An Coimisiún um Rialáil Fóntais
Commission for Regulation of Utilities

Post-ORESS1 Material Change Review

EirGrid Phase 1 Offshore Wind General & Functional Specifications

Decision

Reference:	CRU/2025/162	Date Published:	14/10/2025		

Executive Summary

Offshore wind is a new, complex, and multi-faceted area of policy for the CRU driven by national policy statements on offshore wind development. Government Policy Statements have established a new Offshore Transmission Asset Owner (EirGrid) as well as detailing how offshore wind generation projects will be connected to the grid in two distinct policy phases. Phase 1, which follows a developer-led approach and Phase 2, which adopts a plan-led approach.

For Phase 1 projects, the offshore wind developer is responsible for site selection, securing permits, designing the infrastructure and overseeing construction of the generation and offshore wind transmission assets.

The Phase 1 offshore wind projects comprise Codling Wind Park, Dublin Array, North Irish Sea Array, Oriel Wind Park, and Arklow Bank 2. Once the Phase 1 transmission assets become operational and proven, they will be transferred to EirGrid, the Offshore Asset Owner, through an Asset Transfer Process. EirGrid will assume responsibility for their ongoing operation and maintenance.

Under this framework, the offshore transmission assets are constructed by developers and subsequently transferred to EirGrid at an Asset Transfer Value (ATV) that reflects their economic and efficient cost. The ATV is determined by the CRU following its Post Construction Review (PCR).

As part of their role as the licenced Transmission System Operator (TSO), EirGrid is responsible for the development of General and Functional specifications, which are a set of engineering and operational requirements for the design and build of the offshore transmission assets. All offshore projects seeking to connect to the grid for Phase 1 are required to develop and build assets in accordance with the requirements set out by the TSO.

At the time of the first auction for offshore wind, Offshore Renewable Electricity Support Scheme (ORESS1), some of EirGrid's General and Functional specifications were incomplete. The CRU's understanding at that time was that EirGrid would engage with Phase 1 Developers on a case-by-case basis, as necessary, in order to find a solution which addresses electricity system requirements and minimises costs to consumer. However, EirGrid has since introduced updates and changes, including new additions to the General and Functional specifications.

Phase 1 Developers have stated that these unforeseen changes have created significant uncertainty and may increase the ultimate cost of offshore projects. Developers are also seeking assurance that all economic and efficient costs incurred in developing and constructing the transmission assets will be recoverable through the ATV.

The CRU considers that any post-ORESS1 changes to EirGrid's General and Functional specifications will have the effect of adding risks and/or costs to Irish consumers, and/or costs onto the Phase 1 Developers.

The CRU notes the risk that unnecessary additional costs associated with these unforeseen changes may be passed to the consumer through socialised charges such as the Demand-Transmission Use of System (D-TUoS) charge.

In a previous decision CRU/2023/13, the CRU outlined that costs that are included in the ATV paid to the Developer at the asset transfer date may be excluded from the calculation of the Offshore Generator-Transmission Use of System (OG-TUoS) charge if the Developer can demonstrate, to the CRU's satisfaction, that the costs are solely the result of changes to EirGrid's specifications of the transmission system assets that were outside the Developer's control. The CRU places the responsibility on Developers to demonstrate any additional costs associated with unforeseeable and unknown technical changes. Where Developers provide robust evidence, the CRU may as part of its assessment at the Post Construction Review (PCR) andat its sole discretion, allow these costs to be included in the ATV, and be excluded from the calculation of the OG-TUoS charge.

In response to the above, the CRU established (in April 2025) a Post Auction Material Change Review (MCR) Process to mitigate consumer risk and to seek to limit cost exposure arising from these changes.

The CRU MCR process was designed to:

- Ring-fence and assess EirGrid's post-auction changes to General and Functional Specifications for Phase 1 offshore wind projects.
- Protect Irish consumers by limiting their exposure to unnecessary costs, resulting from EirGrid-driven changes since the ORESS1 Auction.
- Provide clarity to Phase 1 Developers on how the CRU will treat post-auction changes when determining the ATV.

The CRU reviewed nine specifications with post-ORESS1 changes referred to as the *Consolidated List of Changes.* This list was compiled using input from both EirGrid and Phase 1 Project Developers. The table below provides a high-level summary of the CRU's decision on each specification. For a detailed overview of the assessment process and decision rationale, see Section 3:

EirGrid Specification	CRU Decision	CRU Cost Efficiency Validation at PCR & ATV	OG-TUoS	Specification must be completed & finalised by
OFS-GEN-021	**Approve with Conditions**	Phase 1 Project DEVEX rework & additional CAPEX costs recoverable through PCR and ATV processes	Economic & Efficient Value of Change is excluded from OG-TUoS	**28 February 2026**
OFS-SSS-416	**Approve with Conditions**	Phase 1 Project DEVEX rework & additional CAPEX costs recoverable through PCR and ATV processes	Economic & Efficient Value of Change is excluded from OG-TUoS	**28 February 2026**
OFD-OSP-504	**Reject & Revert to ORESS1 position**	Phase 1 Project DEVEX rework costs recoverable through PCR and ATV processes. Offshore 66kV PoC CAPEX reverts to ORESS1 Bid/Price allowances	Economic & Efficient Value of Change is excluded from OG-TUoS	**28 February 2026**
OFS-GEN-009	**Reject & Revise (align with industry best practice)**	Phase 1 Project DEVEX rework costs recoverable through PCR and ATV processes. O&M CAPEX Costs revert to ORESS1 Bid/Price allowances & Only Validated Delta Cost Increases are recoverable through PCR and ATV processes.	Economic & Efficient Value of Change is excluded from OG-TUoS	**28 February 2026**
OFS-GEN-024	**Approve with Conditions**	N/A	N/A	**28 February 2026**
OFS-GEN-006	**Reject (use existing systems)**	N/A	N/A	N/A
OFS-GEN-025	**Approve with Conditions**	N/A	N/A	**28 February 2026**
OFS-GEN-030	**Reject (use existing systems)**	N/A	N/A	N/A
OFS-GEN-100	**Approve**	N/A	N/A	N/A

The CRU has decided that the economic and efficient costs arising from the approved changes will be ring-fenced and will be considered within the CRU PCR process and in the determination of the ATV. The economic and efficient costs incurred by the Phase 1 projects will be excluded from the OG-TUoS charge. Rejected specification changes require EirGrid to revert to the ORESS1 position or be revised in line with offshore wind industry best practice.

The CRU has identified specific actions for EirGrid arising from the MCR process, which are necessary to finalise the Phase 1 General and Functional Specifications and to consolidate the ORESS1 position by **28 February 2026**. Accordingly, there should be no further changes after this backstop date to any EirGrid General and/or Functional Specifications to avoid any disruption and to ensure contractual and technical certainty is achieved in an effort to support Phase 1 project bankability.

Given the above, the CRU require EirGrid to revise and complete all necessary changes and amendments in line with this Decision by **28 February 2026**, which serves as the backstop date for finalising the Phase 1 General and Functional Specifications and technical baseline.

Overall, the CRU notes that EirGrid's MCR submissions did not meet the CRU expectations. In many cases, EirGrid did not provide to the CRU sufficient detailed qualitative and quantitative analysis and justification to support making amendments to the General and Functional specifications. In addition, EirGrid's MCR submissions provided limited appropriate and/or indicative cost ranges for the impacts of the material changes on Phase 1 projects, stating instead that most changes were expected to have no or minimal cost impact on Phase 1 Projects.

Finally, EirGrid did not clearly demonstrate to the CRU the potential additional benefits and/or savings to Irish consumers as a result of proposing and implementing the specification changes, which supports the need for CRU's intervention. The CRU notes that EirGrid is required under TSO licence Condition 18 to *"take into account the objective of minimising the overall costs to final customers pursuant to Regulation 8(3) of SI 445 of 2000"* in discharging its functions.

The CRU notes that some of EirGrid's proposed specification changes appear to influence and extend into areas normally reserved for a developer-led approach by seeking to mandate specific technologies and impose operations and maintenance requirements beyond standard wind industry norms. Phase 1 Developers also noted that the changes may potentially create interface complexities for the Phase 1 projects during the commissioning, testing and proving periods as a result of changes to connection and ownership boundaries, switching arrangements and safety working rules. It became evident to the CRU during the MCR process that many aspects of the General and Functional specifications have yet to be fully finalised by EirGrid and whereby resolution is required on an accelerated basis (by **28 February 2026**) with due consideration being given to the principles, responsibilities and obligations of all Phase 1 Projects being developer-led.

Recognising the urgency of this matter, the CRU undertook this work within a compressed timeframe, intending to complete the MCR assessment by the end of Summer 2025. Additionally, it is not typical for the CRU to intervene directly in matters that are ordinarily led by the TSO.

While mindful of the need to avoid disrupting the progress of the Phase 1 programme, the CRU considered it necessary to intervene at this stage to understand what changes have been introduced by EirGrid since the ORESS1 Auction and in doing so to protect the consumer from unnecessary cost exposure. The CRU emphasises that its intervention should not be regarded as setting precedent and the CRU does not intend to replicate this MCR process in the future.

Going forward, to minimise project delays and to avoid unnecessary cost exposure to Irish consumers, EirGrid will be required to clearly justify to the CRU and fully document any further changes to the specifications applicable to Phase 1 offshore wind projects using an effective change control process that demonstrates a clear need, justification and benefit to the wider electricity system and the Irish consumer.

This decision paper concludes the Post-ORESS1 Auction MCR process led by the CRU.

CRU Strategic Plan 2025-27

Vision, Purpose, and Values

OUR VISION:

Resilient, efficient, sustainable, and safe energy and water services for Ireland.

OUR PURPOSE:

We actively serve the public interest by regulating the provision of energy and water to Irish homes and businesses, while supporting the transformation to net zero.

OUR VALUES:

- Integrity
- Professionalism
- Openness
- Accountability

Public/ Customer Impact Statement

The Irish Government has set ambitious targets for the development of offshore wind up to 2030 and beyond. Delivering these targets will require significant changes to Ireland's electricity network, including new offshore infrastructure to connect offshore wind farms to the grid. The Government has designated EirGrid as the owner of Ireland's offshore wind transmission assets. As the licensed TSO, EirGrid's role to date has focused on system balancing, market operation, and network planning activities, while the CRU is responsible for the economic regulation of EirGrid. Under the Government's 2021 Policy Statement, Phase 1 offshore transmission assets will be built by Developers and later transferred to EirGrid. As part of this process, EirGrid is responsible for developing General and Functional Specifications, which set the engineering requirements for these assets.

Delivering Ireland's offshore wind ambitions will require significant resources, particularly within EirGrid and the CRU. Given the scale and complexity of the programme, coordinated action among all stakeholders is essential to ensure it is delivered economically, efficiently, and at a fair cost to Irish consumers. The CRU continues to engage with the Department for Climate, Energy and the Environment (DCEE) with regard to approval of additional resources to support its offshore programme of work over the coming years.

This decision paper is relevant to electricity consumers in Ireland because it ensures that changes to these technical specifications - introduced after the first offshore auction (ORESS1) - are appropriately assessed and justified. While the technical details primarily affect EirGrid and offshore developers, the CRU's actions have broader implications for the public:

Protecting Consumers from Unnecessary Costs: The CRU has acted to prevent unnecessary or unjustified costs from being passed on to consumers through socialised charges. Any additional costs arising from approved changes will be ring-fenced and assessed as part of the PCR, ensuring that consumers do not bear the financial burden of late specification changes.

Progress towards Climate Goals: The decision underpins Ireland's offshore wind programme, which is critical to achieving national climate and energy targets. By providing clarity to Developers on how unforeseen costs will be treated and requiring EirGrid to finalise specifications by a backstop date, the CRU is helping to avoid delays and ensure timely delivery of renewable generation, benefiting consumers through a cleaner, more sustainable energy system.

Promoting Transparency and Accountability: The CRU's process ensures that any future changes to specifications are clearly justified, documented, and approved before implementation. This promotes accountability and protects consumers from unnecessary costs.

The measures taken will contribute to cost efficiency, transparency and progress towards Ireland's renewable energy targets, all of which align with the CRU's statutory objectives to protect customers.

Table of Contents

Glossary of Terms and Abbreviations

Abbreviation or Term	Definition or Meaning
ATV	Asset Transfer Value
CAPEX	Capital Expenditure
COD	Commercial Operation Date
CRS	Customer Review/Approval Sheet
CRU	Commission for Regulation of Utilities
DCEE	Department for Climate, Energy and the Environment
DEVEX	Development Expenditure
DMS	Document Management System
D-TUoS	Demand - Transmission Use of System (Charge)
EON	Energisation Operational Notification (Grid Code definition)
EPC	Engineering, Procurement, Construction
ESBN	Electricity Supply Board Networks
EU	European Union
FEED	Front-End Engineering Design
FID	Final Investment Decision
FON	Final Operational Notification (Grid Code definition)
FTV	Final Transfer Value
GB	Great Britain
GIP	Grid Interface Point
HSA	Health and Safety Authority

HV	High Voltage
ION	Interim Operational Notification (Grid Code definition)
ITV	Initial Transfer Value
MCR	Material Change Review
MDR	Master Document Register
MEC	Maximum Export Capacity
MoC	Management of Change
ms	Millisecond (measurement)
MSR	Mechanically Switched Reactors
MVAr	Mega Volt Amperes Reactive
O&M	Operation & Maintenance
OAO	Offshore Asset Owner
OCC	Onshore Connection Compound
OEM	Original Equipment Manufacturer
OFTO	Offshore Transmission Owner
OG-TUoS	Offshore-Generator Transmission Use of System (Charge)
OPEX	Operational Expenditure
ORESS1	Offshore Renewable Electricity Support Scheme
OSP	Offshore Substation Platform
PCR	Post Construction Review
PoC	Point of Connection
PPM	Power Park Module
pu	Polarised units (measurement)

RAB	Regulated Asset Base
RDSS-PP	Reference Designation System for Power Plants
RfG	Requirements for Generators
RFI	Request for Information
SCADA	Supervisory Control and Data Acquisition
SLA	Service Level Agreement
SLD	Single Line Diagram
SME	Subject Matter Expert
SSCI	Sub-Synchronous Control Instability
STATCOM	Static Synchronous Compensator
TAO	Transmission Asset Owner
TBC	To Be Confirmed
TCA	Transmission Connection Agreement
TSO	Transmission System Operator
WEI	Wind Energy Ireland

1. Introduction

This paper sets out the CRU's decision for the Post-ORESS1 Auction Material Change Review ('MCR'): EirGrid General and Functional Specifications. The decision applies to EirGrid PLC (TSO) and Phase 1 Offshore Wind projects (Oriel Windfarm, North Irish Sea Array, Dublin Array, Codling Wind Park and Arklow Bank Wind Park 2).

This decision sets out the relevant context and background to the CRU's decision-making process on the revisions and/or additions to the Phase 1 General and Functional Specifications introduced by EirGrid post-ORESS1 Auction, including detail on the establishment of the Post-auction Material Change Review process. Section 2 of the paper will introduce and explain the MCR process. Section 3 outlines the assessment process and decisions. Section 4 outlines next steps, while Section 5 outlines the treatment of future changes, and how these changes will be treated in the PCR process.

Commission for Regulation of Utilities

The Commission for Regulation of Utilities (CRU) is Ireland's independent energy and water regulator. The work of the CRU impacts every Irish home and business. We strive to ensure safe, secure, and sustainable energy and water supplies for the benefit of all customers. The work of the CRU also facilitates Ireland's climate actions and transformation to 'Net Zero.' We operate within a policy and statutory framework set by Government and are financed by means of a levy on regulated entities. The CRU is guided by the following strategic priorities:

- Support Transition to Net Zero
- Enable Efficient and Competitive Energy Markets
- Enable Resilient Critical National Infrastructure
- Ensure Efficient Investment in Infrastructure Delivery
- Protect the Public in Energy Safety
- Effective Economic Regulation of Water Services
- Empower and Protect all Customers
- Enhance Teams, Capabilities and Governance Standards

Further information on the CRU's role and relevant legislation can be found on the CRU's website at www.cru.ie.

1.1 Background

1.1.1 Legal Context

The CRU's functions and duties are set out principally in Section 9 of the Electricity Regulation Act 1999, as amended (the 1999 Act). In particular, according to Section 9(3)(a) of the 1999 Act, the CRU shall carry out its statutory functions in a manner which does not discriminate unfairly between relevant stakeholders, and also have regard, in accordance with Section 9(4)(a), among other things to the need to:

- protect the interests of final customers and to secure that all their reasonable demands for electricity are satisfied,
- promote the continuity, security, and quality of supplies of electricity,
- promote competition;
- promote efficiency and the use of renewable, sustainable, or alternative forms of energy, and
- ensure efficiency and the use of renewable, sustainable, or alternative energy sources.

The CRU's role is to ensure that the methodologies underpinning connection arrangements, including the impact of functional specifications, are transparent, proportionate, and consistent with its statutory duties to protect customers, promote competition, and support the integration of renewable energy.

1.1.2 Phase 1 Context and General & Functional Specifications

The regulatory framework underpinning the Phase 1 offshore transmission asset handover was set out in CRU's decision Offshore Grid Connection Asset Treatment (CRU/2023/09). In that decision, the CRU acknowledged that the transfer of assets from Developers to EirGrid would require validation of each project's design against "the required functional specifications and standards for connection to the onshore transmission system," with any material deviations subject to a formal derogation process.

This was further clarified in the supplementary decision Offshore Grid Connection Asset Treatment – Supplementary Decision (CRU/2023/13), where the CRU confirmed that Developers may recover an uplift in ATV, without a corresponding increase in OG-TUoS charges, for costs that are solely the result of changes to transmission connection specifications outside the Developer's control and not reasonably foreseeable—provided those costs are economically and efficiently incurred. As outlined in CRU/2023/09, such claims are to be assessed through the PCR.

Phase 1 Offshore transmission assets will be transferred from Phase 1 Developers to EirGrid PLC following a CRU PCR process, which will determine an efficient and economic ATV for the assets associated with each project. The ATV will also be used to set the OG-TUoS charge, which will be paid by Phase 1 Developers over the 30-year operational lifetime of the Phase 1 offshore windfarms.

At the time of the ORESS1 Auction (27 April, 2023[1]), some of EirGrid's General and Functional specifications were incomplete. This was understood by the Department of Climate, Energy and the Environment (DCEE)[2], the CRU, and the Phase 1 Developers participating in the ORESS1 Auction.

EirGrid's General and Functional specifications are a key input which shape the planning, development, design, procurement, construction, installation, connection, commissioning, testing, operations and maintenance of Phase 1 wind farms and form the consolidated baseline and technical assumptions used by developers to determine a competitive ORESS1 bid.

Prior to the ORESS1 Auction, on 31 March 2023, EirGrid had issued the suite of General and Functional Specifications and recorded the ORESS1 Baseline within *"Master Document Register (MDR) Revision 02"* (MDR 02). On 14 April 2023, the Chair of the Wind Energy Ireland (WEI) Offshore Grid Code Working Group and Phase 1 Developers raised concerns with the CRU and the ORESS Project Board regarding a number of late changes, late submissions and new requirements being introduced by EirGrid within the MDR 02.

On 21 April 2023, the ORESS Project Board (comprising of DCEE, CRU, and EirGrid) approved the withdrawal of OFS-GEN-021-R0 (Onshore Interface Point Network Functionality Requirements)[3] and OFS-SSS-416-R2 (400kV and 220kV Static Synchronous Compensator (STATCOM))[4] requirements. The ORESS Project Board further requested that EirGrid engage with Phase 1 Developers on a case-by-case basis after the ORESS1 Auction to develop technical solutions to address electricity system requirements while minimising the cost to Irish consumers.

[1] Auction Submission Opening Date.

[2] Department of Environment, Climate and Communications (DECC) at the time.

[3] Use the grid code principles agreed between EirGrid and Phase 1 developers in August 2022 for the baseline assumption for ORESS1 prices.

[4] Use OFS-SSS-416-R1 for the baseline assumption for ORESS1 prices.

At that time, the CRU's understanding was that EirGrid would engage with Phase 1 Developers on a case-by-case basis, as necessary, in order to find a solution which addresses electricity system requirements and minimises costs to consumer. However, EirGrid has since introduced changes to these specifications, which may impact the cost and delivery programme of Phase 1 projects[5].

On 14 February 2024, the CRU issued a letter to EirGrid regarding the incomplete status of the General and Functional Specifications for Phase 1 offshore projects. A review by the CRU and its technical advisor identified several outstanding issues, preventing the finalisation of a fully consolidated specification suite. The CRU requested that EirGrid, Phase 1 Developers, and ESB Networks (ESBN), as appropriate, engage collaboratively and without delay to resolve the remaining outstanding technical matters. The CRU notes that EirGrid has an obligation as TSO under Condition 26 of the licence "*to furnish all those using and seeking to use the transmission system with the information they need, on a timely basis, for efficient access to the transmission system*".

Subsequent changes to the General and Functional specifications have raised further concerns from Phase 1 Developers, particularly around additional requirements that were not anticipated or foreseen at the time of ORESS1 bidding. While it is acknowledged that Phase 1 Developers would have included a general risk and contingency element within their ORESS1 bids, the scale and nature of the changes may go beyond what could reasonably have been foreseen. Phase 1 Developers are therefore seeking assurance that all economic and efficient costs incurred in developing and constructing the offshore transmission assets will be recoverable through the ATV process.

1.1.3 Establishing the CRU Post Auction Material Change Review Process

As mentioned above, in February 2024 the CRU sent a letter to EirGrid concerning matters arising after the ORESS1 Auction. In that letter, the CRU requested that EirGrid and the Phase 1 projects engage at the earliest opportunity to collaboratively reach a common agreement on all outstanding technical matters. The CRU also noted that, in line with the ORESS Project position prior to the ORESS1 Auction, EirGrid was expected to work with Phase 1 Developers to identify solutions that meet the electricity system requirements and minimises costs to the consumer Post-ORESS1 Auction.

[5] Not all changes to General and Functional Specifications may necessarily lead to increased costs for Phase 1 project costs.

Following this, from February 2024 to April 2025, the CRU held several meetings with EirGrid to seek to understand the need for and the rationale underpinning changes introduced by EirGrid after the ORESS1 Auction. This engagement process did not provide the CRU with the necessary understanding of the need for the specification changes post ORESS1.

Subsequently, in April 2025, the CRU initiated its Post-ORESS1 Auction Material Change Review Process. The CRU issued a further letter to EirGrid on 11 April 2025 setting out its concern of the potential impact on Irish consumers and Phase 1 Developers, and the risk to EirGrid of potential under-recovery of costs should EirGrid continue to evolve and introduce changes to the General and Functional specifications without providing the necessary technical and economic justification to the CRU. The CRU requested EirGrid to:

- Suspend the application of all changes to the Phase 1 General and Functional specifications introduced post-ORESS1 Auction.
- Provide the CRU with a comprehensive submission outlining the reason, rationale and justification for each change since the ORESS1 Auction; outlining why EirGrid has proposed to introduce a change or new requirement; why it is technically or operationally necessary; the potential cost and time implications; and the expected benefits to the Irish consumer.

The CRU, supported by external technical advisory support, led the MCR process.

Phase 1 developers were requested to provide the CRU with an impact assessment for each (relevant) change introduced by EirGrid since the ORESS1 Auction to support the CRU's MCR overall review.

Based on these sets of submissions, the CRU has assessed the evidence provided by both EirGrid and Phase 1 Developers and determined whether:

- The application of the change should be approved / approved subject to condition, and be included within EirGrid's General and Functional specifications to be applied to the Phase 1 projects,
- The application of the change should be rejected whereby EirGrid is not allowed to apply the requirement to the Phase 1 projects and requires EirGrid to revert to the ORESS1 position or be revised in line with offshore wind industry best practice.
- Further work is required to detail and fully justify the need for change on a technical-economic basis to support subsequent approval, and
- The *differential* risk / cost / time impacts of the change will be considered by CRU and ring-fenced as part of the PCR and ATV processes.

EirGrid & Developer submissions

Developers' MCR submissions on the consolidated list provided detailed responses with indicative cost and time impacts presented, which were useful for the CRU assessment.

EirGrid's MCR submissions did not meet the expectations the CRU had set out in its letters. The CRU has identified issues with both the quality of the submissions and certain specification requirements proposed by EirGrid. In some cases, the proposed changes, ranging from documentation numbering to technical specifications, would appear to influence and extend into areas reserved for Phase 1 Developers. In CRU/2023/13, the CRU noted that its understanding that EirGrid's general and functional specifications are generic and intended to support Phase 1 Developers in developing project specific designs. Therefore, the inclusion of mandating specific technologies, imposing excessive operations and maintenance requirements beyond standard wind industry norms, and potentially creating unnecessary interface complexities for the Phase 1 projects are contrary to the CRU's understanding. Such actions, the CRU understands, may risk creating additional costs, operational inefficiencies and challenges during commissioning, testing and asset transfer for the Phase 1 projects, while potentially undermining the balance of responsibilities set out for EirGrid and Phase 1 projects in CRU/2023/09 and CRU/2023/13.

Outcomes

The CRU has decided on specific actions for EirGrid arising from the MCR process, which are considered necessary to finalise the Phase 1 General and Functional Specifications and to consolidate the ORESS1 technical baseline by **28 February 2026**.

Accordingly, there should be no further changes after this backstop date to any General and/or Functional Specifications to avoid any disruption and to ensure contractual and technical certainty is achieved in seeking to support Phase 1 project bankability.

Further to the above, and in reference to the CRU PCR process, Phase 1 Developers should be assured that the differential economic and efficient costs associated with this MCR process will be considered through the CRU's PCR process. The economic and efficient costs will be included in the projects' ATV, subject to strict ring-fencing, detailed cost assessment, and scrutiny by the CRU and its advisors.

1.1.4 Related Documents

- CRU/2023/09; Offshore Grid Connection Asset Treatment Decision

- CRU/2023/13; Offshore Grid Connection Asset Treatment: Supplementary Decision to CRU/2023/09
- Post-Auction Material Change Review Guidance note: Material Change Form for EirGrid and Phase 1 Projects (Shared 12 May 2025 via email with EirGrid & Phase 1 Developers)
- Post-ORESS1 Auction Material Change Review (MCR) & Consolidated List of Changes to EirGrid's General and Functional Specifications (Shared 16 May 2025 via email with EirGrid & Phase 1 Developers)

Information on the CRU's role and relevant legislation can be found on the CRU's website at **www.cru.ie**

1.1.5 Structure of Paper

This decision paper sets out the Post-ORESS1 Auction MCR process for the General and Functional Specifications. The rest of this paper is as follows:

- Section 2 outlines the MCR framework, key inputs and summarises the quality of submissions received from EirGrid and Phase 1 Developers,
- Section 3 presents the CRU's decisions on each specification on the *Consolidated list of Changes*, explains the rationale for each decision, and reviews EirGrid's justification for each proposed change,
- Section 4 outlines the next steps following the CRU's MCR process, and
- Section 5 clarifies the process for managing future changes that could affect Phase 1 projects' ATV and explains how such ring-fenced changes will be addressed during CRU's PCR process.

2. Review Methodology

Scope & Objectives

The CRU established the Post-ORESS1 Auction Material Change Review ('MCR') Process to examine the Consolidated List of Changes introduced by EirGrid post-ORESS1 Auction to determine any potential impacts on Irish consumers and the Phase 1 projects.

The process aims to:

- Mitigate consumer risk and cost exposure resulting from EirGrid's ongoing changes to the Phase 1 General and Functional Specifications since the ORESS1 Auction; and
- Provide clarity to Phase 1 Developers on CRU's treatment of unforeseen and additional costs, at the PCR, arising after the ORESS1 Auction. This clarity is intended to support and increase Developers' confidence as they approach Final Investment Decisions (FID).

The MCR process provides a structured and transparent approach to assessing the potential implications of material changes introduced by EirGrid to the General and Functional specifications after the ORESS1 Auction.

The MCR process set out to:

- Examine the changes to the General and Functional specifications that EirGrid has introduced since the ORESS1 Auction, including additional specifications, and to assess the potential impact on Irish consumers and the Phase 1 projects,
- Seek to understand the extent of incomplete and material changes to the specifications that occurred at the time of the ORESS1 Auction,
- Ringfence the approved changes to avoid any future compounding cost effects and to seek to avoid any future disputes up to the PCR and ATV processes.

In addition, the MCR process would address the *Consolidated List of Changes* only on a ring-fence basis whereby the CRU will not be involved in overseeing and/or managing any other change control related matters across the wider Phase 1 Offshore Programme.

The purpose of the MCR process is to provide Phase 1 Developers with assurance regarding the outcomes that will be permitted at FID, rather than the associated costs of those outcomes.

Process Overview

The MCR process was led by the CRU, supported by its external technical advisors.

1. Developing the Consolidated List of Changes

In a bilateral meeting between the CRU and EirGrid on 13 March 2025, the CRU requested that EirGrid provide a list of all changes made to its General and Functional specifications since the ORESS1 Auction. This request aimed to give the CRU a clearer understanding of the specific changes introduced by EirGrid post-ORESS1 Auction. EirGrid provided a list, on 1 April 2025 via email, with a document outlining the post-ORESS1 Auction changes, including a list of specification numbers and the dates on which each of the specifications had been revised.

On 3 April 2025, the CRU formally requested Phase 1 Projects (via email correspondence with the Lead of Wind Energy Ireland's Technical Working Group) working on behalf of the Phase 1 Projects to review and confirm the accuracy of EirGrid's list of post-ORESS1 Auction changes to the Phase 1 General and Functional specifications.

The CRU reviewed both submissions (as received from EirGrid on 1 April 2025 and the Phase 1 projects via an email from the Lead of Wind Energy Ireland's Technical Working Group on 24 April 2025) and subsequently compiled a single CRU list referred to as the *Consolidated List of Changes*. This list was then circulated for final comments on 29 April 2025.

On 2 May 2025, the CRU received an additional submission from the Phase 1 Projects, which included new items not previously identified in the 24 April 2025 submission. The CRU considered this updated list and concluded that the additional items were changes introduced by EirGrid prior to the ORESS1 Auction and as such were available to Developers to consider as part of their auction bids. Some of the changes did not only relate to EirGrid's General and Functional Specifications, but also to EirGrid's offshore technical schedules and standard drawings. Therefore, the CRU did not modify its *Consolidated List of Changes* circulated on 29 April 2025.

The CRU held trilateral meetings with EirGrid and the Phase 1 Developers on 9 & 14 May 2025 to discuss the *Consolidated List of Changes*, and the MCR process. During these meetings, the CRU outlined the methodology used to develop the *Consolidated List of Changes* and clarified the expectations for completing the Post-ORESS1 Auction Material Change forms. The CRU also provided an overview of the review process and the proposed timelines for completing the MCR process and assessment.

However, the Phase 1 Developers raised concerns that the *Consolidated List of Changes* omitted the updates submitted on 2 May 2025, which the CRU explained were excluded for specific reasons (as outlined above). Furthermore, both EirGrid and the Phase 1 Developers also objected to the 30 May 2025 deadline for submitting Material Change forms, and the Phase 1 Developers went on to request that an additional Single Line Diagram (SLD) be added to the list due to its impact on the Phase 1 projects' design. In response, the CRU agreed to extend the submission deadline for EirGrid and Phase 1 Developers to 6 June 2025, and given the significance of the change to EirGrid's SLD, agreed to include the OFD-OSP-504 in the *Consolidated List of Changes*, as requested by Phase 1 developers.

On 16 May, the CRU circulated its finalised version of the *Consolidated List of Changes* which would form the basis of the Material Change Review Process. See Table 1 below.

Table 1 CRU's Consolidated List of Changes for the MCR shared on 16 May 2025

EirGrid General & Functional Specifications in Scope of CRU Material Change Review		
Specification Titles	**Revision**	**Issue Date[6]**
OFS-GEN-021: Onshore Interface Point Network Functionality Requirements	R0	30.03.2023
OFS-GEN-021: Onshore Interface Point Network Functionality Requirements	R1	18.09.2023
OFS-GEN-021: Onshore Interface Point Network Functionality Requirements – includes relaxations relating to fault ride through and voltage parameters [CRU Hold]	R2	TBC
OFS-SSS-416: 400kV & 220kV Static Synchronous Compensator (STATCOM)	R1	N/A
OFS-SSS-416: 400kV & 220kV Static Synchronous Compensator (STATCOM)	R2	30.03.2023

[6] Issue Date provided by EirGrid at CRU's request.

OFS-SSS-416: 400kV & 220kV Static Synchronous Compensator (STATCOM) [CRU Hold]	R3	TBC
OFD-OSP-504: Standard 220/66kV Offshore Substation Single Line Diagram	R0	10.01.2023
OFD-OSP-504: Standard 220/66kV Offshore Substation Single Line Diagram	R1	04.07.2024
OFS-GEN-009: Operation & Maintenance General Requirements	Prelim	Jan 2023
OFS-GEN-009: Operation & Maintenance General Requirements	R0	28.06.2023
OFS-GEN-009: Operation & Maintenance General Requirements	R1	17.02.2025
OFS-GEN-024: Guidance for Derogation Requests	R1	08.09.2022
OFS-GEN-024: Guidance for Derogation Requests (Template & ATV Updates) [CRU Hold]	R2	TBC
OFS-GEN-006: Documentation Numbering Changes to the number sequence	R0	15.03.2023
OFS-GEN-006: Documentation Numbering (DMS Numbering Updates)	R1	19.06.2024
OFS-GEN-025: Phase 1 Customer RFI Guide [CRU Hold]	R0	TBC
OFS-GEN-030: RDS-PP Guidelines (plus Annex 1 – Mother List and Annex 2 – Boundary Diagrams) [CRU Hold]	R0	TBC
OFS-GEN-100: Phase 1 – CRS Template [CRU Hold]	R0	TBC

Note: The Consolidated List of Changes includes certain specifications that have not yet been issued by EirGrid marked 'TBC' in the *Issue Date* column. In April 2025, the CRU requested EirGrid to suspend the application of all proposed changes to Phase 1 General and Functional specifications introduced since the ORESS1 Auction. As a result, some revisions of these specifications have not yet been issued by EirGrid, also marked [CRU Hold].

2. Material Change Review Forms

To ensure that the CRU had a comprehensive economic and technical justification for each of the changes, the CRU requested both EirGrid and Phase 1 Developers to independently complete a standardised form ('Material Change Form') for each of the changes in the *Consolidated List of Changes*.

EirGrid was requested to complete a Material Change Form for all changes for each specification on the *Consolidated List of Changes*, while Phase 1 Developers were asked to provide an impact assessment (cost and/or time) for the post-ORESS1 changes relevant to their project.

As general guidance, EirGrid and Phase 1 Developers (where applicable) were requested to address the following fields within the Material Change Form:

- **Description of Change:** Provide a concise summary of the proposed change to the general and functional specification. Each party should briefly describe the nature and scope of the proposed change, including which specific part(s) of the specification it affects.
- **Reason for Change**: Outline the reason for proposing or responding to the change or new requirement. Each party should provide their understanding or perspective on the rationale and reasoning for the change, based on available information or experience.
- **Technical and/or Operational Justification for Change**: Set out the technical and/or operational basis and justification for the change. Each party should outline whether, and to what extent, they consider the change to be necessary, including any supporting information and factual evidence to support their position.
- **Cost and/or Time implications of Change**: Provide an estimate or indicative range of the potential cost, time and delivery impacts associated with the change. The CRU recognises that the assessment of impact may differ between parties, and all perspectives will be valuable in the review and assessment process. For example, as the TSO, EirGrid may not comment on the cost and/or time implications for each Phase 1 project but may comment on the cost and/or time implications of not implementing the change, particularly in terms of broader transmission system impacts and operating requirements; whereas, Phase 1 Developers may focus on how the change may affect project-specific costs and timelines. Supporting data or working assumptions should be included where possible to support CRU's assessment.
- **Other considerations:** Highlight any additional factors relevant to the proposed change, such as potential system-wide benefits or long-term value to Irish consumers. Each party

may consider whether the change delivers added value beyond immediate project needs, including improved efficiency, reliability or long-term cost-effectiveness.

EirGrid and Phase 1 Developers uploaded their Material Change Forms and additional supporting information to a secure CRU portal where commercial and confidential sensitivities have been safeguarded.

CRU Evaluation of MCR Submissions

The CRU appreciates the efforts of both EirGrid and Phase 1 Developers for their participation in and contributions to the MCR process, particularly given the relatively tight timescales set by the CRU to consider the changes to EirGrid's General and Functional specifications.

Phase 1 Project Submissions:

Phase 1 Developers were requested to complete a Material Change Form only for those changes relevant to their specific project and as listed on the finalised *Consolidated List of Changes.* The Phase 1 Developers wrote to the CRU (on 23 May 2025) to request an extension to the MCR deadline to 25 July 2025. The CRU responded to this request (on 29 May 2025) granting an extension to 27 June 2025 only, recognising the importance of avoiding delays to the overall progress of the Phase 1 offshore wind programme for all involved parties.

The CRU received completed forms and supporting documentation from all Phase 1 Developers. All Phase 1 Developers provided extensive documentation to support the CRU's review of the proposed changes.

All Phase 1 Developers submitted indicative time and cost impact ranges for the changes they considered affected their project. These figures provided the CRU with a high-level understanding of the potential scale of impacts across the Phase 1 projects. While detailed underlying input assumptions and calculation methodologies were not included in all cases to derive the cost estimates, this was consistent with the scope of the request, as the CRU had not sought such specifics at this stage. Accordingly, the high-level figures provided by the Phase 1 projects were deemed to be sufficient for the purposes of the MCR process. It should be noted that the indicative cost ranges provided by Phase 1 Developers during the MCR process will not be used as data points/points of reference in the PCR.

Additionally, the CRU notes that some Phase 1 Developers have submitted additional Material Change Forms for specifications not included on the *Consolidated List of Changes*. As advised before the MCR process commenced, these matters are for each Phase 1 Developer to manage

and address through the annual reporting process and/or the PCR process and are not part of this MCR process.

Overall, the CRU found the input from the Phase 1 Developers collectively to be a valuable and informative source of information regarding impact of the specification changes introduced by EirGrid and has helped the CRU in carrying out its analysis and assessment of EirGrid's and Developers' submissions.

EirGrid Submissions:

The CRU requested EirGrid to submit Material Change Forms, together with supporting information and documentation, for all changes included in the *Consolidated List of Changes* by 6 June 2025. All but one material change form was received by this date, with the outstanding submission provided on 11 June 2025.

Following a detailed review by the CRU of the forms submitted on 6 and 11 June 2025, it was the CRU's considered view that the MCR documentation did not provide a comprehensive explanation of the rationale and technical justification for each change made since the ORESS1 Auction. EirGrid's submissions were largely confined to technical descriptions of change and provided limited justification for the introduction or implementation of changes post-ORESS1. As a result, on 12 June 2025 the CRU rejected the EirGrid MCR submissions dated 6 and 11 June 2025 and requested a complete submission in line with the CRU requirements to be made by close of business on 27 June 2025.

EirGrid requested a meeting with the CRU to discuss the pending changes to *OFS-GEN-024: Guidance for Derogation Requests* which had been placed on hold as a result of CRU's letter dated 11 April 2025. This meeting, held on 16 July 2025, included the CRU Offshore Economic Policy Team, the CRU's external technical advisors, and EirGrid, to review and discuss the proposed specification changes and requirements in detail, since EirGrid was conscious that the derogation process was essential to progressing the Phase 1 projects.

EirGrid resubmitted their Material Change Forms on 3 and 4 July 2025. The CRU advanced the MCR process using EirGrid's second submission as the basis for its review. However, the CRU had to issue two rounds of clarification questions on specific specifications based on EirGrid's 3 and 4 July submissions.

Overall, the CRU notes that EirGrid has provided limited qualitative and quantitative analysis to justify some of the changes to General and Functional specifications post-ORESS1 Auction. In addition, EirGrid provided limited appropriate and/or indicative cost ranges for the impacts of the material changes on Phase 1 projects, stating instead, that most material changes were

expected to have no or minimal cost impact on Phase 1 projects. Finally, EirGrid did not demonstrate the potential additional benefits and/or savings to the Irish consumers as a result of proposing and implementing the changes, which supports the need for CRU's intervention. The CRU notes that EirGrid is required under TSO licence Condition 18 to *"take into account the objective of minimising the overall costs to final customers pursuant to Regulation 8(3) of SI 445 of 2000"* in discharging its functions.

The CRU has identified issues with both the quality of the submissions and some specification requirements proposed by EirGrid. In some cases, the proposed changes, ranging from documentation numbering to technical specifications, would appear to influence and extend into areas reserved for Phase 1 Developers. In CRU/2023/13, the CRU notes its understanding that EirGrid's General and Functional specifications are generic and intended to support Phase 1 Developers in developing project specific designs. Therefore, the inclusion of mandating specific technologies, imposing certain operations and maintenance requirements beyond standard wind industry norms, and potentially creating unnecessary interface complexities for the Phase 1 projects are contrary to the CRU's understanding. Such actions, the CRU understands, may risk creating additional costs, operational inefficiencies and challenges during commissioning, testing and asset transfer for the Phase 1 projects, while potentially undermining the balance of responsibilities set out for EirGrid and Phase 1 projects in CRU/2023/09 and CRU/2023/13.

Developers raised concerns that they consider EirGrid is attempting to shift and/or offset responsibilities and liabilities back to the Phase 1 Developers even after asset transfer through the optional retainership of Operational & Maintenance (O&M) requirements. This is inconsistent with CRU/2023/13 policy which established a single-stage asset transfer process for offshore transmission assets; and a single-stage approach to transferring O&M responsibilities over to EirGrid for all Phase 1 projects, under which EirGrid must assume full responsibility for continuous and reliable asset operations and maintenance.

3. Material Change Review Findings

Summary of CRU Decisions

Following a thorough review of MCR submissions from both EirGrid and the Phase 1 developers, the CRU has reached a final decision on each proposed specification on the Consolidated List of Changes. These outcomes are summarised in Table 2 below. The following Section provides further details.

Table 2 Summary of CRU Determinations

EirGrid Specification	CRU Decision	CRU Cost Efficiency Validation at PCR & ATV	OG-TUoS	Specification must be completed & finalised by
OFS-GEN-021	**Approve with Conditions**	Phase 1 Project DEVEX rework & additional CAPEX costs recoverable through PCR and ATV processes	Economic & Efficient Value of Change is excluded from OG-TUoS	**28 February 2026**
OFS-SSS-416	**Approve with Conditions**	Phase 1 Project DEVEX rework & additional CAPEX costs recoverable through PCR and ATV processes	Economic & Efficient Value of Change is excluded from OG-TUoS	**28 February 2026**
OFD-OSP-504	**Reject & revert to ORESS1 position & Re-engage in Discussions to reach an**	Phase 1 Project DEVEX rework costs recoverable through PCR	Economic & Efficient Value of Change is excluded from OG-TUoS	**28 February 2026**

	implementable solution	and ATV processes. Offshore 66kV PoC CAPEX reverts to ORESS1 Bid/Price allowances		
OFS-GEN-009	**Reject & Revise (Align with wind industry best practice)**	Phase 1 Project DEVEX rework costs recoverable through PCR and ATV processes. O&M CAPEX Costs revert to ORESS1 Bid/Price allowances & Only Validated Delta Cost Increases are recoverable through PCR and ATV processes.	Economic & Efficient Value of Change is excluded from OG-TUoS	**28 February 2026**
OFS-GEN-024	**Approve with Conditions**	N/A	N/A	**28 February 2026**
OFS-GEN-006	**Reject (Phase 1 Projects to use existing Systems)**	N/A	N/A	N/A

OFS-GEN-025	**Approve with Conditions**	N/A	N/A	**28 February 2026**
OFS-GEN-030	**Reject (Phase 1 Projects to use existing systems)**	N/A	N/A	N/A
OFS-GEN-100	**Approve**	N/A	N/A	N/A

Phase 1 Developers should be assured that the differential economic and efficient costs associated with EirGrid-driven changes approved through this MCR process can be recovered through the CRU's PCR process. These costs can be included in the projects' Asset Transfer Value, subject to strict ring-fencing, detailed cost assessment, and scrutiny by the CRU as part of its PCR process.

Detailed Analysis of Post Auction MCR Changes

This section sets out the CRU's detailed analysis outlining the rationale behind each decision.

3.1.1 OFS-GEN-021: Onshore Interface Point Network Functionality Requirements

CRU Decision Summary

After careful review, and following two rounds of detailed clarifications, the CRU accepts EirGrid's position that the Power Factor change from ±0.95 to ±0.93 as considered by EirGrid TSO System Planners is necessary to increase the reactive power capabilities at the grid connection points to maintain overall network stability given the evolving generation mix with increasing renewable integration. Based on EirGrid's TSO network justification, the CRU will approve the OFS-GEN-021 general specification, subject to conditions. The general specification requires amendment and final review which must be completed by 28 February 2026.

Such system and interface requirements and specification changes would not have been reasonably foreseen by the Phase 1 Developers at the time of the ORESS1 Auction and may result in cost impacts to the Phase 1 Projects, and therefore potentially affect the ATV. Accordingly, the CRU's decision on the ATV is to allow Phase 1 Project Development Expenditure (DEVEX) rework costs and any additional delta Capital Expenditure (CAPEX) costs to be recoverable through the PCR and ATV processes subject to strict ring-fencing, detailed cost assessment, and scrutiny by the CRU and its external advisors.

The additional economic and efficient cost impact associated with this change for the Phase 1 projects will be excluded from the OG-TUoS charge.

Description of change

Note: CRU acknowledges the technical interdependencies between the OFS-GEN-021 and OFS-SSS-416 specifications (and OFS-GEN-005) and therefore they are being considered together.

EirGrid has introduced a lower Factor change from ±0.95 to ±0.93 which in turn has resulted in several technical, functional and operational changes to the power system design parameters and grid interface point requirements. OFS-GEN-021 specifies the prerequisite transmission system operational interface and reactive power capability requirements at the onshore interface point from the TSO's perspective. The changes have resulted largely as a result of the EirGrid TSO System Planners recognising that additional reactive power compensation will be required

to manage, control and stabilise TSO network operations in the future as conventional power generation diminishes and grid power dynamics change progressively. Aside from the proposed adjustment to the Power Factor from ±0.95 to ±0.93, several other transmission-related technical and operational requirements would benefit from a further joint technical review taking into consideration the feedback received from Original Equipment Manufacturer (OEM) suppliers as noted within most MCR submissions. This would help to minimise the volume of derogations in the future. Shown below are some examples where the Phase 1 Developers believe technical deviations will increase costs if closer alignment is not achieved. These include, but are not limited to:

- High Voltage (HV) Network Frequency 47.0-47.5Hz: OFS-GEN-021 requires STATCOM (Static Synchronous Compensator) to remain connected for 30 seconds each time the frequency is below 47.5Hz. This is more stringent than the 20 seconds as stated in the Grid Code cc.7.3.1.1 Table (c) for Generation Units

- HV Network Frequencies 47.5-49.0Hz & 51.0-51.5Hz: OFS-GEN-021 requires STATCOM to remain connected for 90 minutes during Generator Unit frequency excursions whereas 60 minutes is stated in the Grid Code cc.7.3.1.1 Table (b)

- Section 3.2.2: Lower short-circuit levels may exist as a result of abnormal HV network conditions and Customers are to declare the minimum short-circuit levels for safe operation, including switching of the STATCOM (e.g. Undefined Requirement)

- OFS-GEN-021, Rev 0, Section 4.2.1: Stipulates STATCOM Technology limiting the use of Hybrid Solution (CRU understands EirGrid is reviewing)

- OFS-GEN-021, Rev 0, Section 4.5 – Stipulates a requirement to stay connected for up to 3 seconds in the event of system voltage loss. Requirement is more onerous that Grid Code cc.7.3.1.1 (h) for Generation Units which states 150 milliseconds (OEM feedback indicates 4.5 requirement is not possible). Similarly, the requirement to stay connected for 60 minutes at 0.5pu voltage is not possible based on OEM feedback.

To achieve EirGrid's TSO network operational and compensation capacity requirements, the CRU recognises there is a corresponding impact on the OFS-SSS-416 functional specification which defines the plant and/or equipment used to provide the necessary reactive power, specifically, with a STATCOM being installed within the Onshore Compensation Compound (OCC). Given that EirGrid requires at each of the Phase 1 grid interface points a need to have sufficient reactive power capability to maintain network voltage stability under variable load conditions, STATCOM technology provides just one way of fulfilling this requirement, although

the CRU understands that other alternatives and hybrid solutions are possible to achieve these requirements.

Furthermore, the CRU also recognises that any changes that lead to increasing the size and/or MVAr rating of the STATCOM may result in consenting delay issues in certain cases, and that equipment changes increase CAPEX costs and potentially increase project lead times.

The CRU notes that this general specification was issued four weeks pre-ORESS1 Auction and Revision 1 was published six months post auction.

CRU Review of MCR Submissions

EirGrid has indicated that the changes to the OFS-GEN-021 general specification are primarily driven by grid code compliance, transmission voltage and frequency operational requirements, and feedback received from the Phase 1 developers. EirGrid also indicates that these updates are intended and aimed at strengthening system security, enhancing grid and network stability, and improving overall network performance during future transitioning from conventional power generation and are aligned to a more integrated planning approach.

While EirGrid asserts that the impact on Phase 1 project timelines and costs will be minimal, it has provided limited quantitative technical-economic analysis and objective system planning evidence to support this claim, nor has it demonstrated any tangible benefit and/or savings to the Irish consumer. Consequently, the CRU issued two sets of detailed clarifications to fully understand and assess the rationale and reasoning behind the proposed changes to both the General and Functional specifications.

The Phase 1 Developers have raised several significant concerns regarding EirGrid's OFS-GEN-021 general specification and OFS-SSS-416 functional specification, emphasising that the proposed changes may lead to substantially higher DEVEX, CAPEX, and/or project delays. Developers informed the CRU in their view that:

- The technical changes to OFS-GEN-021 and OFS-SSS-416 may delay project consenting, design, procurement, manufacturing, installation, testing and commissioning costs and timescales. One project reported potential delays of up to four years due to long lead times for major equipment and components such as power transformers, reactors and STATCOMs, especially given the manufacturing demands within the industry.
- The OFS-GEN-021 general specification includes onerous, undefined, open-ended and in some cases unachievable requirements (see points above)**,** which require further review and amendment as appropriate to ensure that the TSO requirements are

achievable, and to avoid the Phase 1 Developers raising excessive derogations and/or proceeding into supply chain contracts with conflicting requirements that increase CAPEX and lead to potential disputes.

- Developers have highlighted EirGrid's general specification OFS-GEN-021 and functional specification OFS-SSS-416 as key bankability concerns. If projects are unable to meet the technical and operational requirements set out in these specifications, they will be forced to submit derogation requests, which EirGrid may reject. There is concern that, if such requests are refused on the grounds of non-compliance at the point of asset transfer, Phase 1 projects could face the worst-case outcome of being left with generation and transmission assets that cannot export power to the Irish grid, and
- Similarly, EirGrid could reject Energisation Operational Notification (EON), Interim Operational Notification (ION), Final Operational Notification (FON) applications and delay the Asset Transfer/Handover processes resulting in delayed payment and potentially extensive commercial disputes.

The CRU considers that these general and functional specifications (OFS-GEN-021 and OFS-SSS-416) require a further review involving the Phase 1 Projects as applicable to further refine and consolidate the technical and operational requirements and giving due consideration to the stricter voltage and frequency range requirements than those stated within the Grid Code or used in other jurisdictions.

It is not acceptable to the CRU that EirGrid's General, Technical and Functional specifications contain excessively onerous, undefined and open-ended language that can easily lead to misinterpretation.

As stated previously, the CRU sent two sets of clarifications surrounding EirGrid's TSO planning requirements in order for the CRU to be able to:

1) Assess the pre-ORESS1 situation and future system requirements at that time (no reactive power requirements were identified, specified or planned),
2) Assess the need and validity to increase network compensation and to what extent and/or limit (a detailed response and high-level cost-benefit response provided), and
3) Confirm that the latest Power Factor change to ±0.93 would be adequate and sufficient to secure the desired level of network compensation irrespective of the ongoing and/or evolving generation mix with increasing renewable integration, battery storage, data centres, in Ireland (EirGrid shared cost information within its second and final response to the CRU).

It is clear to the CRU based on the MCR information provided that EirGrid had not clearly identified or considered overall network compensation sufficiently in advance of the ORESS1 Auction and have since recognised the necessity for reactive power compensation for the purposes of stabilising and maintaining network control at the onshore grid connection points. It appears to the CRU through reviewing the MCR submission that, EirGrid then assessed and decided to change the Power Factor to ±0.93 (from ±0.95) to achieve the desired levels of reactive power compensation for the network. The CRU notes that EirGrid concluded that the most economical and efficient approach to achieving the necessary network compensation is by introducing a power factor change and adjustment as the Phase 1 developers would be more readily able to accommodate and implement the necessary change. The alternative solution the CRU understands would be for EirGrid to introduce their own transmission systems compensation devices which would involve significant CAPEX and time potentially resulting in delays to the Phase 1 Offshore Wind Programme.

CRU Decision

After careful review, the CRU recognises that the requirement for reactive power compensation is necessary to maintain overall network stability and security of supply at the grid interface points, especially in relation to the pending and progressively changing dynamics from conventional power generation to future renewable power generation in Ireland.

Following extensive clarifications, and based on EirGrid's TSO network justification, the CRU will approve the OFS-GEN-021 specification, subject to conditions. However, EirGrid must confirm and amend the specification based on the following conditions.

CRU Conditions for OFS-GEN-021	
1	TSO's Network & Future Operating Parameters (System Planning) – EirGrid to reconfirm that the proposed Power Factor change to ±0.93 represents the limit and full extent of change, and that there will be no more changes and/or adjustments that will impact the Phase 1 Developers.
2	Ensure that excessively onerous, open-ended language and undefined parameters are reviewed and amended within the general specification.
3	Consult with Independent Subject Matter Experts (SME) and/or OEMs as appropriate to ensure the specified technical and operational requirements are achievable in a

standard and cost-efficient manner and do not impose unnecessarily restrictive requirements.

The general specification requires review and amendment which must be **completed by 28 February 2026.**

The CRU also notes that changes to the power factor affects several TSO transmission technical and operational parameters at the grid interface point. As a result, Phase 1 developers may need to review, refine, or amend their existing power system designs. This is critical not only for compliance with EirGrid's specification requirements, but also because grid interface and transmission system performance will be subject to detailed scrutiny during grid compliance testing. EirGrid's transmission system requirements and delays would have been unforeseen at the time of the ORESS1 Auction and may result in cost impacts to the Phase 1 projects, potentially affecting the ATV. **The CRU emphasises that the MCR process does not predetermine any ATV decision**. No ATV determination will be made at this stage. Accordingly, the CRU will allow the economic and efficient Phase 1 project DEVEX rework costs to be recoverable associated with OFS-GEN-021 through the PCR and ATV processes—subject to strict ring-fencing, detailed cost assessment, and scrutiny by the CRU and its external advisors.

The additional economic and efficient cost impacts associated with **OFS-GEN-021** changes for the Phase 1 projects will be considered in the Phase 1 Projects' ATV but will be excluded from the OG-TUoS charge.

3.1.2 OFS-SSS-416: 400kV & 220kV Static Synchronous Compensator (STATCOM)

CRU Decision Summary

After careful review, and following two rounds of detailed clarifications, the CRU accepts EirGrid's position that the Power Factor change to ±0.93 and requirement to increase reactive power capability and capacity is necessary to maintain network stability. Based on EirGrid's recent TSO network justification, the CRU will approve the OFS-GEN-416 specification, subject to conditions. The specification requires amendment and final review which must be completed by 28 February 2026.

EirGrid's system requirements and specification changes would have been unforeseen to Phase 1 Developers at the time of the ORESS1 Auction and will likely result in cost impacts to the Phase 1 projects, and therefore potentially affecting the Asset Transfer Value (ATV). Accordingly, the CRU will allow Phase 1 project DEVEX rework and additional CAPEX costs to be recoverable through the PCR and ATV processes— subject to strict ring-fencing, detailed cost assessment, and scrutiny by the CRU and its external advisors.

The additional economic and efficient cost impact associated with this change for the Phase 1 projects will be excluded from the OG-TUoS charge.

Description of change

Note: CRU acknowledges the technical interdependencies between the OFS-GEN-021 and OFS-SSS-416 specifications (and OFS-GEN-005) and therefore they are being considered together as stated previously.

EirGrid has introduced a range of STATCOM-related technical and operational changes, including updates to control and monitoring, control and protection back-up supplies, frequency rate-of-change period (500ms), frequency and V/I operating characteristics, Sub-synchronous Control Instability (SSCI) studies, and Grid Interface Point (GIP) compliance. Many of these changes have been informed by EirGrid's recent experiences and insights from the commissioning of STATCOMs in Ireland. In relation to the Power Factor change to ±0.93 this has introduced an additional STATCOM capacity requirement of c.20%, which is necessary as justified recently by EirGrid, and whereby the size and/or MVAr rating of the STATCOM equipment increases resulting in higher CAPEX and potentially longer manufacturing lead times for the Phase 1 Developers.

Within OFS-GEN-021 (Section 4.5, Item 6d), the specification requires compensation devices to be capable of continuous voltage regulation without step changes greater than 0.01pu, which essentially limits equipment design and selection to utilising STATCOM Technology. Feedback from the Phase 1 Developers challenges the design, specification and configuration requirements at the GIP, stating that requirements should be neutral allowing "Hybrid Solutions" to be used comprising STATCOM, Mechanically Switched Reactors (MSR) and/or Capacitors as used and proven within industry and as supplied by many OEMs. As a consequence of restricting technology choice, the Phase 1 Developers all highlighted significant increases in CAPEX and OPEX within their MCR submissions, including additional costs associated with DEVEX rework. Finally, there are Phase 1 project concerns surrounding consenting where any changes to OCC Equipment/Layout designs could impact their planning application and approval times, and in the worst-case result in resubmissions and delays.

The CRU notes that this specification was issued four weeks pre-ORESS1 Auction and Revision 1 was published six months post auction.

CRU Review of MCR Submissions

EirGrid indicates in its MCR submission that the revisions to the OFS-SSS-416 functional specification are primarily driven by grid code compliance, control/protection and transmission frequency requirements, and feedback received from the Phase 1 developers. These changes and updates were intended to clarify several specification requirements and to improve overall network performance. While EirGrid asserts that the impact on Phase 1 project timelines and costs will be minimal, in the first instance it has provided limited quantitative technical-economic analysis and objective system planning evidence to support this claim, nor has it demonstrated any tangible benefit to the Irish consumer. However, and following the series of system and network compensation clarifications as outlined under OFS-GEN-021, the CRU recognises that OFS-SSS-416 requires further refinement to consolidate the technical and operational requirements, and to address the technical inter-dependencies between OFS-GEN-021 and OFS-SSS-416. This includes EirGrid considering if "Hybrid Solutions" are deemed to be acceptable as suggested and proposed by the Phase 1 Developers.

The Phase 1 Developers have raised several concerns with EirGrid's OFS-SSS-416 specification, emphasising that the proposed changes are likely to result in higher CAPEX costs and/or schedule impacts to their project programmes. Developers informed the CRU within their MCR submissions that:

- The technical changes to OFS-SSS-416 (and OFS-GEN-021) may delay project consenting, design, procurement, manufacturing, installation, testing, and commissioning

timescales. One project commented on potential delays of up to four years due to long lead times for power transformers, reactors and STATCOMs.

- Again, the OFS-SSS-416 specification includes undefined (See Section 1.3; 5.4.2), unachievable (See Section 5.1; 5.4.3), and onerous requirements, which could potentially undermine the TSO's ability to manage, operate and control the Irish network following completion of the Phase 1 offshore wind programme, and potentially lead to disputes and delays.
- Phase 1 Developers have raised bankability concerns in cases where projects are unable to fully satisfy EirGrid's requirements and that they will be required to submit derogation requests in order to seek workable deviations from EirGrid requirements. There is an apprehension that EirGrid may reject these requests due to 'non-compliance' at the point of asset transfer, potentially resulting in Phase 1 projects being delayed, and subject to unacceptable cost exposure and liabilities.
- Similarly, EirGrid could reject EON, ION, FON applications and delay the Asset Transfer/Handover process resulting in delayed payment and commercial disputes.

The CRU issued two sets of clarifications based on EirGrid's second MCR submission. EirGrid's responses to these clarifications have assisted the CRU in understanding the need to secure reactive power compensation to maintain network stability and control in the future. Whilst the CRU recognises the needs of EirGrid as TSO, it is necessary for OFS-GEN-021 and OFS-SSS-416 specifications to be checked and revised for consistency, inter-dependency and consolidated to support advancement by the Phase 1 Developers, and ultimately to support the PCR/ATV processes.

CRU Decision

After careful review, the CRU recognises that changes to OFS-SSS-416 are considered necessary to deliver the relevant overall network compensation to maintain network stability and control. Based on EirGrid's TSO recent network justification, **the CRU will approve the OFS-SSS-416 specification, subject to conditions**. However, EirGrid must review and revise the specification based on the following conditions:

CRU Conditions for OFS-SSS-416	
1	Ensure undefined, unachievable and open-ended language is corrected to avoid the excessive use of derogations and/or disputes in the future.
2	EirGrid are required to reconfirm that the additional Phase 1 Project reactive power capabilities and/or capacities are sufficient to offset the future loss of conventional power on the Irish grid.
3	Hybrid Solutions or alternatives to STATCOM Technology proposed by Developers should be given due consideration by EirGrid.
4	Reconfirm that OFS-GEN-021 & OFS-SSS-416 changes together offer a cost-effective reactive power compensation solution as outlined within EirGrid's clarifications

These amendments must be **completed by 28 February 2026.**

The CRU notes that the Power Factor change to ±0.93 and consequential impact on the compensation equipment necessary to produce reactive power may come at additional CAPEX cost to the Phase 1 projects. Additionally, the time it will take for EirGrid to amend this specification may have a knock-on effect on the Phase 1 project programme. These system requirements and delays would have been unforeseen at the time of the ORESS1 Auction and may result in cost impacts for Phase 1 projects, potentially affecting the ATV. The CRU emphasises that the MCR process does not predetermine any ATV decision. No ATV determination will be made at this stage. Accordingly, the CRU will allow the economic and efficient Phase 1 project DEVEX rework and additional CAPEX costs to be recoverable through the PCR process —subject to strict ring-fencing, detailed cost assessment, and scrutiny by the CRU.

The additional economic and efficient cost impacts associated with this change for the Phase 1 projects will be considered in the Projects' ATV but will be excluded from the OG-TUoS charge.

3.1.3 OFD-OSP-504: Standard 220/66kV Offshore Substation Single Line Diagram

CRU Decision Summary

The CRU rejects OFS-OSP-504 and the CRU requires EirGrid to revert to the ORESS1 position on the basis that:

(1) EirGrid provided inadequate MCR evidence and justification that the change was driven by a need to align with other European TSOs and the latest "De facto Standard" for smaller Power Park Modules (PPM)s,

(2) EirGrid's requirement to control the 66kV Offshore Switchgear, intended to prevent inadvertent and/or uncontrolled offshore switching that could impact and damage the Irish network, is not clearly defined in the MCR submission in terms of the point of intervention and timing (e.g. pre-Taking over). This lack of clarity could potentially compromise Developer-led obligations, liabilities and responsibilities,

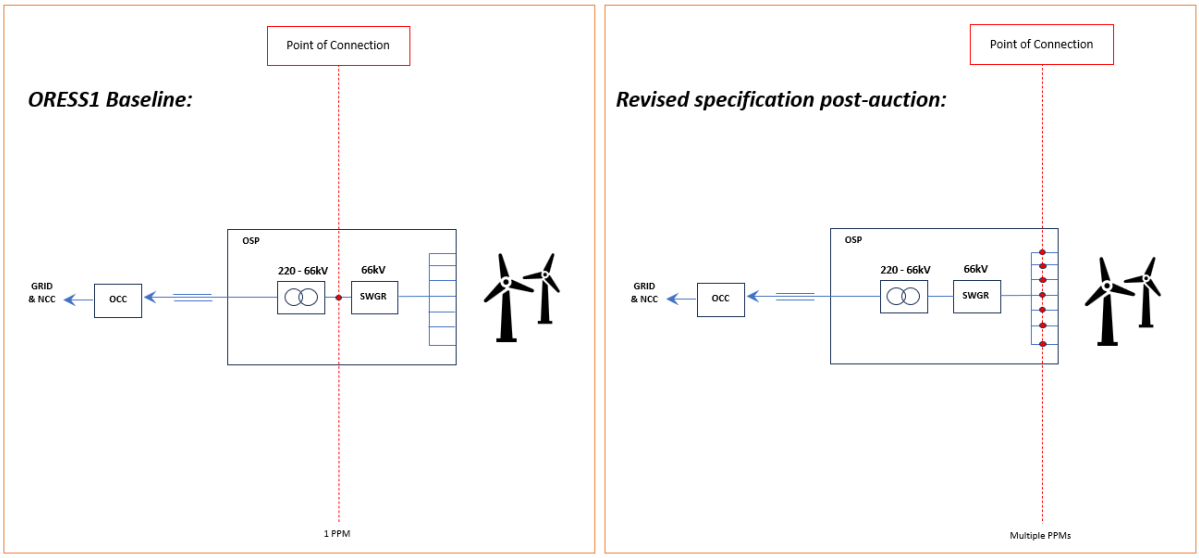
(3) The CRU also notes that the ORESS1 position aligns with the definitions contained in Grid Code Version 15.

Additionally, the CRU requires EirGrid to re-engage in discussions with the Phase 1 Developers to review the 66kV offshore point of connection and to finalise all requirements using the collective knowledge gained to date to find a mutually acceptable working solution by 28 February 2026.

Description of change

In Drawing OFD-OSP-504 Revision R1, EirGrid proposes to change the offshore 66kV Point of Connection (PoC) from the Offshore Substation Platform (OSP) Power Transformer (66kV side) to the 66kV String/Cable Ends (i.e. smaller Power Park Module (PPMs)) to (1) Establish a clear asset ownership boundary; (2) To avoid and/or minimise the impact of inadvertent and/or uncontrolled offshore 66kV switching on the Irish network; (3) To ensure full compliance with the metering code requirements; (4) To restrict uncontrolled access onto the OSP by Third Parties, and (5) To establish a consistent approach to implementing the site safety rules and arrangements.

Figure 1 CRU simplified depiction of EirGrid change to OFD-OSP-504 Point of Connection



EirGrid asserts that the change of 66kV PoC will result in smaller more manageable offshore PPMs, and EirGrid believes it will be easier to progressively ramp-up power and integrate the Phase 1 Projects onto the Irish grid. However, the CRU notes that this represents a major change from the pre ORESS1 position, and it is likely to lead to higher Phase 1 Project CAPEX and OPEX costs. Furthermore, EirGrid's MCR change has not taken into consideration the impact of delayed commissioning, higher costs, and delay to commercial operation dates and losses of revenue for the Phase 1 Developers.

CRU Review of MCR Submissions

Prior to and in the lead up to the ORESS1 Auction, both EirGrid and the Phase 1 Developers had a clear understanding that the 66kV side of the offshore power transformer was identified as the baseline and designated offshore 66kV PoC as detailed within OFS-OFD-504, Revision R0. This position aligns with previous developer-led Offshore Transmission projects (GB and other European projects). The GB regime and Phase 1 Developer-Led approach places clear obligations, duties, accountabilities and responsibilities onto the Phase 1 Developers for consenting, planning, design, manufacturing, construction, installation, commissioning, testing and performance trials (and provision of spares). However, and according to EirGrid's MCR submission, the CRU understands that EirGrid has sought to relocate the Offshore 66kV PoC referring to the following key points:

1) To gain access and control over the 66kV Switchgear to prevent any adverse impact(s) on the Irish Grid/Network resulting from uncontrolled offshore switching operations. However, it is not clear from EirGrid's MCR submission as to the timing of intervention to gain control (CRU presumes post Take Over).

2) To ensure ownership and full compliance with the metering code as interpreted by EirGrid's,

3) To establish more progressive control during offshore wind farm ramping up since each 66kV string will in effect be an offshore PPM

4) To control and limit uncontrolled Third-Party access onto the offshore platforms,

5) To establish a common standard for "HV Site Safety Rules", and

6) To ensure closer alignment to other European peer TSO/Companies who are already using the 66kV strings as the designated offshore PoC as their "De facto Standard".

However, the CRU considers based on a review of the MCR submission that the implementation of EirGrid's offshore 66kV PoC change introduces potentially substantial additional CAPEX for Phase 1 projects. This includes requirements for additional metering infrastructure, SCADA systems, modifications to OSP deck and modules, cross-boundary switching, and increased commissioning resources potentially escalating the levels of intervention and resources needed by all parties. Furthermore, the Phase 1 Developers would be required to register each PPM (as per Grid Code for Generators), and the magnitude of cost and/or timescale risks is likely to give rise to bankability issues at FID. Moreover, the deployment of smaller offshore PPMs may result in considerable delays during the commissioning phase and risk movements to the Commercial Operation Date (COD) and thereby lead to potentially significant losses in operational revenue.

EirGrid, in its MCR submission, has stated that its revised approach aligns closely with practices adopted by other European TSOs in Belgium, Germany, and the Netherlands. However, EirGrid was unable to provide specific project references or provide documented evidence to demonstrate and confirm that the 66kV strings are being used as the offshore designated PoC and "De facto Standard" in those jurisdictions. On this specific aspect, and given its importance, the CRU sought further clarifications and requested specific examples, including company/project references. EirGrid provided no additional information to satisfy this request.

In contrast, the CRU received three SLDs from a Phase 1 Developer as part of the MCR process, illustrating a selection of recent and current European offshore wind projects that directly challenge EirGrid's position. The material submitted by the Phase 1 project clearly reflect the ORESS1 position as both recent and widely adopted practice. While the SLDs exhibit minor configuration variations, they consistently indicate that the deployment of multiple PPMs is not necessarily emerging as the "De facto standard for most TSOs across Europe," as stated by EirGrid.

Additionally, the Phase 1 Developers also highlighted that they had collectively submitted an "Alternate Proposed Solution" to EirGrid in February 2024 but had received no formal response or feedback from EirGrid to date. Upon inquiry by the CRU, EirGrid stated that it had not publicly responded to the alternate proposed solution received from Phase 1 Developers, stating that they had only provided a response when specifically requested by the CRU.

The CRU also notes that the ORESS1 position aligns with the definitions contained in Grid Code Version 15 [Page 432] in relation to the following:

- **Offshore Connection Transformer**: *A transformer located on an offshore platform, forming part of the Plant and Apparatus of the Transmission System, providing the connection between an Offshore PPM and the Network.* (underline added), and
- **Offshore PPM**: *A Controllable PPM that has a single Connection Point on an offshore platform to the Transmission System* (underline added).

Based on EirGrid's technical and operational justifications included in the MCR submission for OFS-OFD-504, the CRU does not consider that the rationale and reasoning provided by EirGrid justifies the need for the proposed changes to the offshore 66kV PoC, irrespective of ORESS1 cost and time implications.

CRU Decision

After careful review, the CRU **rejects EirGrid's OFS-OSP-504** SLD and changes to the offshore 66kV PoC and requires EirGrid to **revert to the ORESS1 position** in the first instance and to re-engage in discussions with the Phase 1 Projects on the basis that:

1. EirGrid's references within the MCR submission to other European TSOs and claims that "66kV strings are becoming the 'de facto' standard for most European projects" were found to be insufficient. Despite the CRU's request for further clarification, including specific company and project references to substantiate this position, EirGrid provided limited supporting evidence. As a result, the MCR submission lacks the necessary technical justification to validate the proposed change,
2. EirGrid's requirement to control the 66kV Offshore Switchgear, intended to prevent inadvertent and/or uncontrolled offshore switching that could impact and damage the Irish network, is not clearly defined in the MCR submission in terms of the point of intervention and timing (e.g. pre-Taking over). This lack of clarity could potentially compromise Developer-led obligations, liabilities and responsibilities,

3. The 66kV offshore point of connection consultation is yet to be concluded and EirGrid has yet to respond to the "Alternate Proposed Solution" provided collectively by the Phase 1 Developers issued in February 2024. CRU notes that the MCR process has temporarily suspended progress on this particular change (From April 2025),

4. The CRU remains uncertain as to the status and outcome of Grid Code Modification MPID 305 entitled "Offshore PPM's" and the corresponding actions relating to the connection point, and

5. The CRU also notes that the ORESS1 position aligns with the definitions contained in Grid Code Version 15.

Additionally, the CRU considers that in rejecting the current proposal from EirGrid and resetting the offshore 66kV PoC back to the ORESS1 baseline will provide a clear path and starting point for EirGrid and the Phase 1 projects to re-engage in proactive technical discussions to derive an acceptable outcome; and whereby the "Alternate Proposed Solution" (February 2024) and references to other European TSO projects can be relied upon to underpin and support specification/drawing finalisation.

The CRU acknowledges that the additional time required to revise the specification and/or drawing may have a consequential impact on the Phase 1 projects. This change would not have been anticipated or foreseen, given that EirGrid and the Phase 1 Developers had previously reached mutual agreement at the time of the ORESS1 Auction. Therefore, there may be some cost impact on the Phase 1 projects relating to DEVEX rework, which may potentially impact the Asset Transfer Value. The CRU emphasises that the MCR process does not predetermine any ATV decision. No ATV determination will be made at this stage. Accordingly, the CRU will allow the economic and efficient Phase 1 project DEVEX rework and additional CAPEX costs to be recoverable through the PCR and ATV processes—subject to strict ring-fencing, detailed cost assessment, and scrutiny by the CRU and its external advisors.

The additional economic and efficient cost impact associated with this change will be excluded from the OG-TUoS charge.

3.1.4 OFS-GEN-009: Operation & Maintenance General Requirements

CRU Decision Summary

The CRU rejects EirGrid's OFS-GEN-009 general specification on the grounds that the proposed changes are late and are inconsistent with standard wind industry best practice and impose excessive requirements on to Phase 1 projects regarding capital spares, warranties & indemnities and defect rectification. In addition, the general specification does not align with CRU/202309 & CRU/2023/13 policy for a single-stage asset transfer to EirGrid, as its requirements places optional O&M retention responsibilities on the Phase 1 Developer after the transfer of the offshore assets.

Accordingly, the O&M specification is not acceptable to the CRU in its current form. EirGrid is required to revise the general specification to bring it into line with established wind and/or industry practice aligned to current market availability and is to be securable on an appropriate and economic basis. Ideally, this process should involve direct engagement with the Phase 1 developers with the expectation of a revised specification re-issue to be achieved by 28 February 2026 to ensure there is no delay to FID and/or finalising the Grid/Transmission Connection Agreement and/or Asset Purchase Agreement.

Accordingly, and given the lateness of specification development and disruption to the Phase 1 projects, the CRU will allow Phase 1 Project DEVEX rework costs to be recoverable through PCR and ATV processes – subject to strict ring-fencing, detailed cost assessment and scrutiny by the CRU and its external advisors.

Phase 1 projects' ORESS1 O&M bid prices and working assumptions remain relevant and the additional or delta economic and efficient cost impacts associated with this change will be excluded from the OG-TUoS charge.

Description of change

At the time of the ORESS1 Auction, EirGrid's Operations and Maintenance (O&M) general specification was incomplete. A preliminary draft of the O&M General Requirements was issued by EirGrid in January 2023; however, it was considered by Phase 1 Developers as "*not fit to be used as a basis to estimate ORESS prices for multi-billion Euro projects*"[7]. Consequently, the Phase 1 Developers are expected to have relied on their prior project experiences and

[7] Phase 1 Developer feedback received via email to CRU on 15 May 2025 on CRU's Consolidated list of Changes

knowledge from other jurisdictions to make working assumptions and estimates that informed their project planning and bidding strategies for ORESS1.

The CRU notes that EirGrid published *Revision 0* one-month post auction and *Revision 1* approximately twenty-two months post auction. This latest version of the general specification sets out EirGrid's requirements on O&M, Equipment Warranties, Capital/Operational Spares, and Defect Rectification.

CRU Review of MCR Submissions

Due to the draft status of EirGrid's O&M General Specification at the time of the ORESS1 Auction, Phase 1 developers (are expected to have) relied on standard wind industry practice and their own previous experiences to inform their bid costs regarding the offshore transmission and generation O&M requirements. Developers have since, and on several occasions, emphasised to the CRU that this general specification is critical to Phase 1 project delivery and their ability to secure appropriate supply chain contracts, and if not adequately addressed and in timely manner, it could constitute a showstopper for Phase 1 projects in relation to project funding and bankability. The Phase 1 Developers provided MCR forms based on three main areas of the O&M general specification:

1. **Capital/Operational Spares Requirement**

   In Revision 0, EirGrid initially stated that capital/operational spares would be procured by EirGrid through direct engagement with the supply chain, however, this was changed in Revision 1 to state that Phase 1 developers would be responsible for procuring the recommended list of capital spares instead based on project designs and equipment selection. According to EirGrid in their MCR submission, this approach ensures that spares are procured as part of a competitive tendering process instead of 'single sourcing'. EirGrid also suggests that these spares will optimise EirGrid's inventory with the possibility of sharing spares across multiple projects. EirGrid acknowledges that there will be a cost impact with the Phase 1 Developers procuring the capital/operational spares, stating *"In principle however, the increase in ATV to account for the additional costs of EirGrid's capital and operation spares would be more than covered by a commensurate decrease of EirGrid's revenue requirement."*

   The CRU understands that capital/operational spares are normally determined through Detailed Design and Plant Reliability/ Availability/ Maintainability/ Serviceability Analysis to quantify and align requirements with the OEMs list of recommended spares. Typically, the OEMs provide a list of recommended spares based on their own design and manufacturing criteria defect rates and historical records of equipment performance. The

Phase 1 Developers assert that EirGrid's proposed list of capital spares is not considered conventional within industry. The CRU interprets EirGrid's requirement for additional capital spares as a potential means to improving level(s) of confidence surrounding their ability to access capital/operational spares and to improve and/or reduce response times in support of Transmission Asset Reliability, Maintainability & Serviceability.

Additionally, Phase 1 Developers noted that EirGrid's proposed list of capital spares is not considered cost effective and in holding higher spares and stock levels it is unlikely to have any direct impact on Asset Reliability (i.e. a substitution for N-1 Redundancy), Maintainability & Serviceability. The CRU considers OEM and Service Level Agreements (SLA) response time to be very important in terms of supporting EirGrid during defect identification, repair and/or remedy, and that OEM/SLA performance levels are best secured by the Phase 1 Developers under supply chain negotiations, including extended warranty options, and then novated to EirGrid at the point of single stage asset transfer.

The CRU also notes that the additional spares requirements for multiple Phase 1 Projects, will require additional warehousing, laydown areas, security, logistics, resources, etc which may not be necessary since the requirements exceed the OEMs recommended spares and SLA requirements.

2. **EirGrid Warranty/Indemnity requirements**

EirGrid has introduced a number of additional O&M related warranty and indemnity requirements. These additional requirements do not fully reflect wind industry standard practice, and at present, the Phase 1 Developers are being asked to retain O&M responsibilities post asset transfer which does not align with CRU/2023/09 & CRU/2023/13 policy which established a single-stage asset transfer process. These are summarised below:

- **Defect Rectification and Warranty:** If system/equipment defects occur, EirGrid is expecting the OEMs to rectify and reinstate, or effectively reset, the original warranty terms and provisions (i.e. an evergreen warranty requirement). This is not standard industry practice as the CRU understand and is unlikely to be achievable within the supply chain, or market. Furthermore, EirGrid has suggested that any shortfalls in OEM warranty coverage would be the responsibility of the Phase 1 developer. Again, this approach is not aligned with industry standards and presents a significant risk and bankability concern for all Phase 1 projects.

- **Warranty Effective Date:** EirGrid requires "Warranty Effective Dates" to be established whereby OEM warranty periods are simultaneously triggered at the commencement of continuous operation. OEMs are unlikely to change their standard warranty terms and conditions and/or agree to any delays to support coincidental alignment of all warranties to the commencement of continuous operation dates, and therefore this requirement will likely be unachievable within current supply chain arrangements.

- **Environmental Hazard Warranty:** EirGrid requires a 10-Year Environmental Hazard(s) Warranty. A 10-Year Environmental Hazard Warranty is not commonplace within the wind industry or infrastructure projects. Protections against environmental hazards could possibly be achieved by EirGrid through their TSO operational insurance (post asset transfer). This warranty requirement is unlikely to be achievable within current supply chain arrangements.

- **Warranty Assignment and Novation:** EirGrid expects to retain the rights and ability to either accept or not accept warranty novations at the point of asset transfer & handover. This requirement is contradictory to CRU/2023/09 policy which requires a "Single Stage Asset Transfer", whereby EirGrid assumes responsibility for operations and maintenance at operational handover, following the completion of asset transfer. The Phase 1 Developers have highlighted their concerns of EirGrid rejecting warranty novations since it represents a bankability risk for all developers.

- **Corrosion Warranty:** EirGrid requires Developers to secure warranty protection against corrosion over and above the standard OEM warranty provisions. Extended corrosion warranties are not conventional within industry. OEM coating protection design, application, testing and certification is carried out to 'industry and international standards' and will be subject to inspection and damage protection during the construction period to preserve the OEM warranty period.

The CRU understands that the following requirements are to be amended in the current O&M specifications as part of Revision 2 of OFS-GEN-009. It is understood that this has been agreed in principle between the Phase 1 Developers and EirGrid. The CRU is formally noting these items to ensure amendment and/or removal is in the updated specification to be re-issued by 28 February 2026.

- **Service Level Agreements:** EirGrid expects the Phase 1 Developers to enter into appropriate tri-partite OEM/SLAs agreements with EirGrid post Asset

Transfer to offset and manage risks and liabilities. CRU notes this requirement contradicts CRU/2023/09 policy which requires a "Single Stage Asset Transfer".

- **Computation Modelling:** EirGrid requires the Phase 1 Developers to provide additional computational and simulation models that exceeds standard industry practice. There is a pragmatic balance to be agreed between the Phase 1 Developers and EirGrid to support operations, maintenance and asset management.
- **Operator Training:** Phase 1 Developers are expected to arrange and fund EirGrid's O&M operator training, including the provision of training materials for up to five years. This is not considered to be an appropriate and/or typical requirement.
- **Programme of Work:** Phase 1 Developers are to produce and share long-term O&M work/task programmes and assurance methodologies to support EirGrid's O&M planning. Again, this not considered to be an appropriate and/or typical requirement.
- **Demonstration of Lifetime Availability**: EirGrid requires the Phase 1 Developers to demonstrate suitable reliability for the entire operational life of the asset under EirGrid's ownership. Again, this not considered to be an appropriate and/or typical requirement, and it is unlikely to be achievable within the supply chain/industry.

3. **Serial Defects & Defect Rectification**

EirGrid has introduced a new warranty concept requiring the Phase 1 Developers to provide an indemnity against serial defects upon asset transfer. The CRU understands such an approach is not aligned with conventional industry practice, and it is unlikely to be unachievable within the current market given the conditions. The Phase 1 Developers have indicated that sourcing an appropriate indemnity under these terms would be extremely challenging and would raise serious concerns around bankability and risk allocation during technical due diligence.

CRU Decision

After careful review, the CRU rejects EirGrid's OFS-GEN-009 general specification on the grounds that it contains requirements which are considered unrealistic and unachievable based on its understanding of established Wind Industry Standards and best practice. Furthermore, the specification directly contradicts the CRU/2023/09 policy, which mandates a Single Stage Asset Transfer, and whereby EirGrid assumes responsibility for operations and maintenance at operational handover and following the completion of asset transfer. The CRU considers this general specification could be a critical barrier to Phase 1 project delivery and bankability, as it currently seeks to impose unreasonable obligations and risks on to the Phase 1 Developers who are unlikely or unable to secure such requirements under current market and industry conditions.

The CRU requires EirGrid to revise OFS-GEN-009 general specification, in consultation with the Phase 1 Projects, and to realign the requirements to be more in keeping with Industry/OEM Standard Practice, and specifically, EirGrid is required to ensure the following:

- ***Warranties:*** To realign O&M Warranty requirements to be commensurate and proportionate with wind industry standards so that the Phase 1 Developers are in a position to be able to secure agreements in a cost-efficient manner with their OEMs.
- ***Capital and Operational Spares*****:** Reconsider the capital/operational spares requirements and realign with wind industry standard practice; and
- ***Serial Defects:*** To reconsider defect rectification and extended warranty to align with wind industry standards, and EirGrid is required to fully accept O&M Management Responsibilities Post-Asset Transfer as per CRU/2023/09 policy.

The CRU notes that the additional DEVEX time to revise this general specification could have a knock-on impact on Phase 1 project costs which would have been unforeseen at the time of the ORESS1 Auction, and due to the non-availability and lateness of a position specification from EirGrid. The CRU emphasises that the MCR process does not predetermine any ATV decision. No ATV determination will be made at this stage. However, and given that the Phase 1 Developers used their previous and proven project O&M costs to fully inform their ORESS1 pricing and working assumptions, the CRU will only consider any delta cost increases between the ORESS1 prices and those resulting from the final agreed version of OFS-GEN-009 —subject to strict ring-fencing, detailed cost assessment, and scrutiny by the CRU and its external advisors.

Any additional economic and efficient cost impact associated with this this change may be excluded from the OG-TUoS charge.

3.1.5 OFS-GEN-024: Guidance for Derogation Requests

CRU Decision Summary

The CRU Approves OFS-GEN-024 with Conditions. EirGrid must action the CRU's conditions and re-issue the revised guidance document by 28 February 2026.

Description of change

OFS-GEN-024 is a guidance document outlining the process by which Phase 1 Customers/Developers can formally request deviations or 'derogations' from EirGrid's specified requirements without compromising operational safety and/or functionality of the transmission asset. Revision 1 of this Guidance document was issued pre-ORESS1 Auction in September 2022 and Revision 2 has been placed on hold awaiting the outcome of the CRU MCR process review. In April 2025 the CRU instructed EirGrid under formal correspondence to suspend all proposed changes to Phase 1 Offshore specifications until such time the Material Change Review (MCR) process had been completed. Consequently, EirGrid has withheld from issuing Revision 2.

CRU Review of MCR Submissions

In summary, the CRU understands that EirGrid has taken its existing company derogation procedure and updated the requirements to (1) Align with the latest internal governance, review and approval requirements for Offshore Transmission, and (2) To allow for the inclusion and use of digital signatures for the various SMEs and Specialists who are likely to be working on an agile and multi-location basis.

However, the CRU notes that EirGrid has not considered any process correlation between the approval of derogations and the CRU PCR/ATV processes. Each derogation approval, amendment and/or rejection holds a direct link to additional costs, cost savings and/or cost neutral outcomes which must be fully detailed, quantified, documented and reported for evaluation during CRU PCR forensic analysis. At EirGrid's specific request, a derogation meeting between the CRU and EirGrid was convened on 16 July 2025 to discuss the pending changes to the derogation process. Whilst the CRU was able to benefit from an improved understanding, it became evident that EirGrid had overlooked the need to correlate derogation approvals to the PCR and ATV processes as outlined above.

Phase 1 developers have emphasised that the current derogation process is insufficient to address broader changes to the general and functional specifications. In the first instance they argue that when a derogation is approved for one Phase 1 project, it's applicability and relevance to all other Phase 1 projects is necessary to ensure consistency and equitable treatment. To

support this, developers have called for a formal process through which EirGrid would amend and reissue the affected specifications, thereby ensuring alignment across all Phase 1 developments. Secondly and furthermore, the Phase 1 projects also highlighted a need for EirGrid to provide a wider change control procedure beyond Transmission Connection Agreement Schedule 6 (draft) to ensure that all changes are subject to technical economic assessment, approval and referencing to the PCR process (Note – Wider change control is outside the scope of the MCR process).

CRU Decision

The CRU Approves OFS-GEN-024 general specification with Conditions. Following recent CRU/EirGrid meetings held in July 2025, where the following conditions have been discussed.

CRU Conditions for OFS-GEN-025	
1	All EirGrid approved derogations are to be copied to the CRU for review, clarification and information purposes and to support the CRU PCR/ATV processes and Forensic Review. EirGrid is required to implement Revision R2 of the derogation process and to ensure that a copy of the derogation register, complete with detailed cost and time impact analysis and related information is forwarded to the CRU following every approval.
2	All EirGrid Derogation Registers must provide a comprehensive breakdown of cost and time impacts, presented clearly enough for the CRU to assess, understand, and benchmark change-related costs as appropriate and economically justified.
3	In addition, EirGrid should inform the CRU of any changes to General and Functional Specifications that arise outside the scope of derogations and the draft Schedule 6 of the Transmission Connection Agreement. The CRU recognises, following feedback from Phase 1 Developers, that changes affecting Phase 1 projects may originate from a range of sources, including statutory requirements, the Health and Safety Authority (HSA), ESBN, consenting bodies, local authorities, and other stakeholders. This will enable the CRU to understand how such changes may impact Phase 1 project costs during the Post Construction Review.

The CRU notes that, as this is a guidance document, there should be no direct cost impact on the Asset Transfer Value. Accordingly, a CRU decision on ATV/OG-TUoS is not required for this change.

These amendments and inclusion of derogation information exchange with the CRU Offshore team must be **completed by 28 February 2026.**

3.1.6 OFS-GEN-006: Documentation Numbering Changes to the number sequence

CRU Decision Summary

The CRU rejects EirGrid's OFS-GEN-006 general specification on the grounds that its late-stage introduction imposes an unnecessary retrospective administrative burden, deviates from the Phase 1 developer-led approach, and it introduces additional costs for Phase 1 developers. Furthermore, the CRU considers that this late specification change exposes Irish consumers to avoidable cost risks without delivering clear value.

Description of change

EirGrid has introduced a new document numbering format, Front-End Engineering Design (FEED) and System Codes requiring Phase 1 developers to adopt its prescribed numbering system for all Phase 1 project documentation. The initial Revision 0 specification was released just two weeks before the ORESS1 Auction. Fifteen months after the ORESS1 Auction, EirGrid issued Revision 1, introducing more complex numbering requirements that demand retrospective adjustments from Phase 1 projects and supply chains.

CRU Review of MCR Submissions

According to EirGrid, the introduction of the OFS-GEN-006 general specification aims to establish a standardised, consistent and traceable document numbering system for offshore wind transmission projects. These changes are intended to establish consistency across all Phase 1 projects, support long-term asset management, improve document identification and location control, and to reduce ambiguity when the transmission assets transfer ownership to EirGrid.

Prior to ORESS1, the CRU understands that Developers adopted their own project and industry standards aligned to their previous OFTO or similar projects and document systems (i.e. ORESS1 working assumption), and whereby the future asset owners have accepted all project documents, drawings, As-Builts, O&M Data in accordance with the Developer's own document numbering systems and controls. The Developers highlighted to the CRU in their MCR submissions that the latest changes to the documentation numbering requirements would require significant retrospective actions to change the numbering of in-flight documents, and in some cases the existing Document Management Systems (DMS) would require software modifications to accommodate the inclusion of the new FEED/System codes which may not be possible on older versions.

The CRU recognises that the implementation of a standardised and consistent document numbering system may potentially deliver long-term administrative benefits to EirGrid as TSO as they receive the transmission assets and associated documentation from each of the Phase 1

projects (and Phase 2 once completed). However, this change offers limited benefits to Phase 1 project progress and delivery, it does not directly impact asset and/or plant performance, and it potentially introduces unnecessary risks to the Phase 1 Projects and their established supply chain working arrangements where retrospective numbering and errors is likely to result in extensive rework, checking, additional costs and inefficiencies.

The CRU on balance considers the changes to this specification to be unnecessary for the delivery of the Phase 1 programme and views its implementation as a transfer of administrative burden and workload from EirGrid onto Phase 1 developers, and it is not consistent with a Developer-led approach.

CRU Decision

After careful review, the CRU rejects EirGrid's OFS-GEN-006 general specification on the basis that the specification changes have been introduced too late (fifteen months post ORESS1 Auction), they do not fully align with a developer-led approach, and they impose a significant retrospective and unnecessary administrative burden and additional costs onto the Phase 1 Developers and Irish consumers.

The CRU requires EirGrid to continue with current Phase 1 document numbering practices and to accept similar practices akin to the GB OFTO system where Developers, EPC Contractors, OEMs and Suppliers utilise their own document management and numbering systems which has proven to be acceptable at the point of final asset transfer.

Phase 1 Developers should continue to use their own existing document numbering systems in line with ORESS1 working assumptions. Developers should follow established industry standards and practices whereby the future asset owner (EirGrid) will make suitable arrangements to accept all documentation, drawings, etc in accordance with the Developer's document control and numbering systems.

The CRU considers that the rejection of this change should not result in any direct cost impact on the ATV, and since it does not necessitate any rework by the Phase 1 projects there will be no increases in DEVEX costs. Accordingly, the CRU has determined that no decision is required in relation to ATV or OG-TUoS for this matter.

3.1.7 OFS-GEN-025: Phase 1 Customer Request for Information Guide

CRU Decision Summary

The CRU Approves OFS-GEN-025 general specification with Conditions. The CRU recognises and accepts the need to establish clear communication protocols for how the Phase 1 projects raise Requests for Information (RFI). The CRU requires EirGrid to action the CRU's conditions and reissue the revised guidance document by 31 January 2026.

Description of change

OFS-GEN-025 is a guidance document outlining the process by which Phase 1 Customers/Developers Customers can submit Requests for Information (RFI) to EirGrid covering both technical and non-technical queries via an existing EirGrid owned RFI log and tracking system. This document details expected response and closure timelines and directs Customers/Developers to appropriate channels for queries not suited to the RFI process. The CRU notes that this document was issued in January 2025, approximately 21 months post-auction.

CRU Review of MCR Submissions

EirGrid introduced this document to formally establish clear protocols for supporting Phase 1 Customers, recognising the customers' need to submit regular information requests to the TSO throughout the life span of the Phase 1 projects. This is a standardised EirGrid process and practice and will apply to all future customers connecting to the Irish grid. RFI systems and processes are commonplace within major projects and industry and whereby the exchanging of information and data with the TSO can be relied upon without question, and timely TSO responses are essential to maintaining project progress.

Whist the Phase 1 Developers acknowledge the value of having a formalised information exchange process the developers' MCR submissions on this document raised a number of concerns regarding some of EirGrid's wording and process features, as follows:

- EirGrid uses disclaimer-style language to offset responsibility for any loss or damage resulting from actions taken by Phase 1 projects based on its RFI responses. For example, all decisions made by Customers or Third parties are taken at their own risk, see Section 1.3 of OFS-GEN-025. This disclaimer-style language used by EirGrid appears contradictory to the CRU's stated policy CRU/2023/09 & CRU/2023/13 of fostering constructive and collaborative engagement between the TSO and Phase 1 Developers.

- Developers have also mentioned previous instances where EirGrid has provided inaccurate and/or changing information (i.e. system studies change from 1.0 to 0.9 pu), resulting in additional and unnecessary Developer rework and increasing DEVEX costs.
- The RFI system provides an automatic closure mechanism, which is triggered if EirGrid has not addressed Developer queries within 20 days of their submission, and
- Finally, Developers have highlighted that the RFI process imposes a significant administrative burden onto the Phase 1 projects, whereby EirGrid requires "deep dives" whenever they are required to address complex RFIs. Deep dives require Phase 1 projects to prepare and issue slides to support technical discussions and therefore impacts the Phase 1 projects in terms of additional costs, time and resources to fulfil the request.

The CRU acknowledges and understands that this guidance document is intended to bring structure, control, and traceability to the exchange of information requests, supporting a more organised, controlled and collaborative process. The CRU notes that EirGrid holds a clear responsibility under its TSO licence condition 26 "*to furnish to all those using and seeking to use the transmission system the information they need, on a timely basis, for efficient access to the transmission system."* The bi-directional nature of these exchanges aligns with CRU's policy of constructive engagement and reflects common practice within Project/RFI procedures. However, the concerns raised by Phase 1 Developers are significant and must be addressed to ensure the guidance achieves its intended purpose:

- EirGrid responses must be clear, precise and accurate to ensure Phase 1 project/OAO success, and whereby all information and/or data shared can be "relied upon" with minimum risks.
- The 20-day automatic closure of RFIs is considered inappropriate given the importance of the Phase 1 project requests for key and critical information and should be removed. EirGrid should aim to respond swiftly and transparently, even where full technical resolution is incomplete and/or pending, to ensure that Developers receive sufficient and accurate information (i.e. which can be relied upon) in timely manner to advance their projects at minimum risk.
- Whilst the CRU recognises that deep dives into complex RFIs can be valuable, they must be targeted and used appropriately in a cost-effective manner and to avoid placing an unreasonable burden onto either EirGrid or the Phase 1 developers. Excessive resource demands or disproportionate time and costs on either side should be avoided.

CRU Decision

After careful review, the CRU approves EirGrid's OFS-GEN-025 general specification, subject to EirGrid completing the following actions to satisfy the conditions. Once the general specification amendments are made, EirGrid must issue Revision 2 of OFS-GEN-025.

CRU Conditions for OFS-GEN-025	
1	EirGrid is required to provide timely and accurate RFI responses (with all best endeavours in line with their licence obligations, specifically Condition 26) and that information can be "relied upon" and will not be subject to caveats and/or exceptions aimed at offsetting risks.
2	The 20-day automatic closure of RFIs is considered inappropriate and should be removed. EirGrid should aim to respond swiftly and transparently, even where full technical resolution is incomplete and/or pending, to ensure that Phase 1 Developers have sufficient and accurate information that can be "relied upon" and in time to advance their projects at minimum risk.
3	While the CRU recognises that deep dives into complex RFIs can be valuable, they must be targeted and used appropriately to be cost-effective and not place any unreasonable burden on either EirGrid or the Phase 1 Developers.

The CRU notes that, as this is a guidance document and that it already reflects existing protocols, there should be no direct cost impact on the Asset Transfer Value. Accordingly, a CRU decision on ATV/OG-TUoS is not required for this particular change.

The general specification amendments must be **completed by 28 February 2026.**

3.1.8 OFS-GEN-030: RDS-PP Guidelines (plus Annex 1 – Mother List and Annex 2 – Boundary Diagrams)

CRU Decision Summary

The CRU rejects EirGrid's OFS-GEN-030 Guidelines on the grounds that its late-stage introduction (21 months post-ORESS1) imposes an unnecessary administrative burden on the Phase 1 Developers; deviates from the Phase 1 Developer-led approach; and introduces additional costs and risk of retrospective coding errors for Phase 1 Developers, EPC Contractors and OEM providers. Furthermore, the CRU considers that this guideline and requirements expose Irish consumers to avoidable cost, and it does not directly impact transmission asset performance and reliability, handover and/or asset transfer.

Description of change

This OFS-GEN-030 guidance document outlines a component-level numbering specification based on EirGrid's newly developed standard for Reference Designation System for Power Plants (RDS-PP) which Phase 1 projects are required to implement retrospectively. The document was issued approximately 21 months post ORESS1 Auction, and the Phase 1 Developers were unaware of the latest RDS-PP coding requirements at the time of ORESS1 Auction. Consequently, the CRU understands that all Phase 1 Developer bid prices are based on the working assumption of utilising their own RDS-PP established practices for OFTO and other similar projects.

CRU Review of MCR Submissions

According to EirGrid, the introduction of RDS-PP guideline reflects a requirement to align with internationally recognised standards for asset designation across the energy infrastructure projects, including offshore wind. While RDS-PP is globally recognised and utilised regularly by wind industry OEM equipment and system providers, EirGrid has issued OFS-GEN-030 to define how the standard should be specifically applied to Irish transmission plant and assets, particularly those being transferred to EirGrid/TSO under the Phase 1 ATV process. Within EirGrid's MCR submission there is clear ambition to ensure that Phase 1 and 2 RDS-PP numbering is consistent from an Asset Management registration, identification and control perspective, however this concept needed to be considered and defined well in advance of ORESS1 to avoid retrospective actions and cost increases.

The CRU notes that the introduction of these guidelines did not include a fully defined level of numbering and applicability to specific plants, systems, sub-systems, equipment, items or components, and that the requirements had not been fully accepted by the Phase 1 Developers.

The Phase 1 Developers highlighted to the CRU in their MCR submissions that this initiative is part of a broader strategy from EirGrid to implement RDS-PP numbering across Phase 1 & 2 Offshore Assets and potentially beyond. As a result, they consider EirGrid is now seeking to retrospectively apply RDS-PP coding onto Developer-led Phase 1 projects to maintain Phase 1 & 2 consistency and to standardise asset management over the long-term. Moreover, the Phase 1 Developers have highlighted that the introduction of this late guideline raises concerns about scope clarity, retrospective cost implications and cost increases, and re-alignment of pre-established project numbering and working assumptions which are at odds compared to OEMs RDS-PP numbering conventions.

The CRU understands it is GB and standard industry practice for Developers, EPC Contractors & OEMs to apply their own established RDS-PP coding systems and to provide all relevant data within their project design, manufacturing, as-built and O&M documentation at the point of Asset Transfer and Handover. Prior to the late release of OFS-GEN-030 the Phase 1 Projects were already progressing with their own established RDS-PP numbering systems, following wind industry and OEM norms.

Accordingly, and given the fact that wind industry OEMs are already using equivalent RDS-PP systems, the CRU does not consider the retrospective implementation of OFS-GEN-030 requirements to be economic, efficient or necessary. The CRU considers it adds little value to supporting the Phase 1 Developers, EPC Contractors, or OEM equipment providers and it does not directly impact transmission asset performance and reliability, handover and/or asset transfer.

In summary, the CRU understands that the primary benefit of issuing this late guidance document appears to be limited to EirGrid's own internal position to standardise operational and asset management requirements by offsetting the cost, risks and administration burden to the Phase 1 Developers.

CRU Decision

After careful review, the CRU rejects EirGrid's OFS-GEN-030 general specification on the basis that these requirements have been introduced late and will add little to no value in supporting the Phase 1 Developers, EPC Contractors, or OEM equipment providers since it increases the risk of re-numbering errors, increases costs and deviates from OFTO and other similar projects, and OEMs' manufacturing standards and conventions. In addition, this late change imposes an unnecessary administrative burden, does not align with a Phase 1 Developer-led approach, and results in unnecessary and additional costs to the Phase 1 Developers and Irish consumers.

The CRU requires EirGrid to accept and adopt practices like the GB OFTO system where EPC Contractor, OEM and Suppliers utilise their own document management and RDS-PP numbering systems which are acceptable for asset transfer and handover and operations.

Phase 1 Developers should continue to use their own Developer/EPC Contractor/OEM RDS-PP systems already aligned to established industry best practice and recognised international standards. EirGrid is to accept RDS-PP recognised industry practices, as the CRU considers this to be a technically acceptable and economically beneficial approach for the Irish consumers.

The CRU considers that the rejection of this change should not result in any direct cost impact on the PCR assessment and ATV, as it does not necessitate any retrospective DEVEX or CAPEX rework by the Phase 1 projects or their EPC Contractors and OEM providers. Accordingly, the CRU has determined that no decision is required in relation to ATV or OG-TUoS for this matter.

3.1.9 OFS-GEN-100: Phase 1 – Comment/Approval Review Sheet (CRS) Template

CRU Decision Summary

The CRU approves the implementation of OFS-GEN-100 general specification and thereby approves the current version as being valid and appropriate for use without any further modification.

Description of change

EirGrid has introduced a Comment/Approval Review Sheet (CRS) to OFS-GEN-100. This is a blank template used to capture EirGrid and Customer comments and actions agreed during design reviews, and it essentially formalises the review process that has been operating on a bilateral basis since ORESS1. The template has been added to EirGrid's Master Document Register (MDR) for recording purposes and helps to manage and consolidate feedback, agreements and actions associated with Phase 1 Offshore Wind Documentation and Drawings reviews. EirGrid noted within their MCR submission that the fundamentals of OFS-GEN-100 were already in place at the time of the ORESS1 Auction and that the system has been utilised in an 'unofficial capacity' and the CRS template has been added to formalise the documentation and action tracking process.

CRU Review of MCR Submissions

According to EirGrid, the CSR template does not introduce any additional costs and/or delays for the Phase 1 Developers, and it is intended to support the consenting, design, PCR and ATV processes by capturing and recoding any non-compliances and/or outstanding actions that are identified during the project design reviews.

EirGrid has asserted that a design review cannot be effectively conducted without a CRS template and action tracking processes, since it enables the detailed tracking of the reviewer comments and feedback, ensuring that all comments and actions are (1) Addressed, (2) All communications are fully facilitated, and (3) Enhances the application of quality assurance and control to specified requirements.

The CRU has received no responses for OFS-GEN-100 from the Phase 1 Developers.

The CRU acknowledges and accepts that the implementation of OFS-GEN-100 has no cost and/or time impacts on the Phase 1 projects. The template will be used by EirGrid as a formal process and to support the ongoing Offshore Wind Phase 1 programme through asset transfer/handover.

CRU Decision

After careful review, The CRU approves the implementation of OFS-GEN-100 general specification and thereby approves the current version as being valid and appropriate for use without any further modification. This decision is based on an MCR assessment that the comment tracking formalities are required for control and progress purposes and that implementation will not result in any additional costs and/or time delays.

4. Next steps

The CRU has identified specific actions for EirGrid to complete arising from the MCR process, which are necessary to finalise the Phase 1 General and Functional Specifications and to consolidate the Phase 1 Technical Baseline.

The CRU has also determined that certain post-auction changes proposed by EirGrid have been rejected and will therefore not be included in the final Phase 1 General and Functional specifications with the exception of those MCR actions requiring EirGrid revisions before the final versions of the specifications are issued. Additionally, the CRU has approved one specification in its current form, which will be incorporated into the Phase 1 General and Functional Specifications and must be adhered to by the Phase 1 Developers.

The following sections detail the next steps to complete the Phase 1 General and Functional specifications and sets out how these changes will be treated by the CRU in the Post Construction Review process for the Phase 1 projects.

Backstop Completion Date

The CRU requires EirGrid to revise and complete all necessary changes and amendments in line with this Decision by **28 February 2026**, which serves as the backstop date for finalising the Phase 1 General and Functional Specifications and technical baseline. Meeting this deadline is critical to maintaining momentum across the Phase 1 offshore wind programme as Phase 1 Developers need clarity to finalise their project designs. The CRU expects substantial engagement between EirGrid and the Phase 1 Developers to finalise these specifications by the backstop date. To ensure progress toward this deadline, EirGrid is requested to provide the CRU with monthly updates on progress on each specific general and functional specification.

CRU recognises the importance of advancing all workstreams and proposes that where EirGrid successfully completes and finalises the Phase 1 General and Functional Specifications by the backstop date of **28 February 2026** then the differential economic and efficient costs associated with the changes will be passed through to a socialised charge such as D-TUoS. Where EirGrid fails to meet the requirements of this decision, the CRU may consider relevant measures, to ensure that only the efficient and deliverable costs are recoverable and that consumers are not exposed to costs arising from changes to specifications introduced by EirGrid.

Post Construction Review

The decisions outlined in Section 3 of this paper will have direct cost and/or time implications for the Phase 1 projects. Specifically, the following Phase 1 General and Functional Specifications:

- **OFS-GEN-021: Onshore Interface Point Network Functionality Requirements**
- **OFS-SSS-416: 400kV & 220kV Static Synchronous Compensator (STATCOM)**
- **OFD-OSP-504: Standard 220/66kV Offshore Substation Single Line Diagram**
- **OFS-GEN-009: Operation & Maintenance General Requirements**

The CRU acknowledges some of these documents have undergone substantial changes since the ORESS1 Auction, while the O&M specification was incomplete prior to the Phase 1 Developers bidding into the ORESS1 Auction. Given this, these documents now require rework by EirGrid to comply with this decision. Consequently, the CRU expects that there will be cost impacts on the Phase 1 projects and potential implications for the Asset Transfer Value.

The CRU considers it necessary to provide a level of clarity and certainty to the Phase 1 Developers and EirGrid as to how these changes will be treated at the PCR process.

As set out in the decision above, the CRU has confirmed that developers may recover economic and efficient differential costs as a result of the changes outlined above - subject to strict ring-fencing, detailed cost assessment, and scrutiny by the CRU at the Post Construction Review.

In line with the CRU/2023/13 Decision Paper, where Phase 1 Developers incur costs that are solely as a result of changes to specifications to the transmission connection assets that were outside its control and could not have been reasonably foreseen at the time of the ORESS1 Auction, the economic and efficient portion of those differential costs will be excluded from the OG-TUoS charge. Following the MCR process, this would include:

- Additional economic and efficient DEVEX rework costs and CAPEX resulting from the CRU approved specification changes providing that the costs are fully substantiated and documented.
- Any additional economic and efficient costs incurred due to reverting to a previous version of the specification, together with any DEVEX rework costs already incurred by the Developer in seeking to comply with EirGrid's updated requirements providing that costs are fully substantiated and documented.

In line with the Post Construction Review principles outlined in CRU/2023/13 and as outlined above, Phase 1 Developers will be required to provide robust evidence of any additional costs incurred as a result of post-auction specification changes.

The cost associated with these changes will be ring-fenced within the CRU's annual project cost template reporting process and the PCR, including both the Initial and Final Transfer Value assessments, and will be closely tracked to ensure that the CRU has a clear understanding of their actual cost impact from the ORESS1 Baseline Submission to the project's final outturn cost. Phase 1 Developers are required to ensure that any unforeseen claim is appropriately identified at the time the additional cost is incurred and to notify the CRU of this change.

It is important to note that the estimated and indicative cost ranges provided by the Phase 1 Developers to the CRU during the MCR process will not be used as data points in the PCR review. While these costs and figures offered an informal level of verification into the potential scale of impacts, the assumptions and calculations underpinning them have not been tested or verified by the CRU.

For full details on reporting requirements and the treatment of costs for Phase 1 projects within the CRU PCR framework, refer to the CRU Post Construction Review Guidance document(s).

5. Treatment of Future Changes

Developers have indicated to the CRU through their MCR submission and through other engagement fora that derogations from EirGrid's operational and technical requirements may be necessary in order to deliver their Phase 1 project. Such derogations the CRU understands are a common practice in the industry and may still be necessary after the amendments to the specifications set out above are completed and approved by the CRU.

The CRU acknowledges that, as TSO, EirGrid is responsible for managing the derogation process and has the authority to accept or reject requests. However, certain derogations may impact or affect the ATV of Phase 1 projects. To support the CRU's view of project costs up to and during the PCR process, EirGrid is requested to provide the CRU with regular (monthly) updates on all Phase 1 Derogation Requests and their outcomes. Following the meeting with EirGrid on 16 July 2025, EirGrid also agreed to provide the CRU with its Internal Monthly Derogation Register which outlines all derogation requests, decisions, and their potential cost implications for the projects. This will ensure effective tracking, transparency, and alignment in the lead up to PCR assessment and ATV determination.

This approach will also provide the CRU with a clear record of EirGrid's technical decisions, including their context and associated costs implications. It supports a "no surprises" principle for the PCR process by ensuring transparency around the evolution of transmission asset design, delivery and ATV transaction.

As agreed with EirGrid, to ensure the CRU can assess any potential time/cost impact on the ATV resulting from EirGrid's derogation process:

- EirGrid must copy all Phase 1 project derogation requests to the CRU Offshore mailbox for registration and for tracking potential impacts on the PCR and ATV.
- EirGrid must provide the CRU with its Internal Derogation Register (Verified Copy of Original) as a monthly update, capturing all associated DEVEX, CAPEX, and OPEX cost increases and/or savings and/or neutral outcomes, to support CRU review and inclusion (or amendment/rejection) of costs within the PCR process.
- EirGrid will facilitate CRU Offshore team participation in relevant meetings to clarify specific cost-related matters and justifications (as required).

The CRU recognises, following feedback from the Phase 1 Developers, that changes affecting Phase 1 General and Functional specifications may arise from a range of external sources, not solely from EirGrid, including statutory obligations, HSA, ESBN, consenting authorities, local

authorities, among other stakeholders. Accordingly, Future Change Process is required to review and approve such costs for the purposes of the PCR and ATV processes. This is outlined in the section below.

Future Changes to Phase 1 General & Functional Specifications

The scope of the MCR process was limited to nine specifications as identified on the *Consolidated List of Changes* that had been subject to post-auction changes. The MCR process has now concluded with the publication of this decision paper.

Throughout the MCR process, EirGrid has verbally assured the CRU that no further changes to the Phase 1 General and Functional Specifications are planned or anticipated. However, the CRU acknowledges that further amendments to the Phase 1 General and Functional Specifications may arise, whether as part of closing out actions from this MCR Decision, or in response to EirGrid's TSO or statutory obligations, or as a result of input from other parties such as the HSA, ESBN, consenting authorities, or other local authorities. Should EirGrid seek to introduce any changes in the future, EirGrid must obtain the CRU's prior approval before the introduction of any change, regardless of whether the change is expected to affect Phase 1 projects or Irish consumers.

The CRU considers it essential, for the successful delivery of Phase 1 projects, to continue to be aware of all technical-economic justifications for any changes to the General and Functional Specifications. The CRU requests that EirGrid take responsibility for managing a process that actively monitors and oversees these specifications and the corresponding baseline.

Future Change Process – Quarterly Phase 1 General & Functional Specification Meetings

The CRU requests that EirGrid establish a Quarterly Phase 1 General and Functional Specification Meeting, to continue until the final Phase 1 project seeks to take a Final Investment Decision (FID). This EirGrid led meeting will provide a formal forum for coordination between EirGrid, ESBN (as necessary) and Phase 1 Developers during the critical pre-FID phase.

EirGrid are requested to chair and manage the meeting series, with participation from Phase 1 developers (technical leads) and ESBN (as necessary) to review and discuss any proposed changes. The CRU will attend as an observer and will intervene only if a proposed specification change lacks sufficient technical-economic justification or if a change has the potential for material Phase 1 project ATV or Irish consumer impacts.

To minimise uncertainty and to avoid unnecessary cost exposure to Irish consumers, any future specification changes must be clearly justified and documented by EirGrid and shared on a regular basis to support the CRU PCR and ATV processes. In line with the MCR process, EirGrid is requested to circulate a Material Change Form (prepared, checked and approved to the expected CRU standard) to the Phase 1 developers, ESBN (as necessary) and CRU Offshore team ahead of each meeting for review.

This Quarterly Phase 1 General and Functional Specification Meeting in intended to:

- Promote transparency and provide for a structured engagement on technical specification updates and potential cost/time impacts.
- Review and assess proposed changes to the Phase 1 General and Functional Specifications, including their technical-cost-economic justification and potential Project/Consumer impacts.
- Support timely resolution of changes and agreements to minimise Phase 1 project delays and to avoid unnecessary cost increases and risks to Phase 1 projects or Irish consumers.
- Ensure all changes are clearly justified, cost quantified and documented to maintain a robust audit trail and link to the Updated Phase 1 Cost Reporting template for the annual and PCR reporting stages.
- Foster alignment between EirGrid and ESBN (as necessary) and Phase 1 Developers to ensure consistent application of technical requirements, including inter-dependencies to Phase 2 as appropriate.

The CRU is open to discussing with EirGrid the practical details of how these meetings will operate to ensure their success.

This meeting series will continue until the final Phase 1 projects seeks to take FID. By that stage, developers will have committed to supply chain contracts, leaving very limited flexibility for further changes without increases to project costs. Accordingly, there should be no further changes to any General or Functional Specifications as FID approaches, to avoid any disruption and to ensure contractual and technical certainty is achieved in support of bankability. Any changes beyond FID to the General and Functional Specifications should be managed through EirGrid's Derogation process (or management of change process as appropriate) and will be subject to oversight as part of the CRU's PCR Annual Cost Reporting Template review of Phase 1 projects.

6. Conclusion

The *Post-ORESS1 Auction Material Change Review: EirGrid General & Functional Specifications* process has now concluded with the publication of this Decision paper.

The CRU requests that EirGrid's Phase 1 General and Functional specifications are finalised by **28 February 2026.**

The CRU acknowledges and appreciates the engagement from both EirGrid and the Phase 1 Developers throughout this process.