for transformer design, generator circuit breaker (GCB) ratings, and environmental compliance.

4.8.3 TSOs' response

The TSOs acknowledge the broad support for the proposed approach.

Further detail on the capability of the reference unit and how this aligns with the current Grid Code modification proposal for Synchronous Condenser Units (SCUs) is provided in Section 5.6.3.

The TSOs wish to reiterate that LCIS has been designed to ensure that the capabilities traditionally provided by conventional plant—namely inertia, reactive power, and short-circuit contribution—can be effectively replaced as the system transitions to operating at very high levels of SNSP. In this context, the proposed incentives are considered essential to achieving this objective.

The Grid Code provisions for SCUs are currently undergoing the approval process. In the meantime, a draft of the proposed Grid Code modifications can be shared with interested parties upon request by contacting info@eirgrid.com or connections@soni.ltd.uk.

4.8.4 TSOs' recommendation

Given the above, we recommend the following regarding technical requirements:

TSOs' Recommendation:

Unlike LCIS Phase 1, requirements on minimum reactive power and short circuit contribution will be removed from the procurement requirements although these capabilities will continue to be incentivised through application of scalars. LCIS units will still need to meet minimum Grid Code standards.

5 Contractual Arrangements

5.1 LCIS Agreement and LCIS Protocol

The LCIS contractual arrangements will consist of an LCIS Agreement (the "Agreement") and an LCIS Protocol (the "Protocol") that LCIS providers will be party to. The Agreement will refer to the Protocol document and a single Protocol will apply to all providers.

The Agreement will contain, inter alia, the:

- Contractual Provisions
- Performance Security Requirements
- Billing and Payment Schedules
- Performance and Product Scalar Value Specifications

The Protocol will contain, inter alia, the:

- Protocol Governance
- Operational Requirements
- Details of Scalar Calculation Methodologies
- Performance Monitoring Timelines

This section provides further detail on certain key elements of the LCIS Phase 2 Contractual Arrangements, including the main areas of proposed change from LCIS Phase 1 and the rationale for these changes.

5.2 Commencement and Duration of Agreement

5.2.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the commencement and duration of the Agreement:

TSOs' Proposals:

- The Target Go-Live date within the contractual arrangements for LCIS Phase 2 shall be 48 months after the Effective Date of the LCIS Phase 2 Agreement.
- The Contract Duration will be 8 years from the Target Go-Live date.

The following questions were asked:

Question 11: Do you have any comments on the proposed extension of the Target Go-Live date from 42 months for LCIS Phase 1 to 48 months for LCIS Phase 2?

Question 12: Do you have any comments on the proposed extension of the Contract Duration from 6 years for LCIS Phase 1 to 8 years for LCIS Phase 2?

5.2.2 Summary of consultation responses

Target Go-Live date

All respondents welcome the proposed extension of the Target Go-Live date from 42 to 48 months, recognising it as a realistic adjustment that better reflects the complexities and supply chain challenges of delivering large-scale projects.

Several noted that the longer timeframe should reduce delivery risk and provide greater confidence in meeting contractual milestones. However, some respondents highlighted that even with the extension,

timelines remain challenging due to ongoing supply chain pressures, grid connection uncertainties, and resource constraints.

One respondent suggested further flexibility, such as allowances for third-party delays (e.g. grid or supply chain issues). One respondent requested clarification on how early delivery will be incentivised and whether projects that achieve Go-Live ahead of the Target date will benefit from an extended contract term with another suggesting incentives for early delivery.

Others emphasised the importance of clear and timely communication of key milestones and connection timelines to support project planning and delivery.

Contract duration

Most respondents recognised the proposed extension of the contract duration from 6 to 8 years as a positive step that enhances revenue certainty and supports more competitive bids.

However, five respondents believe that 8 years remains short compared to the operational lifetime of LCIS assets and similar schemes in other markets, with several suggesting a contract duration of 10 years or more would better align with asset life and reduce investment risk.

One respondent specifically asked for confirmation that a Service Provider whose Go-Live Date occurs ahead of their Target Go-Live Date would be eligible for payment from their actual Go-Live Date through to the end of the contract term. The respondent noted that this type of mechanism acts as an effective incentive for early delivery in other markets and should be introduced for LCIS Phase 2 if not already provided.

Four respondents called for greater clarity on the criteria and terms for possible contract extensions, as well as on future revenue arrangements beyond the contract period, to further reduce risk and deliver better value for consumers.

5.2.3 TSOs' response

Target Go-Live Date

The TSO notes that all respondents welcomed the proposed extension of the Target Go-Live date from 42 months for LCIS Phase 1 to 48 months for LCIS Phase 2. Stakeholders recognise this as a realistic adjustment that better reflects the complexities of large-scale project delivery, supply chain pressures, and grid connection requirements.

The TSO acknowledges the view of some respondents that the timeline risk is still high for service providers given the uncertainty around transmission connection timelines, supply chain pressures and resource constraints.

Consideration has been given to suggestions regarding flexibility for third-party delays and incentives for early delivery. The TSO acknowledges these suggestions and offers the following clarifications.

To address potential delays in grid connection attributable to the TSO, a Target Energisation Date will be defined at contract signature. For EirGrid, this date will be based on the grid connection assessment provided to the shortlisted bidders, as detailed in Section **Error! Reference source not found.**. For SONI, it will be based on the energisation date communicated to the developer in its connection programme at the tender closing date. If the Target Energisation Date is not met due to a TSO-related delay, the developer will be entitled to claim delays. This may result in adjustments to the remaining milestones, including the Target Go-Live Date and Contract End Date, as further detailed in Clause 4.2 of the EirGrid and SONI Agreement, thereby protecting the developer's commercial interests.

With respect to third-party delays, such as supply chain issues, the TSO recommends that these risks remain with the developer.

To further clarify the key dates of the Agreement, the Effective Date of the LCIS Phase 2 Agreement will be the date on which each successful tenderer signs their Agreement following Contract Award. We propose a Target Go-Live date 48 months after the Effective Date. This allows for a longer delivery period

for LCIS Phase 2 projects relative to LCIS Phase 1 projects, for which the Target Go-Live date was set 42 months after the Effective Date. We consider this increased timeline for delivery to be appropriate.

The Go-Live Date is the date on which the Service Provider commences provision of the Service. This shall be no earlier than 1 Oct 2026, with the actual date subject to award of contract.

Contract Duration

The TSO notes broad support for the proposed extension of the contract duration from 6 to 8 years, recognising it as a positive step to enhance revenue certainty and supports competitive bids. However, some feedback suggested that an 8-year duration might still be short compared to the operational lifetime of LCIS assets. There were proposals for longer durations, such as 10 years or more, to better align with asset life and reduce investment risk.

The TSO notes this feedback and considers the proposed 8-year contract duration appropriate to balance the objectives of investment certainty and consumer value.

To provide further clarity, the TSOs confirm that a Service Provider whose Go-Live Date occurs before their contractual Target Go-Live Date will be eligible for payment from their actual Go-Live Date through to the end date of the contract, which is defined as eight years after the Target Go-Live Date. The earliest date at which payments can commence is 1 October 2026. This means that providers achieving early delivery can begin to receive payments in advance of the Target Go-Live Date.

The TSO further notes requests for greater clarity on the criteria for contract extensions and on revenue arrangements beyond the contract period. While contract extensions are not expected to be used under normal circumstances, they may be considered if specific conditions arise—for example, such extensions were applied during the Covid-19 pandemic for contracts awarded under the volume-capped procurement for reserve services. Events that may significantly impact the contract value will require further engagement with the Regulatory Authorities to determine whether a potential extension can or should be applied.

Regarding revenue arrangements beyond the LCIS contracts, EirGrid and SONI will shortly consult on the design and future procurement of non-reserve products following the retirement of the DS3 System Services Regulated Arrangements.

5.2.4 TSOs' recommendation

Given the above, we recommend the following regarding the commencement and duration of the Agreement:

TSOs' Recommendations:

- The Target Go-Live date within the contractual arrangements for LCIS Phase 2 shall be 48 months after the Effective Date of the LCIS Phase 2 Agreement.
- The Contract Duration will be 8 years from the Target Go-Live date.

5.3 Performance Security, Milestones and Target Energisation Date

5.3.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding Performance Security:

TSOs' Proposal:

The LCIS Phase 2 Performance Security requirement shall be €2,500 per MVA.s (and £2,100 per MVA.s) of the Providing Unit's Contracted Maximum Available Volume.

The following question was asked:

Question 13: Do you have any comments on the proposed increase in the Performance Security requirement for LCIS Phase 2?

5.3.2 Summary of consultation responses

There is a general acceptance that there is a requirement to increase the Performance Security requirement for LCIS Phase 2, with several respondents specifically recognising that it brings the scheme more in line with comparable markets and should help deter speculative bids.

However, a small number of respondents raised concerns about whether the scale of the increase is proportionate to the changes in contract length and delivery timelines and noted that the higher requirement could act as a barrier to entry for some participants.

5.3.3 TSOs' response

The TSO notes the range of views expressed in relation to the proposed increase in the Performance Security requirement for LCIS Phase 2. It is acknowledged that most respondents accept the proposed increase, with several recognising that it aligns the scheme more closely with comparable markets and helps deter speculative bids. However, the TSO also notes concerns regarding the proportionality of the increase relative to changes in contract length and delivery timelines, and the potential barrier to entry for some participants.

The impact to the TSOs of non-delivery of projects awarded LCIS contracts would be significant, as it could cause a substantial delay in reducing the number of thermal units required to be on for inertia provision, and a consequent delay in meeting carbon emission reduction targets across both jurisdictions. We therefore consider that the proposed increase in the required performance security from €500 for LCIS Phase 1, to €2,500 for LCIS Phase 2 (and from £442 for LCIS Phase 1, to £2,100 for LCIS Phase 2), per MVA.s of the Providing Unit's Contracted Maximum Available Volume is appropriate.

5.3.4 TSOs' recommendation

Given the above, we recommend the following regarding the LCIS Phase 2 Performance Security requirement:

TSOs' Recommendation:

The LCIS Phase 2 Performance Security requirement shall be €2,500 per MVA.s (and £2,100 per MVA.s) of the Providing Unit's Contracted Maximum Available Volume.

5.4 Payment

5.4.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding Payment:

TSOs' Proposal:

Payment will be based on availability, with a target availability of at least 97%. Product and Performance Scalars will apply, but there will be no Locational Scalar.

The following question was asked:

Question 14: Do you have any comments on the proposed approach to the payment calculation?

5.4.2 Summary of consultation responses

Responses to the proposed approach to payment calculation were mixed. Several respondents expressed support for the proposed methodology, recognising that it appropriately seeks to incentivise reliability and performance through the application of availability and product scalars.

Three respondents raised specific concerns with aspects of the payment mechanism. The most prominent issue related to the absence of indexation, with respondents highlighting that providers may be exposed to inflation risk, potentially leading to higher bid prices or increased costs for consumers. One respondent also suggested that incorporating indexation would better align the scheme with other support mechanisms, such as RESS and ORESS, and would provide a fairer balance of risk between providers and consumers. It was noted that applying a fixed inflation assumption effectively "bakes in" inflation at a set rate, which may not reflect actual inflation over the contract term. This could result in overcompensation during periods of low inflation or under compensation during periods of high inflation, creating cost uncertainty and inefficiency for both parties.

Other respondents raised concerns about the complexity of the payment calculation and potential double counting of availability penalties. One stakeholder highlighted that units should not be penalised twice for the same outage event and suggested a review to ensure the calculation fairly reflects performance incentives. Another respondent recommended aligning the methodology for availability and outage calculations with recognised industry standards (such as CIGRE 717:2018) and assessing availability on an annual basis to ensure consistency and clarity.

5.4.3 TSOs' response

The TSO notes the range of views expressed in relation to the proposed payment calculation, with the majority supportive of the overall framework but concerns relating to a number of aspects, most notably the absence of indexation.

We acknowledge the potential implications of excluding indexation for both providers and will continue to monitor inflationary trends and relevant SEM Committee decisions in this area but our view is that the current approach provides a transparent and predictable payment mechanism for LCIS Phase 2, balancing risk between providers and consumers. Maintaining alignment with LCIS Phase 1 is also important to provide a stable basis for participant expectations. Therefore, we consider it appropriate that payment will be based on availability, with a target availability of at least 97%.

In relation to other comments, the TSO acknowledges stakeholder feedback regarding the potential for double penalisation within the availability calculation and the suggestion to align the methodology with recognised market standards such as CIGRE 717:2018. Incentivising high availability remains a key objective to ensure that system capability is reliably in place when needed. While the available volume of inertia is assessed monthly, the availability performance scalar is calculated using a 12-month rolling period, as outlined in the LCIS Protocol document. This approach helps to smooth the impact of an outage occurring in a given month.

5.4.4 TSOs' recommendation

Given the above, we recommend the following regarding Payment:

TSOs' Recommendation:

Payment will be based on availability, with a target availability of at least 97%. Product and Performance Scalars will apply, but there will be no Locational Scalar.

5.5 Performance Scalar

5.5.1 Consultation proposal

The consultation proposed a Performance Scalar to incentivise reliable service delivery by LCIS providers. It is calculated as the product of three individual scalars:

- Synchronisation Dispatch Performance Scalar – Assesses timely synchronisation when instructed. Methodology and examples are provided in Section 4 and Appendix 1 of the Protocol. This approach is consistent with LCIS Phase 1.
- Availability Performance Scalar – calculate unit availability, with details in Section 6 and Appendix 1. This also follows the LCIS Phase 1 methodology.
- Consumption Performance Scalar – Evaluates actual energy consumption against contracted values from the LCIS Phase 2 tender. A revised tolerance band (from <5% to <20%) was proposed to account for metering inaccuracies. This change applies to both Phase 1 and Phase 2 providers.

Additionally, a Trip Charge mechanism is proposed (Section 8 of the Protocol), applying a monthly charge if a unit trips via the EDIL "Trip" instruction. This is consistent with the approach used in LCIS Phase 1.

TSOs' Proposal:

The first tolerance band for the Consumption Performance Scalar will be extended from <5% to <20%.

Stakeholders were asked the following questions:

Question 15: Do you have any comments on the proposed change to the tolerance band for the Consumption Performance Scalar?

Question 16: Do you have any other comments on the Performance Scalars?

5.5.2 Summary of consultation responses

Tolerance band for the Consumption Performance Scalar

Responses to the proposed change to the tolerance band for the Consumption Performance Scalar were generally supportive. Five respondents agreed that an increase to the tolerance is reasonable and should help address practical metering and testing challenges.

However, some respondents questioned whether the magnitude of the increase is proportionate and requested further justification for the specific level selected, arguing that such a large tolerance may reduce the incentive for efficient operation and could transfer some cost risk to consumers.

Three respondents also suggested additional measures to enhance fairness and accuracy, such as introducing an intermediate scalar band to better reward high performing units, allowing site-specific adjustments in cases of metering inaccuracy and aligning the testing methodology with recognised international standards (e.g. IEC standards).

Two respondents also raised concerns that the proposed testing approach does not fully account for the characteristics of synchronous condensers—specifically, their near-zero power factor at non-zero reactive power setpoints—and that this may lead to large measurement uncertainties.

One respondent cautioned that the revised tolerance band should not be applied retrospectively to LCIS Phase 1 contracts, noting that doing so could affect procurement fairness and investor expectations.

Other comments

Eight respondents provided comments on the proposed Performance Scalars, with feedback focusing primarily on the Availability Performance Scalar, Consumption Performance Scalar, and the Product Scalar.

Availability Performance Scalar

Two respondents raised concerns that the proposed Availability Performance Scalar may be overly penal, with no upside incentive for perfect performance and a steep reduction in scalar value once availability falls below the 97% target. Respondents noted that a brief outage early in the month could disproportionately reduce payments and remove incentives for the remainder of the period. Suggestions included introducing a less steep performance curve, applying symmetric incentives (e.g. allowing a scalar greater than 1.0 for exceptional performance), and enabling the 15-day scheduled outage allowance to be cumulative over the contract term.

Consumption Performance Scalar

Three respondents reiterated the need for proportionality in applying the Consumption Performance Scalar, arguing that the proposed mechanism could expose providers to risks not directly linked to additional TSO costs. It was suggested that penalties should only apply where higher-than-declared consumption leads to actual financial exposure for consumers. Respondents welcomed the widening of the consumption deviation factor tolerance band from 5% to 20% but recommended additional adjustments, such as temperature correction factors during testing and the use of well-established IEC standards for determining losses.

Synchronisation Dispatch Performance Scalar

One respondent queried whether the required synchronisation time would reflect the minimum time needed for the Providing Unit to synchronise.

General Comments on Scalar Design

Several respondents supported the move toward simplification and standardisation of scalar methodologies, noting that this approach reduces uncertainty and supports more competitive bidding. There were also minor editorial requests, including clarification on the labelling of the Consumption Performance Scalar in the Protocol (noting that it should be classified as a static scalar rather than a dynamic one).

5.5.3 TSOs' response

Tolerance band for the Consumption Performance Scalar

The TSOs welcome the broad support for increasing the tolerance band for the Consumption Performance Scalar and acknowledge the detailed technical feedback provided by respondents.

The increase from 5% to 20% is intended to allow for the potential impact of metering inaccuracies on the actual energy consumption measured during Performance Testing and is designed to ensure that performance assessments fairly reflect true technical capability and do not penalise participants for unavoidable measurement variance.

With respect to the testing methodology, the TSOs acknowledge the requests for greater alignment with international standards such as IEC 60034-2-1 and IEC 60076-1. The TSOs may consider further alignment with international best practice while developing the testing procedure.

We would also like to note that the TSOs may propose changes to the LCIS Phase 1 Protocol document under the established protocol amendment process. Specifically, no more than once every three months with the approval of the Regulatory Authorities and subject to industry consultation. This ensures that any retrospective adjustment is implemented transparently and with proper stakeholder engagement.

Overall, the TSOs consider the proposed change to be appropriate and proportionate, improving fairness and practicality while preserving the integrity of performance incentives.

Other comments

The TSOs acknowledge stakeholders' detailed feedback on the proposed Performance Scalars and appreciate the constructive engagement across multiple design aspects.

Regarding the Availability Performance Scalar, the TSOs note the concerns about the steep penalty curve and the absence of a symmetric incentive. The proposed scalar design was developed to ensure that high availability is consistently maintained. The 97% availability threshold aligns with the performance expectations for LCIS providers and reflects the operational need for continuous service readiness. While the TSOs recognise suggestions for introducing positive incentives, the current approach prioritises simplicity, transparency, and consistency across providers.

For the Consumption Performance Scalar, the TSOs recognise concerns about proportionality and methodology. The mechanism is designed to ensure that providers are incentivised to operate efficiently and that consumers are not exposed to higher costs from excess energy consumption. The increase in the tolerance band from 5% to 20% is intended to accommodate known metering uncertainties during performance testing, while maintaining sufficient incentive for efficient operation. The TSOs note stakeholder suggestions to incorporate recognised international standards (e.g. IEC 60034 and 60076) and will continue to review opportunities for alignment.

The TSOs also confirm that the Consumption Performance Scalar is intended to operate as a static scalar applied to all trading periods following initial performance testing. However, the TSOs reserve the right to review and update this scalar based on further monitoring and additional testing.

For the Synchronisation Dispatch Performance Scalar, the TSOs note the query regarding whether the required synchronisation time will reflect the minimum time needed for the Providing Unit to synchronise. The TSOs confirm that dispatch instructions will ordinarily be issued with sufficient notice to allow units to prepare for synchronisation, consistent with operational practice. The synchronisation time requirement is intended to be achievable under normal system conditions, while ensuring that units can respond in a manner that supports overall system security and operational needs.

Overall, while the TSOs acknowledge the suggestions for further refinement, they consider the proposed approach to Performance Scalars to be appropriate and proportionate, balancing fairness, transparency, and operational needs.

5.5.4 TSOs' recommendation

Given the above, we recommend the following regarding the Performance Scalars:

TSOs' Recommendation:

The first tolerance band for the Consumption Performance Scalar will be extended from <5% to <20%.

There will be no further changes to the:

- Availability, Synchronisation Dispatch and Consumption Performance Scalars;
- Trip Charge.

5.6 Product Scalar

5.6.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding the Product Scalar:

TSOs' Proposal:

- The Product Scalar will be the product of the Short Circuit Contribution Scalar and the Reactive Power Scalar. The Reactive Power Scalar will be the product of the leading and lagging Reactive Power Scalars. There will be no Inertia Constant Product Scalar.
- There will be no minimum requirement for Short Circuit Contribution or Reactive Power in this tender, notwithstanding Grid Code obligations that will apply to successful units.
- The Short Circuit Contribution Scalar and the leading and lagging Reactive Power Scalars will be calculated by reference to the capability of a specified "Reference Unit" at the connection point. The reactive power capabilities will need to be provided across the full voltage ranges while the Short-Circuit will be assessed according to IEC standard.

Stakeholders were asked the following question:

Question 17: Do you have any comments on the proposed approach to incentivising the provision of Short Circuit Contribution and Reactive Power?

5.6.2 Summary of consultation responses

There were three responses to the proposed approach to incentivising the provision of Short Circuit Contribution and Reactive Power with all generally supportive of the principle. Respondents welcomed the use of a reference unit to clearly specify target capabilities, removing the need for a separate inertia constant product scalar.

However, one respondent raised concerns that the approach may unintentionally penalise providers for limitations imposed by the TSO or local grid conditions and could create distortions by prioritising national over local needs. They also requested that where the TSO has imposed connection limits, those TSO-specified limits should be used as the reference capability for determining the scalar, and that the methodology focus primarily on incentivising inertia provision rather than penalising the absence of short circuit or reactive power capability.

One respondent also welcomed the removal of the H inertia constant from the Product Scalar, agreeing that the revised design is simpler and clearer in its intent. However, they also raised a concern that including a short-circuit contribution scalar (not currently recognised within the DS3 framework) could be discriminatory unless such a service is formally recognised and remunerated outside LCIS.

5.6.3 TSOs' response

The TSOs acknowledge the broad support for incentivising Short Circuit Contribution and Reactive Power based on the capability of a reference unit. The reference unit has been specified to reflect the typical characteristics of large generation units that LCIS assets are intended to replace, ensuring alignment with overall system needs.

The scalars have been designed to recognise the relative technical value of different services while maintaining consistency across participants. The inclusion of short-circuit contribution reflects the specific system benefit delivered by LCIS assets and is considered appropriate within the context of LCIS procurement, which is intended as a targeted system service rather than a general DS3 product.

Overall, the TSOs believe that the proposed approach aim to enable all potential service providers to participate in the procurement process on a fair and transparent basis, with scalars that reflect their relative service capabilities.

5.6.4 TSOs' recommendation

Given the above, we recommend the following regarding the Product Scalar:

TSOs' Recommendation:

- The Product Scalar will be the product of the Short Circuit Contribution Scalar and the Reactive Power Scalar. The Reactive Power Scalar will be the product of the leading and lagging Reactive Power Scalars. There will be no Inertia Constant Product Scalar.
- There will be no minimum requirement for Short Circuit Contribution or Reactive Power in this tender, notwithstanding Grid Code obligations that will apply to successful units.
- The Short Circuit Contribution Scalar and the leading and lagging Reactive Power Scalars will be calculated by reference to the capability of a specified "Reference Unit" at the connection point. The reactive power capabilities will need to be provided across the full voltage ranges while the Short-Circuit will be assessed according to IEC standard.

5.6.5 Overview of Scalars

The Scalars reflected in the Scaling Factor applied in the Payment calculation, are summarised in Table 5 below. The methodology for calculating the scalars that are dynamic is set out in the Protocol and worked examples of the calculation of these dynamic scalars are provided in Appendix 1.

For the avoidance of doubt, it should be noted that the Trading Period Payment will be based on the Available Volume of inertia (MVA.s) only and that reactive power capability and short-circuit contribution are incentivised via the product scalars i.e. there is no separate payment for the provision of reactive power and short circuit contribution.

Scalar Type	Calculation	Value
Performance Scalars		
• Availability Performance Scalar	Dynamic	0 - 1
• Synchronisation Dispatch Performance Scalar	Dynamic	0 - 1
• Consumption Performance Scalar	~~Dynamic~~ Static[10]	0 - 1
Product Scalars		
• Short Circuit Contribution Product Scalar	Fixed	0.125 x (Unit Capability/Ref Unit Capability) + 0.875 **Ref Unit Capability:** 300 MVA at 110 kV 750 MVA at 220 kV or above
• Reactive Power Product Scalar$_{leading}$	Dynamic	0.125 x (Unit Capability/Ref Unit Capability) + 0.875 **Ref Unit Capability:** 40 MVAr at 110 kV 100 MVAr at 220 kV or above
• Reactive Power Product Scalar$_{lagging}$	Dynamic	0.125 x (Unit Capability/Ref Unit Capability) + 0.875 **Ref Unit Capability:** 80 MVAr at 110 kV 200 MVAr at 220 kV or above

Table 5: Overview of scalars used in payment calculation. The methodology for calculating the scalars that are dynamic is set out in the Protocol.

[10] The TSOs reserve the right to review and update this scalar based on further monitoring and additional testing.

5.7 LCIS Agreement – Overview of Contents

5.7.1 Consultation proposal

Table 6 summarises the overall proposed content of the LCIS Phase 2 Agreement and indicates which topics are detailed further in the subsections referenced.

Section of LCIS Phase 2 Agreement	Content
1. Definitions and Interpretation	Covers the general definitions (non-technical) and interpretations to be used throughout the contract.
2. Commencement and Duration of Agreement	Outlines general provisions with respect to duration and purpose of the arrangements including contract length, rights on termination, as well as the necessary provision and availability of the service.
3. Provision and Purchase of the Service	Outlines the duty of providers to deliver services in accordance with operating parameters and dispatch instructions, as well as compliance obligations with respect to the Grid Code, Trading & Settlement Code (TSC), and the Protocol. Also outlines provisions with respect to planned maintenance and to the charge that will apply in the event of a shortfall in the Installed Capability.
4. Performance Security	Deals with "Performance Security" requirements and the effect of TSO delays and Force Majeure on the Project timelines.
5. Billing and Payment	Outlines the payment which will be received for making available the service for which the provider is contracted, and the conditions for these payments.
6. Monitoring and Metering	Includes provisions with respect to monitoring and metering of service providers.
7. Assignment	Includes provisions with respect to assignment of rights and obligations under the contract.
8. Variations	Includes provisions with respect to variations of the Agreement.
9. Events of Default and Termination	Includes provisions with respect to termination of the Agreement and to Events of Default.
10. Effect of Termination	Covers rights and obligations on termination of the agreement.
11. Force Majeure	Covers rights and obligations in cases of Force Majeure.
12. Limitation of Liability	Covers limitations of liability for both parties in cases of breach of the agreement.
13. Confidentiality	Includes provisions with respect to confidentiality.
14. Dispute Resolution	Includes provisions in the case of disputes.
15. Miscellaneous	Includes miscellaneous contractual provisions.
16. Governing Law and Jurisdiction	Covers the governing law and jurisdictions.
Schedule 1 — Definitions	Sets out definitions used in the contract including schedules.
Schedule 2 — Low Carbon Inertia Service	Covers the payment mechanism for the provision of the Service.
Schedule 3 — Billing, Payment and Reconciliation	Provides an overview of the billing and payment mechanism for providing LCIS, including details of

	the quarterly reconciliation mechanism for Use of System Costs.
Schedule 4 — Performance Milestones	Provides an overview of the performance milestones which will be used in the monitoring of projects from contract execution to the Go-Live date, and the information which will be required from participants to fulfil their obligations for each milestone. The milestones correspond to stages in the construction and commissioning process and therefore the dates for each milestone will be specific to each project. It is also possible that some milestones will not be relevant for all providers, where projects are at a later stage of the connection process and have already passed a number of milestones.
Schedule 5 — Dispute Resolution Procedure	Provides an overview of the procedure in the case of dispute between the contracted parties.
Schedule 6 — Addresses	Details addresses of the contracted parties.
Schedule 7 — Banking Details	Details banking information for the contracted parties.
Schedule 8 — Performance Bond	Provides a template for the Performance Bond letter.
Schedule 9 — Providing Unit and Operating Parameters	Provides an overview of the parameters that will need to be completed for each provider for their equipment. Note that some of these parameters are based on those used for centrally dispatched generation units and might need to be amended by the time the Providing Unit will go-live to consider the most up to date arrangements regarding the Scheduling and Dispatch of the Providing Unit and associated Grid Code requirements.
Schedule 10 — Insurance	Details the levels of insurance Service Providers are required to maintain.
Schedule 11 — Delay Tracker Form	Contains the template for tracking of delays to the Project.

Table 6: Summary of the content of the LCIS Phase 2 Agreement

Stakeholders were asked the following question:

Question 18: Do you have any comments on the other aspects of the LCIS Agreement? If yes, please mention the clause number and/or Schedule.

5.7.2 Summary of consultation responses and TSOs responses

The table below summarises all the other consultation responses as well as the TSOs' responses.

Clause / Schedule	Theme	Consultation responses	TSOs responses
2.5.2	**Commencement and Duration - Availability of service from Go-Live Date**	One respondent proposed that Service Providers be permitted to commence operations and earn revenues once initial milestones (up to System Service Compliance) are completed, without awaiting full Grid Code Compliance. They noted this approach aligns with other markets and would avoid unnecessary delays and costs to consumers.	The TSOs note this feedback but confirm that completion of all Performance Milestones, including Grid Code Compliance, remains a requirement to ensure full technical readiness before commencement of service provision. No change proposed.
3.6.1	**Shortfall Charge**	One respondent identified a discrepancy between the numerical and written values of the liquidated damages ("£94,000 (nineteen four thousand GBP)").	The TSOs acknowledge the typographical error and has corrected the inconsistency between the numerical and written values in the post-consultation agreements.
4.2.2	**Delay Claims**	One respondent highlighted that the term "without delay" is not defined, creating uncertainty and potential for subjective interpretation. They requested clearer timeframes and definitions.	The TSOs acknowledge this feedback however, the TSOs want to retain this wording.
4.2.2(g)	**Delay Claims**	One respondent objected to the provision allowing the TSO to reject Delay Claims due to ESB Networks' alignment or resourcing issues, noting that Service Providers have no control over ESBN's performance. They suggested the associated risk should rest with EirGrid.	The TSOs wish to retain the wording in clause 4.2.2(g). This clause does not preclude a Service Provider delay claim in accordance with the process outlined from clauses 4.2.4 to 4.2.9.

4.2.5	**Delay Claims**	One respondent stated that the phrase "should have reasonably been aware of event giving rise to delay" is inappropriate and places the Service Provider at a disadvantage. They proposed that notice should only be required when definitive information has been received from the relevant parties.	The TSOs acknowledge this feedback, and the delay claim process has been refined in the LCIS Agreement to address comments. However, the TSOs have retained this wording.
4.2.5(f)	**Delay Claims**	One respondent noted that there is no defined timeline for TSO decisions on Delay Claims, referencing extended delays under Phase 1. They suggested a six-week decision timeframe to support project planning.	The TSOs acknowledge this feedback however, the TSOs don't propose defining a timeline for TSO decisions on delay claims but the intention is that the new delay claim process should speed up decision making in this regard.
4.3.1 & 4.3.2	**Performance Security**	One respondent requested clarification on the meaning of "suitable credit rating" and "significant commercial standing."	The TSOs acknowledge this feedback however, TSO discretion is required in this area.
5.3	**Billing and Payment**	One respondent stated that the proposed net settlement process is overly complex and not user-friendly, potentially increasing administrative burden.	The TSOs acknowledge this feedback but aim to maintain alignment with the approach adopted for LCIS Phase 1, to streamline processes.
9.2.5	**Events of Default and Termination**	One respondent expressed concern that this clause could require mandatory termination if a Service Provider fails to achieve a milestone or Target Go-Live Date, effectively making the target date the longstop date. They requested clarification or redrafting.	The TSOs want to retain this wording and refer to Clause 9.3, where the TSO *may* give notice of termination once an Event of Default has occurred and remains extant.

9.2.15	**Events of Default and Termination**	One respondent suggested that Service Providers should be permitted to self-insure, particularly for cybersecurity coverage.	The TSOs acknowledge this feedback but consider that this would not be suitable.
9.5	**Events of Default and Termination**	One respondent stated that if this clause applies due to the actions or omissions of the Company, providers should be compensated for unrecoverable sunk costs.	The TSOs acknowledge this feedback but do not agree with the same. Liability for sunk costs would effectively impose strict liability for judicial outcomes, which is not contemplated by the relevant procurement legislation.
15.14	**Miscellaneous**	One respondent recommended allowing Service Providers to self-insure and removing the requirement for a broker's letter, noting that restricting self-insurance increases costs to projects and consumers.	The TSOs acknowledge this feedback but consider that this would not be suitable.
Schedule 1	**Definition: Letter of Credit**	One respondent queried the use of figures "£1,000 million" and "£10,000 million" rather than "£1 billion" and "£10 billion."	The TSO acknowledge this feedback and as amended the figures accordingly.
Schedule 1	**Definition: Planning consent**	One respondent expressed concern that the phrase "…without any conditions deemed unacceptable at the Company's sole discretion" introduces subjectivity and potential inconsistency, as local planning conditions vary and requested clearer criteria for assessing planning conditions.	EirGrid has amended the definition of "planning consent" to address this issue. SONI wish to retain the current wording.
Schedule 1 & 9	**Definition: Contracted Maximum Available Volume**	One respondent noted a discrepancy between definitions of "Contracted Maximum Available Volume," with Schedule 9 Part 2	The TSOs acknowledge the inconsistency and will correct the value in the final version of the agreement.

		incorrectly referencing a 2,000 MVA.s cap.	
Schedule 3, Section 5	**Billing, Payment and Reconciliation - Quarterly Use of System Reconciliation Amount**	A respondent commented that the quarterly Use of System Reconciliation Amount process is overly complex and operationally intensive.	The TSOs acknowledge this feedback but aim to maintain alignment with the approach adopted for LCIS Phase 1, to streamline processes
Schedule 8	**Performance Bond**	One respondent suggested that the definition of "Performance Bond" should refer to being "substantially in the form set out in Schedule 8," to allow flexibility where providers' own bond formats differ.	The TSOs acknowledge this feedback but wish to retain the original definition of "Performance Bond" to ensure consistency.
Schedule 10	**Insurance**	One respondent questioned the requirement for professional indemnity and cyber insurance, stating these are not directly relevant to LCIS service provision. They requested clarification of the risks being mitigated and suggested that the timing of required cover (nine months post-Effective Date) is unreasonable.	The TSOs acknowledge this feedback but consider that professional indemnity insurance is required because design works etc. may be required from Service Providers to develop the assets. Further, advice from Service Providers may be relied upon. The TSOs acknowledge this feedback but consider the requirement for cyber insurance to be a standard level of cover the TSOs would expect their vendors to have. It is the Service Provider that is required to effect and maintain the Cyber Insurance.
Schedule 10	**Insurance**	One respondent noted that the cybersecurity assurance requirement is unclear and inconsistent with the Capacity Market, where such conditions do not apply. They requested clarification of the rationale or removal of the requirement.	The TSOs acknowledge this feedback but note that the LCIS Phase 2 process and Capacity Market process are two separate processes. In this context, Cyber Security insurance is a standard level of cover the TSOs would expect their vendors to have. The TSOs also aim to maintain alignment with the approach adopted for LCIS Phase 1.
General	**Transparency of Drafting**	A respondent stated that it would have been beneficial to provide a redlined version of the	The TSOs acknowledge the feedback and will publish a redlined version of the LCIS Phase 2 Agreement,

		LCIS Phase 2 Agreement compared with Phase 1, to support efficient review.	showing changes between the pre-consultation and post-consultation versions of the Phase 2 Agreement.
General	**Availability Obligation**	A respondent suggested including a minimum mandatory annual availability requirement in the contract to ensure consumer benefit and grid reliability.	The TSOs consider that the proposed availability performance scalar provides an appropriate incentive to achieve this objective.

Table 7: Summary of consultation responses and TSOs' responses to proposed LCIS Phase 2 Agreement

5.8 LCIS Protocol – Other aspects

5.8.1 Consultation proposal

Table 8 below summarises the proposed content of the LCIS Phase 2 Protocol and indicates which topics are detailed further in the subsections referenced.

Section of LCIS Phase 2 Protocol	Content
1. Introduction	Provides an introduction to the LCIS Phase 2 Protocol.
2. Governance	Outlines the framework under which any changes to the Protocol will be undertaken.
3. Operational Requirements	Specifies the operational requirements that must be satisfied by the Providing Unit.
4. Synchronisation Dispatch Performance Scalar	Explains how the Synchronisation Dispatch Performance Scalar will be calculated. **Appendix 1 of the recommendations paper provides worked examples**
5. Reactive Power Product Scalar	Explains how the Reactive Power Product Scalar will be calculated. **Appendix 1 of the recommendations paper provides worked examples**
6. Availability Performance Scalar	Explains how the Availability Performance Scalar will be calculated. **Appendix 1 of the recommendations paper provides worked examples**
7. Consumption Performance Scalar	Explains how the Consumption Performance Scalar will be calculated.
8. Trip Charge	Sets out the formula for calculation of the Monthly Trip Charge.
9. Performance Monitoring Timelines and Business Process Overview	Provides an overview of the timelines and business process for performance monitoring.
10. Glossary	Defines terms used in the Protocol. [11]

Table 8: Summary of the content of the LCIS Protocol

Stakeholders were asked the following question:

Question 19: Do you have any comments on the other aspects of the LCIS Protocol?

5.8.2 Summary of consultation responses

One respondent provided feedback on other aspects of the LCIS Protocol. While no substantive comments were raised on the Protocol text itself, the respondent emphasised the need for early engagement between TSOs and industry to establish signal lists, a schedule of tests template, and detailed test procedures for both LCIS System Service Compliance testing and Grid Code Compliance testing of Synchronous Condenser Units (SCUs). The respondent noted that alignment on signal interfaces and testing requirements in advance of commissioning is essential to ensure that testing proceeds efficiently.

5.8.3 TSOs' response

The TSOs are currently developing testing procedures. Further details will be made available in the Tender Documentation.

6 Procurement Arrangements

This section outlines our recommended approach for the procurement arrangements of LCIS Phase 2. While EirGrid and SONI will continue to align key principles and design features, separate procurement processes are required to comply with the different jurisdictional procurement requirements and connection processing arrangements.

6.1 Overview of the procurement approaches

6.1.1 EirGrid Procurement Process and Timeline

Figure provides an overview of the procurement process and timeline for the EirGrid Procurement.

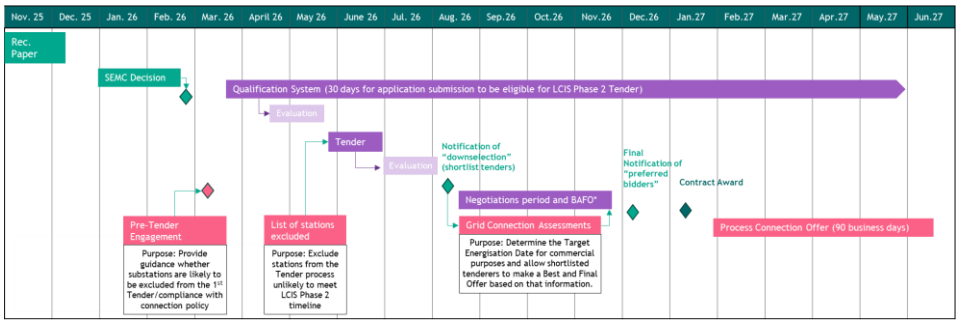


Figure 1: Procurement process and indicative timeline for EirGrid procurement.

The TSO recommends retaining the proposed approach and principles for the EirGrid Procurement:

1. **Qualification System publication**
    - EirGrid will implement a Qualification System which will offer flexibility to address future uncertainties and evolving system needs. Any procurement rounds beyond LCIS Phase 2 would remain subject to Regulatory approval.
2. **Qualification Phase**
    - To participate in the LCIS Phase 2 Tender, applications must be submitted no later than 30 days after the Qualification System is published.
    - To qualify candidates will need to meet a set of pass/fail criteria, including a minimum financial turnover and demonstration of previous experience as defined in 6.4.3.
3. **Pre-Tender Engagement with developers**
    - EirGrid will offer pre-Tender meetings to potential tenderers to provide guidance on the likelihood of connection, expected timelines, compliance with connection policies, and whether a substation is likely to be excluded from the LCIS Phase 2 tender.
    - The TSO will ensure that this information is standardised across all participants to maintain fairness and transparency.
4. **Tender**
    - Participation will not be permitted in certain substations at which connection is deemed infeasible in advance of the LCIS Phase 2 Longstop Date.
    - The full list of substations where connection of LCIS units will be excluded from the competition but guidance will be provided via pre-tender engagement.

- Tenderers will be subject to pass/fail criteria and ranked based on cost.

5. **Shortlisted tenders, Grid Connection Assessment and Best and Final Offer**
   - Following the evaluation of the Tender, EirGrid will shortlist a certain number of tenders who will receive a notification of 'downselection'
   - Shortlisted tenders will then be provided with a more detailed Grid Connection Assessment.
   - The purpose of the Grid Connection Assessment will be to determine an indicative connection programme that will be used to determine the Target Energisation Date.
   - Shortlisted tenderers will be invited to submit a Best and Final Offer, in order to reflect the outcome of the Grid Connection Assessment.
6. **Notification of Preferred Bidders and Contract Award Process**
   - EirGrid will update the ranking with the BAFO and issue the notification of 'preferred bidders' status.
   - Preferred bidders will have 30 business days to sign their contract and achieve all conditions precedent to contract execution.
7. **Grid Connection Arrangements**
   - Successful tenderers who do not already have a grid connection offer, and who have signed an LCIS Agreement, will be entitled to receive a connection offer outside of the ECP process by direction from CRU.

6.1.2 SONI Procurement Process and Timeline

Figure provides an overview of the process and indicative timeline proposed for the SONI Procurement.

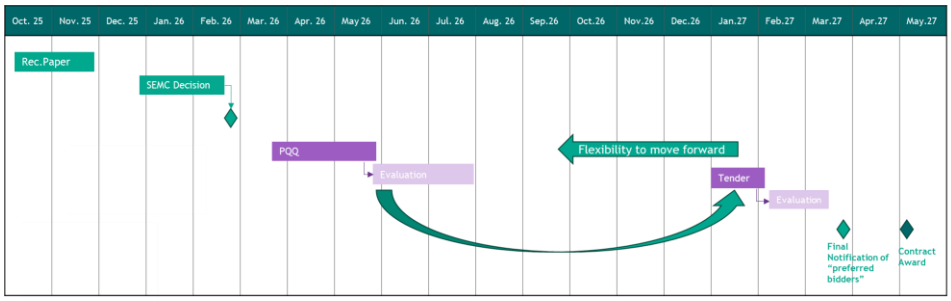


Figure 2: Procurement process and indicative timeline for SONI procurement.

The TSO recommends retaining the proposed approach and principles for the SONI Procurement:

1. **Standard Procurement Procedure**
   - SONI will use a standard two-stage negotiated procedure, as used in LCIS Phase 1.
2. **Pre-qualification Questionnaire**
   - To qualify candidates will need to meet a set of pass/fail criteria, including a minimum financial turnover and demonstration of previous experience as defined in 6.4.3.
3. **Tender**
   - Participation will not be permitted in certain substations.
   - Tenderers will be subject to pass/fail criteria and ranked based on cost

- An accepted connection offer and a detailed programme developed with a Final Energisation Date[12] no later than 48 months after the tender closing date is required. The expiry of this connection offer must be beyond this 48 month period. SONI encourages prospective tenderers to engage early to discuss with the connections team (connections@soni.ltd.uk) the feasibility of meeting this criterion and to better understand potential grid connection options and planning/consents requirements.
- The start of the Tender process has been rescheduled to January 2027, allowing additional time for developers to meet the grid connection criteria outlined in Section 6.6. SONI retains the right to advance the Tender stage if all qualified developers are confirmed to be in a position to satisfy these grid connection requirements.

4. **Notification of Preferred Bidders and Contract Award Process**
    - SONI will evaluate the tenders and issue the notification of preferred bidder status.
    - Preferred bidders will have 30 business days to sign their contract and achieve all conditions precedent to contract execution.

6.2 Procurement Strategies

6.2.1 Consultation proposal

In our consultation paper, we outlined the proposal below regarding Procurement Strategies:

> TSOs' Proposals:
>
> Procurement strategies: EirGrid will implement a Qualification System which will offer flexibility to address future uncertainties and evolving system needs. Any procurement rounds beyond LCIS Phase 2 would remain subject to Regulatory approval.
>
> SONI will use a standard two-stage negotiated procedure, as used in LCIS Phase 1.

Stakeholders were asked the following question:

Question 20: Do you have any comments on the proposed procurement strategies?

6.2.2 Summary of consultation responses

Seven respondents provided substantive feedback on the proposed procurement strategy. Three respondents requested earlier publication of excluded substations, suggesting that providing this information at the pre-tender phase would offer clearer locational signals and support a more competitive process.

One respondent raised concerns that requiring a final planning grant at the tender phase is overly restrictive and does not reflect the timelines of the planning system. It was suggested that this milestone be shifted to the point of preferred bidder notification.

One respondent questioned the proposed two-stage process, suggesting it introduces unnecessary complexity, increases the risk of speculative bidding, and could delay delivery. It was recommended that detailed grid connection assessments be made available to a broader set of projects earlier in the process.

There were also calls for greater transparency around the methodology for substation exclusion and for clearer communication of key milestones and timelines.

[12] The Final Energisation Date corresponds to the expected Energisation Date. Note that this date is not firmed and can move as the project evolves.

One respondent proposed introducing a stepwise approach to performance security, similar to that used in the capacity auctions and extending contract negotiation timelines to allow replacement of withdrawn projects.

Another respondent highlighted the need for greater visibility of potential remuneration arrangements beyond the LCIS contract duration, noting the absence of such clarity increases investor uncertainty.

A number of respondents supported the overall strategy but suggested refinements to the PQQ stage (SONI) and contract negotiation timelines to better align with supply chain realities.

6.2.3 TSOs' response

The TSOs appreciate the feedback received on various aspects of the proposed procurement strategy for Low Carbon Inertia Services (LCIS) Phase 2. Specific concerns on the publication of excluded substations, timelines for final planning consent and the two-stage procurement approach will be addressed in more detail in the relevant sections.

The TSOs also acknowledge suggestions regarding stepwise performance security and refinements to contract negotiation timelines. These proposals will be further considered in the context of ensuring an efficient, fair, and deliverable procurement process that minimises non-delivery risk.

In respect of the request for greater visibility on post-contract remuneration arrangements, the TSOs note that the LCIS procurement framework is designed to address immediate system needs. Any future remuneration mechanisms beyond the LCIS contract period would be a matter for future policy consideration by the TSOs and the Regulatory Authorities.

Finally, the TSOs emphasise the importance of clear communication and transparency throughout the procurement process. Steps will be taken to ensure that documentation, timelines, and evaluation criteria are communicated in a consistent and accessible manner to all participants.

6.2.4 TSOs' recommendation

Given the above, we recommend the following regarding the Procurement Strategies:

TSOs' Recommendation:

Procurement strategies: EirGrid will implement a Qualification System which will offer flexibility to address future uncertainties and evolving system needs. Any procurement rounds beyond LCIS Phase 2 would remain subject to Regulatory approval.

SONI will use a standard two-stage negotiated procedure, as used in LCIS Phase 1.

6.3 Qualification Process

6.3.1 Consultation proposal

In our consultation paper, we outlined the proposal below for EirGrid's Qualification Process:

EirGrid's Proposal:

EirGrid Qualification Process: EirGrid proposes that applications for qualification may be submitted at any time after the Qualification System is established, with evaluations completed within two months of receipt of completed application.

To participate in the LCIS Phase 2 Tender, applications must be submitted within 30 days of the Qualification System publication. The application deadline for any future tender, beyond LCIS Phase 2, will be notified by EirGrid.

Stakeholders were asked the following question:

Question 21: Do you have any comments on the proposed qualification process for the EirGrid Procurement?

6.3.2 Summary of consultation responses

Six respondents provided substantive feedback on the proposed qualification process for the EirGrid Procurement.

Most respondents supported the inclusion of clear financial and experience-based criteria, recognising the value of transparency and robust standards. However, one respondent requested clarification on the definition of a 'major project' and the rationale for qualification thresholds, noting that ambiguity could limit participation or create uncertainty.

One respondent also emphasised the importance of predictable and continuous procurement rounds, suggesting that indicative schedules and criteria for future rounds be published to provide investors with greater confidence in LCIS as a long-term framework.

Two respondents highlight the importance of earlier publication of key milestones and the excluded substations list, suggesting that tenderers receive guidance as early as possible to avoid unnecessary expenditure on non-viable projects.

Other respondents emphasised the importance of clear governance, transparency, and accountability throughout the process to minimise attrition and ensure timely delivery.

While most respondents agreed with the overall approach, one questioned the necessity of changing the process at this stage and recommended further clarification of timelines and engagement steps to ensure a fair and effective qualification process.

6.3.3 TSOs' response

The TSOs welcome the support expressed by respondents for the proposed qualification process, including the inclusion of financial and experience-based criteria.

The definition of a "major project" is clarified in 6.4.3.

The TSOs note the importance of providing a predictable and continuous framework for future procurements. While the LCIS Phase 2 procurement process is designed to address immediate system needs, the introduction of a Qualification System provides a structure to support future procurements if additional inertia requirements arise. Indicative guidance on future rounds will be made available where feasible to support investor confidence, without predetermining procurement outcomes.

Regarding pre-tender engagement and key milestones, the TSOs will provide guidance to potential tenderers during pre-tender meetings as outlined in 6.11.3.

The TSOs also recognise the importance of clear governance, transparency, and accountability throughout the process and will ensure that the process is managed fairly, milestones are communicated clearly, and attrition is minimised.

Finally, while most respondents support the overall approach, the TSOs note that adjustments to timelines or engagement steps will be considered where necessary to ensure a fair and effective qualification process. The process will remain consistent with the approach outlined in the consultation paper, balancing the need for robustness, investor confidence, and timely delivery of LCIS Phase 2.

6.3.4 TSOs' recommendation

Given the above, we recommend the following regarding the EirGrid Qualification Process:

EirGrid's Recommendation:

EirGrid Qualification Process: In Ireland, applications for qualification may be submitted at any time after the Qualification System is established, with qualification evaluations completed within two months. To participate in the LCIS Phase 2 Tender, applications must be submitted within four weeks of the Qualification System establishment. For potential future Tenders, EirGrid will inform stakeholders of the Tender timeline and the final date for qualification submissions.

6.4 Qualification Criteria

6.4.1 Consultation proposal

In our consultation paper, we outlined the proposal below on the qualification criteria for the EirGrid and SONI Procurement:

TSOs' Proposal:

Qualification criteria: To qualify for the ability to submit an LCIS tender in Ireland or Northern Ireland, candidates will need to meet a set of pass/fail criteria. These criteria will include a minimum financial turnover in one of the last 3 financial years and demonstration of previous experience through the delivery of 2 major projects connecting to an Electricity Transmission System in the last 7 years.

Stakeholders were asked the following question:

Question 22: Do you have any comments on the proposed qualification criteria for the EirGrid and SONI Procurement?

6.4.2 Summary of consultation responses

Responses to the proposed qualification criteria for the EirGrid and SONI Procurement were mixed. Several respondents welcomed the introduction of clear qualification criteria for the tender process, recognising the value of transparency and consistency.

However, five respondents raised concerns that current thresholds and timeframes, particularly the definitions of "significant role" and "major project", as well as the requirement for two major projects in the last seven years, may be overly restrictive. These respondents suggested that capable candidates could be excluded under the current criteria, limiting competition. They recommended broadening the criteria to recognise wider operational experience and extending the relevant timeframe from seven to ten years.

One respondent proposed higher penalties for non-delivery and independent project monitoring throughout procurement, construction, and commissioning, including independent monitoring of grid connections.

One respondent raised concerns about the difference in jurisdictional and locational approaches, suggesting that guidance should be provided to ensure as level a playing field as possible across the all-island procurement. Two respondents again emphasised the importance of the timing and disclosure of excluded substations.

Other points raised included the need for higher penalties for non-delivery and independent project and grid connection monitoring from contract award through to commissioning, reflecting recent increases in construction costs and lead times for Synchronous Condensers. One respondent also noted that Cyber Security Assurance should not form part of the qualification criteria, as it is only required after contract award.

6.4.3 TSOs' response

The TSOs note the concerns raised regarding the definitions of "significant role" and "major project," as well as the requirement for candidates to have delivered two major projects in the last seven years. These criteria are designed to ensure that candidates possess sufficient expertise in delivering and operating transmission-level infrastructure. To address concerns, the TSOs will amend the definition for "Previous experience" to the following;

Previous experience	The Candidate must demonstrate that it can satisfy at least one of the following criteria: 1. That it has had a significant role in delivering 2 major projects for which the purpose is to generate electricity or provide system services through a connection to an Electrical Transmission System in the last 7 years. A "significant role" being defined as a demonstrable, critical role in the successful delivery of a major project by decisive and essential involvement in several of the project areas below: - Project Development - Project Management - Design & engineering - Construction & commissioning - Financing & contracting 2. That it currently owns and operates transmission level electrical infrastructure.

The TSOs acknowledge the points raised regarding jurisdictional differences between EirGrid and SONI. The TSO comments further on this in 6.11.3.

Regarding Cyber Security Assurance, candidates must demonstrate compliance with all applicable cyber security requirements. Following contract award, the Service Provider will be required to implement and maintain the level of insurance as specified in Schedule 10 – Part 2 of the LCIS Agreement.

Finally, while suggestions were made for higher penalties for non-delivery and independent project monitoring, the TSOs will continue to apply the approach outlined in the consultation.

6.4.4 TSOs' recommendation

Given the above, we recommend the following regarding qualification criteria for the EirGrid and SONI Procurement:

TSOs' Recommendation:

Qualification criteria: To qualify for the ability to submit an LCIS tender in Ireland or Northern Ireland, candidates will need to meet a set of pass/fail criteria. These criteria will include a minimum financial turnover in one of the last 3 financial years and demonstration of previous experience through the delivery of 2 major projects connecting to an Electricity Transmission System in the last 7 years, *or* currently owns and operates transmission level electrical infrastructure.

6.5 Tender Criteria –Planning and Consents

6.5.1 Consultation proposal

In our consultation paper, we outlined the proposal below on the Planning and Consent Criteria for EirGrid and SONI:

EirGrid's Proposal:

Planning and Consents Criteria: By the date of tender submission, tenderers must have:

- Final grant of planning permission for the proposed facility with the period for taking an appeal having expired without such an appeal being taken or alternatively with any or all appeals withdrawn or dismissed, and with the period for making an application for leave to apply for judicial review or the period for making an application to commence judicial review having expired without such an application being made or alternatively with any or all judicial reviews withdrawn or dismissed or otherwise finally concluded with no question in proceedings over the validity of the final grant of planning permission, and without any conditions deemed unacceptable at the TSO's sole discretion.
- All necessary property and access rights to construct and operate the proposed LCIS units on the proposed site in place

SONI's Proposal:

Planning and Consents Criteria: By the date of tender submission, tenderers must have:

- Full planning permission for the proposed facility with the period for taking an appeal having expired without such an appeal being taken or alternatively with any or all appeals withdrawn or dismissed, and with the period for making an application for leave to apply for judicial review or the period for making an application to commence judicial review having expired without such an application being made or alternatively with any or all judicial reviews withdrawn or dismissed or otherwise finally concluded with no question in proceedings over the validity of the full planning permission, and without any conditions deemed unacceptable at the TSO's sole discretion.
- All necessary property and access rights to construct and operate the proposed LCIS units on the proposed site in place

Stakeholders were asked the following question:

Question 23: Do you have any comments on the proposed Planning, Property and Access Rights criteria?

6.5.2 Summary of consultation responses

Most respondents supported the principle of requiring certainty on planning, property, and access rights ahead of the tender process, recognising that this reduces delivery risk and ensures efficient use of resources. Some noted that, given planning uncertainties in Ireland, the proposed approach is prudent and provides appropriate assurance to the TSOs.

However, concerns were raised about the proposed planning milestones, particularly the requirement for final planning grant at the start of the tender phase. One respondent argued this is overly restrictive and inconsistent with planning realities, suggesting instead that final planning should be demonstrated at

preferred bidder notification to maintain competition. It was also noted that delays are more likely to arise from supply chain constraints than from planning timelines.

One respondent also sought clarity on how post-grant planning amendments would be handled, to ensure consistency and transparency.

One respondent raised significant concerns regarding the proposed planning, property, and access rights criteria for Northern Ireland. They argued that the expectation to have full planning permission and the judicial review period expired by the RfP stage is unworkable under current Northern Ireland planning timelines and risks deterring participation.

6.5.3 TSOs' response

The TSOs acknowledge respondents' feedback on the proposed Planning, Property, and Access Rights criteria and appreciate the broad support for the principle of requiring a high level of project readiness prior to tender.

The purpose of these criteria is to ensure that projects entering the LCIS Phase 2 tender process are deliverable within the required timeframe and that the risk of non-delivery is minimised. As outlined in the consultation paper, requiring applicants to hold full and final planning permission (with the appeal period expired) before the RfP stage gives more guarantee to the TSOs that projects can achieve their target go-live dates.

The TSOs note the concern regarding the timing of the planning milestone and the suggestion to defer the requirement for final planning grant until preferred bidder notification. The intent of the proposed criterion is to ensure that only fully deliverable projects progress to contract award, supporting timely delivery of LCIS Phase 2.

The TSOs also acknowledge feedback regarding post-grant planning amendments, however we are of the view that this is suitably addressed through the proposed approach.

The TSOs recognise the concerns raised regarding the proposed planning and access requirements in Northern Ireland. SONI has reviewed the procurement timeline to ensure they are workable in the context of Northern Ireland's planning system and that they continue to support timely project delivery without unduly limiting participation. The proposed updated timeline is in section 6.1.2.

Following feedback on the definition of planning consent in Schedule 1 of the LCIS Agreement (see Section 5.7.2), EirGrid proposed adding further detail on what may constitute unacceptable conditions. To ensure consistency, the Planning and Consents Criteria have been amended accordingly.

6.5.4 TSOs' recommendation

Given the above, we recommend the following on the Planning and Consent Criteria for EirGrid:

EirGrid's Recommendation:

Planning and Consents Criteria: By the date of tender submission, tenderers must have:

- Final grant of planning permission for the proposed facility with the period for taking an appeal having expired without such an appeal being taken or alternatively with any or all appeals withdrawn or dismissed, and with the period for making an application for leave to apply for judicial review or the period for making an application to commence judicial review having expired without such an application being made or alternatively with any or all judicial reviews withdrawn or dismissed or otherwise finally concluded with no question in proceedings over the validity of the final grant of planning permission, and without any condition(s) which restrict the development, commissioning or operation of the Providing Unit (or part thereof) such that the Service Provider would, or would reasonably likely to, be prevented or limited in delivering and/or performing the Services in accordance with the EirGrid Agreement;

- All necessary property and access rights to construct and operate the proposed LCIS units on the proposed site in place

Given the above, we recommend the following on the Planning and Consent Criteria for SONI:

SONI's Recommendation:

Planning and Consents Criteria: By the date of tender submission, tenderers must have:

- Full planning permission for the proposed facility with the period for taking an appeal having expired without such an appeal being taken or alternatively with any or all appeals withdrawn or dismissed, and with the period for making an application for leave to apply for judicial review or the period for making an application to commence judicial review having expired without such an application being made or alternatively with any or all judicial reviews withdrawn or dismissed or otherwise finally concluded with no question in proceedings over the validity of the full planning permission, and without any conditions deemed unacceptable at the TSO's sole discretion.
- All necessary property and access rights to construct and operate the proposed LCIS units on the proposed site in place

6.6 Tender Criteria - Grid Connection (SONI Procurement only)

6.6.1 Consultation proposal

In our consultation paper, we outlined the proposal below on Grid Connection criteria for SONI:

SONI Proposal:

Grid Connection Criteria: The Tenderer must have an accepted connection offer and a detailed programme developed with a Final Energisation Date no later than 48 months after the tender closing date. The expiry date of the validity of any such offer must fall beyond this 48-month period.

Stakeholders were asked the following question:

Question 24: Do you have any comments on the Grid Connection Criteria introduced for the SONI Procurement?

6.6.2 Summary of consultation responses

Most respondents welcomed SONI's introduction of clear grid connection criteria and early publication of unsuitable areas, noting that this provides transparency and helpful locational signals for developers. Two respondents commended the approach as a positive step that supports efficient project development and early decision-making.

However, two respondents expressed concern about the requirement for an accepted grid connection agreement prior to the procurement stage. They argued that this requirement creates significant financial and procedural burdens and questioned the equity of this requirement, noting that projects in Ireland do not have the same requirements. Respondents also warned that the associated security cover obligations could expose unsuccessful bidders to unnecessary financial risk.

Respondents suggested more flexible alternatives, such as allowing bidders to demonstrate that a connection offer is ready for acceptance or allowing acceptance to occur shortly after contract award. It was also recommended that SONI align connection and planning timelines more closely.

6.6.3 TSOs' response

The TSO welcomes the broad support expressed for the Grid Connection Criteria introduced for the SONI Procurement.

The requirement for an accepted grid connection agreement prior to participation in the procurement is designed to ensure that only deliverable and grid-feasible projects progress to tender.

The TSOs note the concerns raised by some respondents regarding the financial and procedural implications of this requirement and the view that it differs from the approach in Ireland. In Northern Ireland, an accepted connection offer is necessary to manage limited network capacity effectively, ensuring that only credible and deliverable projects advance to tender.

We acknowledge the feedback regarding the interaction of connection timelines with planning consent milestones. SONI is currently reviewing the proposed procurement timelines, including the timing of connection acceptance requirements, to ensure that they are realistic within the context of Northern Ireland's planning and grid connection processes. Any adjustments to the timeline will be communicated prior to the release of the tender documentation.

The TSOs note suggestions for greater flexibility, such as allowing bidders to demonstrate that a connection offer is ready for acceptance or to finalise acceptance shortly after contract award. While the accepted connection requirement will remain in place for LCIS Phase 2, SONI will continue to review these aspects in light of experience from implementation and future procurements.

It should be noted that SONI have included a clause in offers issued more recently which states that we will only draw down on the MEC/MIC bond after 12 months from offer acceptance if the project does not connect within the expiry date. This clause has been adopted for all connection offers issued going forward.

6.6.4 TSOs' recommendation

Given the above, we recommend the following on Grid Connection criteria for SONI:

SONI's Recommendation:

Grid Connection Criteria: The Tenderer must have an accepted connection offer and a detailed programme developed with a Final Energisation Date[13] no later than 48 months after the tender closing date. The expiry date of the validity of any such offer must fall beyond this 48-month period.

6.7 Tender Criteria - Price Cap & Scalar Adjusted Offer Price

6.7.1 Consultation proposal

In our consultation paper, we outlined the proposal below on Tender Price Cap and Scalar Adjusted Offer Price criteria:

TSOs Proposal:

Price Cap: A price cap will be set to €1.81/MVA.s per hour for the EirGrid Procurement and £1.54/MVA.s per hour for the SONI Procurement. The calculated Scalar Adjusted Offer Price must be less than or equal to this price cap.

Stakeholders were asked the following question:

[13] The Final Energisation Date corresponds to the expected Energisation Date. Note that this date is not firmed and can move as the project evolves.

Question 25: Do you have any comments on the proposed price cap to be applied in the LCIS Phase 2 tender and/or on the Scalar Adjusted Offer Price?

6.7.2 Summary of consultation responses

Respondents raised a number of concerns to the proposed price cap and Scalar Adjusted Offer Price.

One respondent agrees that the price cap methodology strikes a reasonable balance between cost and benefit, and welcomes the transparency provided by the accompanying reports. However, there were concerns that the modelling assumptions may be overly conservative, potentially understating the true value and cost savings of LCIS Phase 2.

Specific issues highlighted included omissions such as the cost of compensating renewable energy redispatch. Additional concerns were raised over the consistency of assumptions, particularly regarding MUON values, and how this may affect both the price cap for LCIS Phase 2 and future procurement phases. Several respondents also suggested that independent review of bids falling significantly below the cap could help minimise speculative behaviour and attrition.

Finally, there were calls for greater detail and clarity in supporting documentation, including a more granular breakdown of equipment configurations and cost assumptions, to ensure that the price cap is appropriately set.

6.7.3 TSOs' response

The TSOs note the feedback regarding the proposed price cap and Scalar Adjusted Offer Price and acknowledge the concerns raised about the assumptions and transparency of the supporting analysis.

As outlined in Section 4.1.3, LCIS Phase 2 is specifically designed to support the 2030 operational goals—namely, operating the All-Island grid with 3 MUON and 95% SNSP—while also progressing toward the 2035 targets of 0 MUON and 100% SNSP. Although the technical studies supporting LCIS Phase 2 have considered operation with 0 MUON, due to current uncertainties—including the Fault Ride Through (FRT) capability of Large Energy Users—the benefits analysis assumes a MUON reduction from 5 to 2, rather than a full transition to 0 MUON.

In this analysis, the TSOs have conservatively attributed 50% of the production cost savings to LCIS delivery, recognising that additional system capabilities (e.g. ramping) are also required to enable full MUON relaxation.

Despite of these assumptions, the TSOs remain confident that the price cap and Scalar Adjusted Offer Price methodology provide an appropriate framework to support a competitive, deliverable, and cost-effective LCIS Phase 2 tender process.

6.7.4 TSOs' recommendation

Given the above, we recommend the following on Tender Price Cap and Scalar Adjusted Offer Price criteria:

TSOs' Recommendation:

Price Cap: A price cap will be set to €1.81/MVA.s per hour for the EirGrid Procurement and £1.54/MVA.s per hour for the SONI Procurement.

The calculated Scalar Adjusted Offer Price must be less than or equal to this price cap.

6.8 Tender Criteria - Offer price

6.8.1 Consultation proposal

In our consultation paper, we outlined the proposal below on Tender Offer Price and cost:

TSOs' Proposal:

The Tenderer shall submit a single Offer Price per unit of inertia (MVA·s/h). Multiple bids will not be accepted. A pay-as-bid approach will apply, meaning the submitted Offer Price will directly determine the Payment Rate for the provision of the service.

The cost to be used for the evaluation will be based on the Offer Price plus the estimated cost of imported energy, expressed in €/MVA.s or £/MVA.s per hour.

The imbalance price to be used for the purpose of factoring the cost of imported energy into the tender evaluation is €119.9/MWh in Ireland and £101.6/MWh in Northern Ireland.

Stakeholders were asked the following question:

Question 26: Do you have any comments on the proposed method to calculate the cost to be used for the evaluation, including the proposed imbalance prices?

6.8.2 Summary of consultation responses

Four respondents provided comments on the proposed method to calculate the cost to be used for the evaluation. Three respondents highlighted the need for greater clarity and transparency in the cost calculation methodology. One respondent noted ambiguity regarding how energy consumption by LCIS devices would be managed under SEM arrangements, which could affect project planning. Another requested clearer identification of which costs are included or excluded from the contract. A third raised uncertainty about the treatment of imported energy costs, noting that this could lead to higher bid prices as developers seek to manage potential exposure. One respondent supported the proposed methodology but requested clarification on whether multiple bids per party would be accepted, including for different unit sizes or mutually exclusive options.

6.8.3 TSOs' response

The TSOs thank all respondents for their comments regarding the proposed cost evaluation methodology. The feedback provided has been carefully considered and the following clarifications are provided below.

All tenderers that meet the minimum requirements (pass/fail criteria) will be scored based on cost. The cost used for evaluation will comprise:

- The Offer Price, expressed in €/MVA.s per hour or £/MVA.s per hour, as applicable, and
- The expected cost of the unit's energy consumption, expressed in €/MVA.s per hour or £/MVA.s per hour, as applicable.

The expected energy cost will be calculated based on:

- The estimated energy consumption over an hour period for two operating points:
    - Operating point 1: The Providing unit is producing an amount of reactive power equal to 20% of the MVA rating of the Providing Unit (MVAR Lagging)
    - Operating Point 2: The Providing unit is consuming an amount of reactive power equal to 20% of the MVA rating of the Providing Unit (MVAR Leading)
    - It is assumed that units will operate equally in reactive power production and consumption modes.
- The imbalance price: A rate of €119.9/MWh in Ireland and £101.6/MWh in Northern Ireland will be applied.

The formula to calculate the Energy cost is the following:

*Energy cost = ((0.5 * Estimated energy consumption for operating point 1 + 0.5 * Estimated energy consumption for operating point 2) * Imbalance price) / Inertia contracted*

Note: Based on the information provided by developers in the tender form, the cost for evaluation will be automatically calculated.

Regarding concerns about how energy consumption is treated under SEM arrangements, TSOs refer stakeholders to SEM Modification Mod_13_19 – Cost of Energy for Non-Energy Services Dispatch. This modification ensures that:

- System Services Providing Units, including synchronous condensers and wind farms operating at 0MW, will not be charged for energy consumption during flagged periods when dispatched to provide system services.
- Outside flagged periods, standard energy charges apply.

For LCIS, it is expected that units will always operate during flagged periods. Therefore, the cost of energy should not be factored by bidders into the Offer price.

In response to the query about bid flexibility, the TSOs confirm that while a party may bid for several projects, multiple bids for the same project and location will not be permitted.

6.8.4 TSOs' recommendation

Given the above, we recommend the following on Tender Offer Price and cost:

TSOs' Recommendation:

The Tenderer shall submit a single Offer Price per unit of inertia per hour (MVA.s/h). Multiple bids will not be accepted. A pay-as-bid approach will apply, meaning the submitted Offer Price will directly determine the Payment Rate for the provision of the service (subject to the application of scalars).

The cost to be used for the evaluation will be based on the Offer Price plus the estimated cost of imported energy, expressed in €/MVA.s or £/MVA.s per hour.

The imbalance price to be used for the purpose of factoring the cost of imported energy into the tender evaluation is €119.9/MWh in Ireland and £101.6/MWh in Northern Ireland.

6.9 Shortlisting, Grid Connection Assessment and, Best and Final Offer (EirGrid Procurement only)

6.9.1 Consultation proposal

In our consultation paper, we outlined the proposal below on Shortlisting, Grid Connection Assessment and, Best and Final Offer for EirGrid:

EirGrid's Proposal:

EirGrid proposes to shortlist a number of the highest ranked tenders that will be provided with a detailed Grid Connection Assessment. Shortlisted tenderers will then be invited to submit a Best and Final Offer, reflecting the outcome of the Grid Connection Assessment.

Stakeholders were asked the following question:

Question 27 (EirGrid only): Do you have any comments on the proposed BAFO process?

6.9.2 Summary of consultation responses

Respondents generally sought further clarity on the proposed Best and Final Offer (BAFO) process. One respondent noted that the BAFO step is necessary to allow shortlisted tenderers to refine their bids based on more detailed grid connection assessments, improving accuracy and competitiveness of final offers and ensuring deliverable, cost-effective contracts.

However, two respondents expressed concerns about potential inefficiencies of the process, including risks that projects could adjust bids in ways not commensurate with expected grid costs. One respondent requested clarity on whether evaluation is purely price-based or considers additional factors such as grid connection duration.

One respondent highlighted that earlier publication of excluded substations would help avoid wasted effort and costs for developers. Another recommended including a larger number of tenders at the BAFO stage to account for likely attrition. There were also calls for clear rules to ensure that final offers do not exceed the prices of offers excluded at earlier stages, while another respondent emphasised the importance of prioritising projects that can be delivered quickly to provide inertia to the system as soon as possible.

6.9.3 TSOs' response

The TSOs recommend retaining the Best and Final Offer (BAFO) process. This step enables shortlisted tenderers to refine their offers based on detailed grid connection assessments, improving both the accuracy and competitiveness of final bids.

EirGrid proposes the following approach to mitigate these concerns. Full details will be provided in the Tender documents.

Approach

Step 1: Initial Offer

- Each bidder must submit an initial offer price expressed in €/MVA.s/h.
- The highest-ranked bidders will be shortlisted to proceed to the BAFO stage.

Step 2: BAFO Submission

- Shortlisted bidders will receive a Grid Connection Assessment, which includes the Target Energisation Date. This date represents EirGrid's commercial commitment in accordance with Clause 4.2.2 of the LCIS Agreement.
- Based on this information, bidders will be invited to submit a BAFO incorporating a discount (€/MVA.s/h) which will apply to their initial offer. Any discount submitted as a BAFO will determine the final offer used for ranking and selecting preferred bidders. Bidders are advised that unless a BAFO is submitted applying a discount to the initial offer, EirGrid will carry out its evaluation by reference to the initial offer.
- Projects with greater certainty on Target Energisation and Go-Live Dates may choose not to change their initial offer.

Example Scenario

Assumptions for the example:

- Target Go-Live Date: **Dec-30** (48 months after Contract Execution)
- Longstop Date: **Dec-31** (12 months after Target Go-Live Date)
- Contract End Date: **Dec-38** (8 years after Target Go-Live Date)

Two shortlisted bidders:

Bidder	Initial offer (€/MVA.s/h)	BAFO discount (€/MVA.s/h)	Final offer (€/MVA.s/h)

Bidder 1	€1.30	€0.30	€1.00
Bidder 2	€1.25	€0.15	€1.10

Detailed Rationale

- **Bidder 1** received a Target Energisation Date of **February 2030**, with an expected **Go-Live Date in June 2030**. This results in an estimated contract duration of **~8.5 years**, which is **12 months longer** than the initial assumption made by the bidder in Step 1. To reflect this extended duration, Bidder 1 submitted a discount of €0.30/MVA·s/h.
- **Bidder 2** received a Target Energisation Date of **July 2030**, with an expected **Go-Live Date in December 2030**. This results in an estimated contract duration of **~8 years**, which is **6 months longer** than the initial assumption made by the bidder in Step 1. To account for this, Bidder 2 submitted a discount of €0.15/MVA·s/h.
- **Note that the final offer cannot exceed the initial offer.**

This approach allows bidders to reflect their Target Energisation Date in an updated offer. Full details will be provided in the Tender documentation.

6.9.4 TSOs' recommendation

Given the above, EirGrid recommends the following on Shortlisting, Grid Connection Assessment and, Best and Final Offer:

EirGrid's Recommendation:

The tender process will adopt a two-step approach. In the first step, all bidders will submit an initial offer price in €/MVA·s/h. In the second step, the highest-ranked bidders will be shortlisted and provided with a detailed Grid Connection Assessment, which includes the Target Energisation Date. Based on this assessment, shortlisted bidders will be invited to submit a Best and Final Offer (BAFO) incorporating a discount (€/MVA.s/h) which will apply to their initial offer. Any discount submitted as a BAFO will determine the final offer used for ranking and selecting preferred bidders.

6.10 Preferred Bidders and Contract award process

6.10.1 Consultation proposal

In our consultation paper, we outlined the proposal below on Preferred Bidders and Contract award process:

TSOs' Proposal:

Preferred bidders must sign the LCIS Agreement and achieve all conditions precedent to contract execution within 20 business days of notification of preferred bidder status.

Stakeholders were asked the following question:

Question 28: Do you have any comments on the proposed contract award process?

6.10.2 Summary of consultation responses

Most respondents expressed concern that the proposed contract award timeline of 20 business days for signing the LCIS agreement was too tight or could risk delays, particularly given internal approval processes and the peak holiday period, with one respondent suggested extending the timeline to 30

business days. One respondent noted the potential economic and reputational impact of delays and urged the TSOs to focus on the benefits of timely energisation of LCIS projects.

Conversely, two respondents considered the proposed timeline to be workable, provided that no further negotiations or amendments to the agreement were required. Several respondents highlighted the importance of maintaining transparency, clear communication, and predictability throughout the contract award process, as well as consulting on any future amendments to the agreement.

6.10.3 TSOs' response

The TSO acknowledges the comments received on the proposed contract award process and timeline. Following careful consideration, the TSO proposes to extend the timeline to a 30 business day timeframe.

6.10.4 TSOs' recommendation

Given the above, we recommend the following on Preferred Bidder and Contract award process:

TSOs' Recommendation:

Preferred bidders must sign the LCIS Agreement and achieve all conditions precedent to contract execution within 30 business days of notification of preferred bidder status.

6.11 Grid Connection Arrangements (EirGrid only)

6.11.1 Consultation proposal

In our consultation paper, we outlined the proposals below on Grid Connection Arrangements for EirGrid:

Pre-Tender meetings

EirGrid's Proposal:

Pre-Tender meetings will aim to provide guidance on the feasibility of the proposed connection method, expected timelines, compliance with connection policies, and whether a substation is likely to be excluded from the LCIS Phase 2 tender.

To be scheduled, potential tenderers must submit proof of planning application for a device capable of providing LCIS and project details by end of October 2025.

Stakeholders were asked the following question:

Question 29 (EirGrid only): Do you have any comments on the Pre-Tender meetings?

Excluded substations

EirGrid's Proposal:

In order to reduce the potential for LCIS tenderers to seek connection at substations at which connection is deemed infeasible in advance of the LCIS Phase 2 Longstop Date (anticipated as Q3 2031), EirGrid will identify a list of excluded substations from the tender process.

Stakeholders were asked the following question:

Question 30 (EirGrid only): Do you have any comments on the excluded substations approach?

Grid Connection Assessment

Following the outcome of the Grid Connection Assessment and the provision of an indicative connection programme, the tenderers will be invited to submit a BAFO as outlined in Section **Error! Reference source not found.**.

EirGrid's Proposal:

The main purpose of the Grid Connection Assessment is to develop an indicative connection programme that will be used to determine the Target Energisation Date to be set in the LCIS Agreement at Contract Execution stage if the tender is successful.

Stakeholders were asked the following question:

Question 31 (EirGrid only): Do you have any comments on the Grid Connection Assessment approach?

Grid Connection Offer

EirGrid's Proposal:

In Ireland, successful LCIS Phase 2 tenderers who do not already have a grid connection offer, and who have signed an LCIS Agreement, will be entitled to receive a connection offer outside of the ECP process by direction from CRU.

Stakeholders were asked the following question:

Question 32 (EirGrid only): Do you have any comments on the proposed connection offer process?

6.11.2 Summary of consultation responses

Pre-Tender meetings

Most respondents emphasised the importance of early and transparent pre-tender meetings, highlighting that timely provision of information is critical for efficient project development. Several called for standardised information to be shared with all participants to ensure fairness and avoid asymmetric advantages.

Concerns were raised about the proposed timeline for pre-tender engagement, with some noting that regulatory decisions may not be available in time for the required submissions. Suggestions were made for follow-up meetings to address unresolved queries and for EirGrid that staff with the necessary expertise are present to respond to all questions. Early provision of information on excluded substations and connection feasibility was also requested.

Excluded substations

Most respondents emphasised the importance of publishing the excluded substations list as early as possible, ideally at the pre-tender phase, to provide clarity and avoid wasted effort on non-viable projects.

Several stakeholders highlighted that releasing the list only at the tender stage risks developers investing significant resources in projects that may later be deemed ineligible, potentially reducing competition and efficiency. Respondents also called for transparent and comprehensive assessment criteria, regular updates to the list, and clear communication of the rationale for exclusions. Some noted the importance of real-time assessments and fair treatment of projects in the connection queue to ensure a level playing field.

Grid Connection Assessment

Most respondents emphasised the need for greater detail, clarity, and transparency in the Grid Connection Assessment principles, particularly around timelines and communication of assessment schedules. Some respondents suggested that the Grid Connection Assessment process be brought forward to the pre-tender stage to provide earlier visibility of indicative costs and programmes, to improving bid accuracy and reduce delivery risk. Respondents also called for sufficient time to complete grid connection applications, and for cost estimates and breakdowns to be provided as part of the assessment. Some highlighted the value of independent monitoring of the grid connection process, especially for constrained or shared connections, to ensure deliverability and fairness.

Grid Connection Offer

Responses to the proposed connection offer process were strongly supportive. Stakeholders welcomed issuing grid connection offers to successful LCIS Phase 2 tenderers outside the existing ECP process, recognising it as a pragmatic approach that facilitates timely project delivery and enhances competition. Respondents noted that this process is essential given the current long timelines for connections and will help ensure LCIS projects can proceed without unnecessary delay. Several highlighted the importance of clear communication around process and timing.

6.11.3 TSOs' response

Pre-Tender meetings

The TSO acknowledges the feedback received regarding pre-tender meetings and recognises the importance of early and transparent engagement in supporting efficient project development. These preliminary meetings are designed to guide potential tenderers on:

- Feasibility of proposed connection methods
- Compliance with connection policies
- Likelihood of substation inclusion in the LCIS Phase 2 tender

To ensure fairness and transparency, the TSO will standardise the information provided across all participants. EirGrid will also provide written feedback following these meetings. The feedback will include:

- Bay Availability in Substation
    - Bay available
    - No bay available — substation likely to be excluded from the LCIS Phase 2 Tender
- Connection Type / Compliance
    - Compliant
    - Non-compliant — may impact the Target Energisation Date provided to shortlisted tender in the Grid Connection Assessments to account for additional requirements such as planning permission for grid connection, landowner consents, etc.
- Control Room Space
    - Space Available: can accommodate a new control panel
    - No Space Available: Substation likely to be excluded from the tender

EirGrid contacted industry separately in December 2025 via info@eirgrid.com, and these meetings are expected to take place shortly after the SEMC Decision on these arrangements.

Commented [JV1]: Note that this paper will only be published when the SEMC Decision is made.

Excluded substations

The TSO acknowledges stakeholder comments on the timing and transparency of the excluded substations assessment. While we acknowledge the desire for earlier publication of excluded substations by EirGrid,

we maintain our approach of not publishing a definitive list prior to the tender stage, as this information is dependent on evolving network conditions and ongoing system planning activities.

Instead, during pre-tender engagement meetings, developers will receive guidance on the likelihood of exclusion from the LCIS Phase 2 tender, as outlined above.

As per the consultation, a substation may be excluded based on one or more of the following criteria determined by EirGrid:

- Lack of available spare bays or insufficient space within station boundaries.
- High volume of existing projects in the connection queue.
- Ongoing or planned network development works at the substation.
- Requirement for significant redesign to accommodate future developments.

The final list of excluded substations will be included in the relevant Tender documentation. Only bids proposing connections to non-excluded substations will be considered valid.

Grid Connection Assessment

EirGrid acknowledges the feedback received on the Grid Connection Assessment principles, including requests for greater detail, earlier visibility, and additional flexibility in connection timelines. We also acknowledge the point raised about conducting the Grid Connection Assessment before the tender. However, to optimise resources, we intend to maintain the proposed approach as outlined in the consultation.

Regarding the principles, the primary purpose of the Grid Connection Assessment is to determine a Target Energisation Date. To support this, developers will be required to submit an indicative project delivery programme, covering both facility and connection works. Based on this input, EirGrid will develop an indicative Connection Programme using standard connection timelines only. Alternative approaches—such as temporary or accelerated connections—will not be considered.

If a developer's proposed connection method does not align with existing connection policies, EirGrid reserves the right to make reasonable assumptions to reflect any additional works or developments required to achieve compliance. This may include, for example, the need to construct a customer station or amend a planning application.

When preparing the Connection Programme, EirGrid will assume that the Connection Agreement is executed 8 months after the Grid Connection Assessment outcome is communicated. This timeline allows for the following indicative periods (subject to adjustment by EirGrid as needed):

- 2 months for LCIS Contract Execution
- 1 month for Grid Connection Application
- 4.5 months (90 business days) for Grid Connection Offer Process and issuance
- 0.5 month for Connection Agreement Execution

For projects that are already energised or have an executed Connection Agreement, the Grid Connection Assessment may not be applicable. In such cases, EirGrid will provide an update on the most recent relevant connection programme.

Grid Connection Offer

The TSO acknowledges stakeholder feedback on the proposed connection offer process, recognising it as a pragmatic step that facilitates timely project delivery and supports competition.

Having considered this feedback, EirGrid intends to maintain the proposed approach. The process ensures that successful LCIS Phase 2 projects can progress without undue delay. EirGrid will ensure that the

process is implemented transparently and efficiently, with clear communication to developers regarding the timing and steps involved in connection offer issuance.

6.11.4 TSOs' recommendation

Given the above, we recommend the following on Grid Connection Arrangements for EirGrid:

Pre-Tender meetings

EirGrid's Recommendation:

Pre-tender meetings will provide guidance on the feasibility of proposed connection methods, compliance with connection policies, and the potential exclusion of substations from the LCIS Phase 2 tender. To ensure fairness and transparency, the TSO will standardise the information shared across all participants. Written feedback will be provided to participants following each meeting.

EirGrid contacted industry separately in December 2025 via info@eirgrid.com, and these meetings are expected to take place shortly after the SEMC Decision on these arrangements.

Excluded substations

EirGrid's Recommendation:

In order to reduce the potential for LCIS tenderers to seek connection at substations at which connection is deemed infeasible in advance of the LCIS Phase 2 Longstop Date (anticipated as Q4 2031), EirGrid will identify a list of excluded substations from the tender process.

Grid Connection Assessment

EirGrid's Recommendation:

The main purpose of the Grid Connection Assessment is to develop an indicative connection programme that will be used to determine the Target Energisation Date to be set in the LCIS Agreement at Contract Execution stage if the tender is successful.

Grid Connection Offer

EirGrid's Recommendation:

In Ireland, successful LCIS Phase 2 tenderers who do not already have a grid connection offer, and who have signed an LCIS Agreement, will be entitled to receive a connection offer outside of the ECP process by direction from CRU.

7 Next Steps

This recommendations paper, amended LCIS Agreements and LCIS Protocol documents, have been submitted to the SEMC for its consideration and to inform the SEMC's decisions on the next steps in the procurement and delivery of LCIS including the form of the LCIS Agreements and LCIS Protocol.

The publication of this recommendations paper, LCIS Agreement and LCIS Protocol will also provide stakeholders with information on our recommendations.

Subject to the SEMC decisions on the proposals set out in this recommendations paper, the TSOs then expect to commence the qualification process for LCIS as well as implementation of other aspects of the arrangements as soon as possible.

Appendix 1 - Performance Scalars -Worked Examples

This appendix provides worked examples of how performance scalars are calculated.

Synchronisation Dispatch Scalar - Methodology

The Synchronisation Dispatch Performance Scalar, P_D, will be calculated for a given month, M, based on the unit's performance over the previous 6 months, as follows:

$$P_D = \left(\sum_{m=M}^{M-5} \left[\frac{\sum_{i=1}^{N} \left(1 - \frac{Number\ of\ Failures\ of\ u_i}{Max(Number\ of\ Instructions\ of\ u_i,\ 3)}\right)_m}{N} \times V_m \right] \right) \times \frac{1}{3}$$

Where:

- u_i is the Individual Unit I from the Providing Unit;
- N is the number of Individual Units within the Providing Unit (all connected to a single connection point);
- m is the relevant calendar month;
- M is the month for which the Synchronisation Dispatch Performance Scalar is being calculated;
- V_m is the Dynamic Time Scaling Factor (explained further below);
- Number of Failures refers to the number of Failures to Follow Notice to Synchronise issued by the TSO for month, m;
- Number of Instructions refers to the number of Synchronisation Dispatch Instructions issued by the TSO for month, m.

The **Dynamic Time Scaling Factor (Vm)** is calculated based on the time difference (in months) between the month in which the Failures to Follow Notice to Synchronise occurred and the month in which the Synchronisation Dispatch Performance Scalar (PD) is being calculated. The purpose of this is to place more weight on more recent performance. The Dynamic Time Scaling Factor (Vm) is set in accordance with the table below.

No. of months between the month (M) for which the scalar is set and the month for which the performance is assessed.	Dynamic Time Scaling Factor (V_m)
0	1
1	0.8
2	0.6
3	0.4
4	0.2
5+	0

This approach means that a Failure to Follow Notice to Synchronise ceases to impact the Synchronisation Dispatch Performance Scalar after 5 months, with the impact reducing each month.

Synchronisation Dispatch Scalar – Worked Example 1

In the following example we show how the scalar would be calculated for different months over a period of time.

The table below presents a number of Synchronisation Instructions and failures to comply with these instructions. The example assumes a go-live date of 1st of April for the Providing Unit with the example running until the end of November of the same year. During the first operational month the unit fails to synchronise 3 times and fails again once in June.

When the Scalar Assessment Month, M, refers to April then the Synchronisation Performance Dispatch Scalar, P_D, is calculated to be 0.9. For April, months M-1, M-2 etc. are assumed to have a number of failures equal to zero as there is no operational data for this period prior to the go-live date.

For May, the number of failures is zero, but the 3 failures in April still impact the calculation of the scalar, though with less weight. This results in a scalar of 0.92.

For June, where one failure occurs, the P_D drops again to 0.907 and then gradually increases to 1.0 over the following months given that no further failures occur.

Month	No. of Instructions	No. of failures	Synchronisation Dispatch Performance Scalar (P_d) for M=month
January	n/a	n/a	n/a
February	n/a	n/a	n/a
March	n/a	n/a	n/a
April (Go-live Date)	10	3	**0.900** = $0.7 * \frac{V_m = 1}{3} + 1 * \frac{V_{M-1} = 0.8}{3} + 1 * \frac{V_{M-2} = 0.6}{3} + 1 * \frac{V_{M-3} = 0.4}{3} + 1 * \frac{V_{M-4} = 0.2}{3}$
May	10	0	**0.920** = $1 * \frac{V_m = 1}{3} + 0.7 * \frac{V_{M-1} = 0.8}{3} + 1 * \frac{V_{M-2} = 0.6}{3} + 1 * \frac{V_{M-3} = 0.4}{3} + 1 * \frac{V_{M-4} = 0.2}{3}$
June	10	1	**0.907** = $0.9 * \frac{V_m = 1}{3} + 1 * \frac{V_{M-1} = 0.8}{3} + 0.7 * \frac{V_{M-2} = 0.6}{3} + 1 * \frac{V_{M-3} = 0.4}{3} + 1 * \frac{V_{M-4} = 0.2}{3}$
July	10	0	**0.933** = $1 * \frac{V_m = 1}{3} + 0.9 * \frac{V_{M-1} = 0.8}{3} + 1 * \frac{V_{M-2} = 0.6}{3} + 0.7 * \frac{V_{M-3} = 0.4}{3} + 1 * \frac{V_{M-4} = 0.2}{3}$
August	10	0	**0.960** = $1 * \frac{V_m = 1}{3} + 1 * \frac{V_{M-1} = 0.8}{3} + 0.9 * \frac{V_{M-2} = 0.6}{3} + 1 * \frac{V_{M-3} = 0.4}{3} + 0.7 * \frac{V_{M-4} = 0.2}{3}$
September	10	0	**0.987** = $1 * \frac{V_m = 1}{3} + 1 * \frac{V_{M-1} = 0.8}{3} + 1 * \frac{V_{M-2} = 0.6}{3} + 0.9 * \frac{V_{M-3} = 0.4}{3} + 1 * \frac{V_{M-4} = 0.2}{3}$
October	10	0	**0.993** = $1 * \frac{V_m = 1}{3} + 1 * \frac{V_{M-1} = 0.8}{3} + 1 * \frac{V_{M-2} = 0.6}{3} + 1 * \frac{V_{M-3} = 0.4}{3} + 0.9 * \frac{V_{M-4} = 0.2}{3}$
November	10	0	**1.000**= $1 * \frac{V_m = 1}{3} + 1 * \frac{V_{M-1} = 0.8}{3} + 1 * \frac{V_{M-2} = 0.6}{3} + 1 * \frac{V_{M-3} = 0.4}{3} + 1 * \frac{V_{M-4} = 0.2}{3}$

Table 9: Worked Example 1 of Synchronisation Dispatch Performance Scalar calculation.

Synchronisation Dispatch Scalar – Worked Example 2

In the following example we show how the scalar would be calculated when a Providing Unit comprises two individual units (u_1, u_2) for two sample cases:

- Case 1 – both Individual Units achieve synchronisation at all requests from May to August but during September both Individual Units fail to synchronise three times. As per the previous example the Synchronisation Dispatch Performance Scalar is equal to 0.9.
- Case 2 – both Individual Units achieve synchronisation at all requests of months May to August but during September Unit 1 fails three times and Unit 2 is not requested to synchronise. The Synchronisation Dispatch Performance Scalar is now 0.95.

Case 1

	Individual Unit 1		Individual Unit 2		Providing Unit
Month	No. of Instructions	No. of failures	No. of Instructions	No. of failures	Synchronisation Dispatch Performance Scalar (P_d) for M=September
May	10	0	10	0	
June	10	0	10	0	
July	10	0	10	0	
August	10	0	10	0	
September	10	3	**10**	**3**	**0.9**

Table 10: Worked Example 2 of Synchronisation Dispatch Performance Scalar calculation (case 1)

Case 2

	Individual Unit 1		Individual Unit 2		Providing Unit
Month	No. of Requests	No. of failures	No. of Requests	No. of failures	Synchronisation Dispatch Performance Scalar (P_d) for M=September
May	10	0	10	0	
June	10	0	10	0	
July	10	0	10	0	
August	10	0	10	0	
September	10	3	**0**	**0**	**0.95**

Table 11: Worked Example 2 of Synchronisation Dispatch Performance Scalar calculation (case 2)

Availability Performance Scalar – Methodology

An Availability Factor will be calculated for each calendar month and will apply to all payments in that month. The Availability Factor for a given month, M, will be calculated as follows:

$$Availability\ Factor_M = \sum_{m=M}^{M-11} \left(\frac{(Available\ Volume)_m}{(Contracted\ Volume)_m} * 1/12\right) * 100\%$$

This means that the Availability Factor for a given month reflects the availability of the unit over the previous 12-month period.

The Availability Performance Scalar to apply in the payment calculation is determined based on the calculated Availability Factor, in accordance with the table below. This is the same approach as was used for LCIS Phase 1. The worked example below illustrates how the Availability Factor and the corresponding Availability Performance Scalar will be calculated.

Availability Factor	Availability Performance Scalar
<60%	0
≥60% <70%	0.25
≥70% <80%	0.50
≥80% <90%	0.70
≥90% <95%	0.85
≥95% <97%	0.95
≥97%	1.00

Availability Performance Scalar – Worked Example

The Table below shows the ratio of Available Volume to Contracted Volume for the first 13 months after the go-live date of an LCIS Phase 2 unit. As there is no operational data from before the go-live date, the Available to Contracted Volume ratio is assumed to be 1 for the 11 months prior to that date.

Over the first month the Providing Unit was available only a quarter of the time, which means that the Available Volume to Contracted Volume ratio is 0.25 for that month. The Availability Factor is calculated based on a rolling twelve-month average, and the ratio is assumed to be 1 prior to the go-live date, which leads to an Availability Factor for January to December equal to 93.75%. The Availability Performance Scalar, derived from Table 20, is equal to 0.85.

On the 13th month, the rolling 12-month average excludes the first month of January, and the Availability Factor is 100% as a result, with the Availability Performance Scalar equal to 1.

Month (M)	Available Volume / Contracted Volume	Availability Factor for month M	Availability Performance Scalar for month M
January (Go-live on 1st January)	0.25	93.75%	0.85
February	1	93.75%	0.85
March	1	93.75%	0.85
April	1	93.75%	0.85

May	1	93.75%	0.85
June	1	93.75%	0.85
July	1	93.75%	0.85
August	1	93.75%	0.85
September	1	93.75%	0.85
October	1	93.75%	0.85
November	1	93.75%	0.85
December	1	93.75%	0.85
January	1	100%	1

Table 12: Availability Performance Scalar worked example.

Reactive Power Product Scalars – Methodology

The Reactive Power Product Scalars will be calculated, for each calendar month, as follows:

$$Lagging\ Scalar = 0.125 \times \left(Declared\ MVAr_{lagging} \middle| Reference\ MVAr_{lagging}\right) + 0.875$$

$$Leading\ Scalar = 0.125 \times \left(Declared\ MVAr_{leading} \middle| Reference\ MVAr_{leading}\right) + 0.875$$

Where:

The $Declared\ MVAr_{lagging}$ and $Declared\ MVAr_{leading}$ are the values declared by the Providing Unit via EDIL averaged over the given month; and

The $Reference\ MVAr_{lagging}$ and the $Reference\ MVAr_{leading}$ are as follows:

$$Voltage\ Level = 110kV \rightarrow \begin{cases} Reference\ MVAr_{lagging} = 80 \\ Reference\ MVAr_{leading} = 40 \end{cases}$$

$$Voltage\ Level \geq 220kV \rightarrow \begin{cases} Reference\ MVAr_{lagging} = 200 \\ Reference\ MVAr_{leading} = 100 \end{cases}$$

Where the Providing Unit consists of several Individual Units connected to the same connection point, the $Declared\ MVAr_{lagging}$ is the sum of the declared MVA_R lagging of the Individual Units and the $Declared\ MVAr_{leading}$ is the sum of the declared MVA_R leading of the Individual Units.

Reactive Power Product Scalars – Worked Example

In the following example we show how the Reactive Power Product Scalars would be calculated for three cases:

- Case 1: the Providing Unit is connected at 220kV and declares leading and lagging reactive power capability at 10% above that of the Reference Unit 100% of the time within the month;
- Case 2: the Providing Unit is connected at 220kV and declares zero reactive power capability 100% of the time within the month;
- Case 3: the Providing Unit is connected at 220kV and declares leading and lagging reactive power capability at 10% above that of the Reference Unit 20% of the time, 10% below that of the Reference Unit 30% of the time and declares zero capability the remaining 50% of the time.

Case 1

% of time within the month	Declared $MVAr_{lagging}$	Declared $MVAr_{leading}$
100%	110% x 200 = 220	110% x 100 = 110
Average	220	110
Reactive Power Scalar	1.0125	1.0125

Table 13: Reactive Power Product Scalars worked example (case 1)

Case 2

% of time within the month	Declared $MVAr_{lagging}$	Declared $MVAr_{leading}$
100%	0	0
Average	0	0
Reactive Power Scalar	0.8750	0.8750

Table 14: Reactive Power Product Scalar worked example (case 2)

Case 3

% of time within the month	Declared $MVAr_{lagging}$	Declared $MVAr_{leading}$
20%	220	110
30%	180	90
50%	0	0
Average	98	49
Reactive Power Scalar	0.9363	0.9363

Table 15: Reactive Power Product Scalar worked example (case 3)