BP_SO_13.1 Long-Term Coordinated Capacity Calculation

Business Process

18/12/2024 - Version 3

EirGrid GROUP

The Oval, 160 Shelbourne Road, Ballsbridge, Dublin D04 FW28
Telephone: +353 1 677 1700 | www.eirgrid.com

EirGrid and SONI support the provision of information to the marketplace by publishing operational data, processes, methodologies and reports. This information is key to a well-functioning market and as a transparency measure, assisting understanding of our decision making processes. It is recognised that the detailed elements of our operational processes need to remain agile in the context of service priorities and technical considerations of the new market. Consequently, as operational documents these are subject to change. EirGrid and SONI therefore make no warranties or representations of any kind with respect of this document, including, without limitation, its quality, accuracy and completeness, neither do EirGrid or SONI accept liability for any loss or damage arising from the use of this document or any reliance on the information it contains.
The document may also contain information from external sites over which EirGrid and SONI have no control and for which we assume no responsibility.

Contents

1. Assumptions

Assumptions made during the design of this process include:

- This is an all-island process, meaning the same process will be used across both jurisdictions on the island, Ireland and Northern Ireland. It will be executable from both Dublin and Belfast;
- Pending agreed changes to the SEM-GB capacity calculation arrangements, the proposed solution as outlined in the 'Interim Coordinated Capacity Calculation Arrangements on the SEM-GB Border' is the approved approach to managing coordinated capacity calculation; and
- The existing Interconnector Operating Protocol for any of the SEM-GB interconnectors and the EirGrid/SONI Planned Outage Coordination process will be used to set the level of NTC of the aforementioned interconnectors.

2. Process references

2.1. Related rules references

The following table provides references to the documents that govern the design of this business process.

Document Title	Relevant Section	Description
Commission Regulation (EU) 2015/1222 of 24 July 2015 on establishing a guideline on capacity allocation and congestion management (CACM)	All	The Regulation establishing a guideline on Capacity Allocation and Congestion Management (CACM) entered into force on 15 August 2015. The provisions of CACM govern the establishment of cross-border EU electricity markets in the day-ahead and intraday timeframes, as well as methods for the calculation of interconnection capacity.
Commission Implementing Regulation (EU) 2021/280 of 22 February 2021 amending Regulations (EU) 2015/1222	All	Amends several existing regulations to align them with Regulation (EU) 2019/943. The alignment aims to enhance market integration, non-discrimination, effective competition, and overall functioning of the electricity market within the European Union.
Commission Regulation (EU) 2016/1719 of 26 September 2016 on establishing a guideline on forward capacity allocation (FCA)	All	The Regulation establishing a guideline on forward capacity allocation (FCA) entered into force on 17 October 2016. The provisions of FCA establish a framework for the calculation and allocation of interconnection capacity, and for cross-border trading, in forward markets (i.e. timeframes longer than day-ahead).
Day-Ahead Interconnector Net Transfer Capacity Procedure – June 2024	Outlines methodology	This document describes the process by which EirGrid and SONI calculate and apply day-ahead adequacy-based Net Transfer Capacity (NTC) limits on interconnectors between the islands of Ireland and Great Britain.
Interim Cross Zonal TSO Arrangements for GB-ISEM go-live - 2017	All	The cross zonal TSO arrangements refer to the process and methodology for TSOs to determine the interconnector capacity available to be allocated by the day-ahead and intra-day market coupling process. While the Regulatory Authorities (RAs) in February 2023 that the ICZA would apply to Greenlink and future SEM-GB interconnectors – notwithstanding the possibility of future policy developments that may supersede the ICZA – this excluded the provisions relating to compensation arrangements in the case of a reduction of NTC.
SEM Committee Decision Paper dated 28 March 2024 (ref: SEM-24-025) entitled "Compensation Arrangements for Net Transfer Capacity Reductions")	All	The purpose of this decision is to provide clarity to all stakeholders on the forward-looking compensation arrangements in the SEM for Moyle, EWIC, Greenlink and any future SEM-GB interconnectors following the reduction of NTC.

Interconnector Operating Protocol	All	The protocol operates as a common point of reference for the interconnector owner, EirGrid/SONI and NESO in relation to the operation of each SEM-GB Interconnector, covering the following areas: outage planning, day ahead user data and transfer programme agreement, real time operation and post event review and general management.

2.2. Related documents

The following table provides a list of documents that are related to this business process.

Document Title	Relationship	Description
Balancing Market Principles Statement	Information	Public guide to the scheduling and dispatch process which describes the cross zonal arrangements.

3. Process context

3.1. Business model relationship

The 'Long-Term Coordinated Capacity Calculation (Net Transfer Capacity)' process sits within 'Cross Zonal Capacity' process group within the Systems Operator processes. This process group is required to meet EirGrid/SONI's obligations under the network codes governing all cross-border electricity market transactions and system operations.

3.2. Background and scope

Background

The following regulation outline specific requirements and obligations on TSOs in relation to Europe's cross-border electricity networks:

1. Commission Regulation (EU) 2015/1222 of 24 July 2015 on establishing a guideline on capacity allocation and congestion management (CACM), which outlines the following requirements:
    - Develop a common capacity calculation methodology,
    - The capacity calculation methodology will include details of any allocation constraints,
    - Establish a Coordinated Capacity Calculator,
    - Establish a common Coordinated Redispatching and Countertrading Methodology.
2. Commission Regulation (EU) 2016/1719 of 26 September 2016 on establishing a guideline on forward capacity allocation (FCA), which outlines the following requirements:
    - Develop a common capacity calculation methodology for long-term allocations,
    - Use the Coordinated Capacity Calculator established under CACM,
    - Develop a methodology for splitting long-term cross-zonal capacity.
3. Commission Implementing Regulation (EU) 2021/280 outlines several key amendments to existing regulations to align them with Regulation (EU) 2019/943 on the internal market for electricity. Here are the main points:
    - Harmonization of Rules, ensuring a more integrated and efficient electricity market.
    - Enhanced Role of ACER.
    - Market Integration and Non-Discrimination, ensuring that the TCMs contribute to market integration, non-discrimination, effective competition, and the proper functioning of the electricity market.

These amendments are designed to support the ongoing development of a unified and competitive electricity market in the EU.

The network codes envisage that the Cross-Zonal Capacity calculation will be carried out by the appointed Coordinated Capacity Calculator for each Capacity Calculation Region, in accordance with the relevant Capacity Calculation Methodology.

Scope

The scope of this process, Long-Term Coordinated Capacity Calculation, covers the development of Net Transfer Capacity (NTC) on the Interconnectors.

Net Transfer Capacity (NTC) calculations using the Available Transfer Capacity (ATC) method associated with power system security will be jointly determined by the TSOs. When determining the capacity of the interconnection between two systems, the capacity is calculated by using models of each area. If the values differ, the lower value is used. The objective is to give the market the highest possible capacity for energy trading, taking into account the available interconnector capacity, secure and efficient operation of the power systems on both sides of the interconnector and the possibility of faults on either network.

NTC is the maximum exchange possible between two areas compatible with operating security standards applicable in both areas and taking into account the technical uncertainties on future network conditions. The NTC is set separately for both directions, import and export, of transfer across any of the SEM-GB interconnectors at the operation reference point.

The process for determining the NTC calculations associated with power system security will be jointly determined by EirGrid[1], SONI, MIL, EIDAC, Greenlink and NESO. The process begins with the 'Planned Outage Co-ordination' phase. This will be completed as per the current process.

The three SEM-GB interconnectors, NESO and EirGrid/SONI undertake an annual Planned Outage Coordination exercise in line with the corresponding IOP (Interconnector Operating Protocol).

EirGrid/SONI liaise with the corresponding Interconnector Owner, regarding their planned outages and planned outages on the transmission system in Ireland or Northern Ireland that may impact on any of the SEM-GB interconnectors. EIDAC and Greenlink will input the output of this planning phase into the Elexon BMRS portal and SONI submits to NESO the final outage plan.

Following outage planning, all TSOs will determine the capacity of the interconnection between the two systems. This will provide on an annual basis 52 NTC values at weekly resolution with additional resolution as necessary during any planned outage periods.

The Interconnector Owners and NESO will also perform this step. Those three figures (one from EirGrid/SONI, one from the Interconnector Owner and another from NESO) are available in ICMP, and the final NTC will be lowest value from them.

Once the values are set for the calendar year ahead, they can be reduced at later point but this is not covered within this process, see "Long-Term NTC Changes" and "Real Time NTC reductions" for details on how reductions are managed after this process has been completed for the calendar year ahead.

[1] The capacity calculation principles and methodologies used by EirGrid shall be in compliance with the SEM Committee Decision Paper dated 28 March 2024 (ref: SEM-24-025) entitled "Compensation Arrangements for Net Transfer Capacity Reductions") and any other relevant Regulatory decisions.

4. Process objective

The objective of this Business Process is to meet the following obligations, namely:

- Commission Regulation (EU) 2015/1222 of 24 July 2015 on establishing a guideline on capacity allocation and congestion management (CACM);
- Commission Regulation (EU) 2016/1719 of 26 September 2016 on establishing a guideline on forward capacity allocation (FCA);
- Commission Implementing Regulation (EU) 2021/280 outlines several key amendments to existing regulations to align them with Regulation (EU) 2019/943 on the internal market for electricity.
- The objective of the process is also to state the NTC for the following calendar year

5. Roles and responsibilities

5.1. EirGrid GOP[2] team/SONI Back Office

The following table provides a summary of the obligations of EirGrid GOP Team & SONI Back Office in relation to this process.

Team	Responsibility in relation to process	Timeline Associated
EirGrid GOP team / SONI Back Office (Process Owner)	• Perform planned outage coordination with Interconnector Owners and communicate the outcome to them.	Annually - by end of May Y-1
	• Determine long-term NTC values in line with process timelines	Annually- by end of June Y-1
	• Circulate values via email	Annually- by end of June Y-1

5.2. EirGrid/SONI Market Operations Trading

The following table provides a summary of the obligations of EirGrid & SONI Market Operations Trading in relation to this process.

Team	Responsibility in relation to process	Timeline Associated
Trading	• Input EirGrid & SONI, Interconnector Owners and NESO's long-term NTC values into the Interconnector Management platform • Send NTC values to ENTSO-E Transparency Platform	Annually- by end of June Y-1

[2] GOP: Generation Outage Planning

5.3. Interconnector Owners

The following table provides a summary of the obligations of the Interconnector Owners in relation to this process.

Party	Responsibility in relation to process	Timeline Associated
Interconnector Owners	• Provide planned outage plan for coming calendar year	Annually – by end of March Y-1
	• Input planned outage plan into Elexon BMRS	Annually - by end of June Y-1
	• Develop long-term NTC values in line with process timelines	Annually- by end of June Y-1

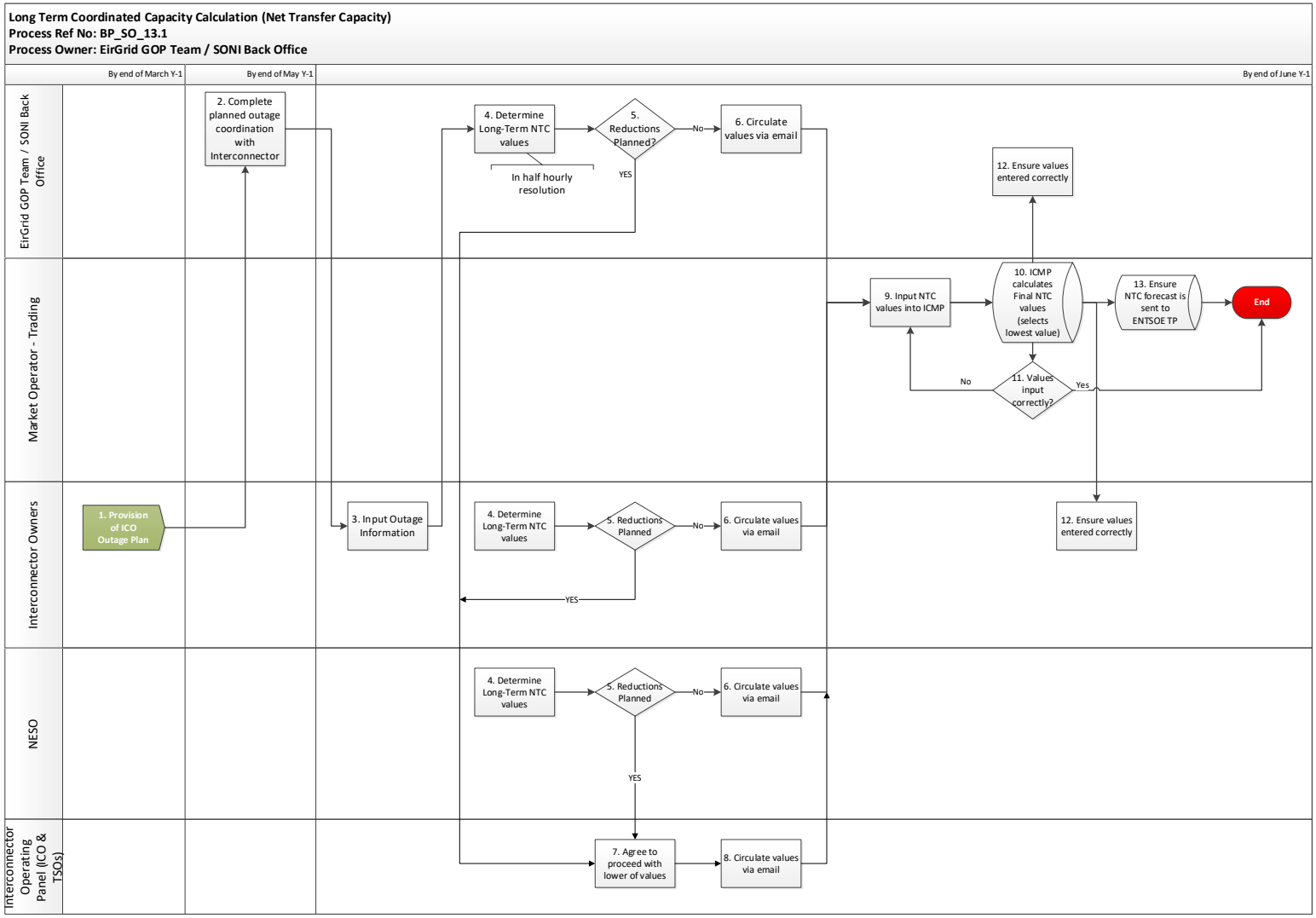
5.4. NESO

The following table provides a summary of the obligations of National Energy System Operator (NESO) in relation to this process.

Party	Responsibility in relation to process	Timeline Associated
NESO	• Develop long-term NTC values in line with process timelines	Annually- by end of June Y-1

6. Process description

6.1. Process map



6.2. Process steps

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	Provision of ICO Outage Plan	The Interconnector Owners will provide their outage plans to EirGrid GOP Team / SONI Back Office as per EirGrid Grid Code and SONI Grid Code Requirements.	Interconnector Owner	N/A	Annually – March Y-1	N/A
2	Complete planned outage coordination with Interconnector	EirGrid GOP Team / SONI Back Office will complete their outage planning process as per existing process. Interconnector Owners will input into the overall outage planning process run by EirGrid GOP Team / SONI Back Office as per current practice. The resulting outage plan is communicated to Interconnectors.	EirGrid GOP Team / SONI Back Office	Outage plan	Annually – May Y-1	N/A
3	Input Outage Information	Interconnector owners will then input the required outage information into Elexon BMRS.	Interconnector Owner	N/A	Annually – June Y-1	Elexon BMRS
4	Determine Long-Term NTC values	When determining the capacity on interconnection between two systems the proposal is that the capacity is calculated individually by the TSOs on each side of the interconnector.	EirGrid GOP Team / SONI Back Office / Interconnector Owners / NESO	Long-Term NTC values	Annually – June Y-1	N/A

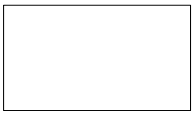
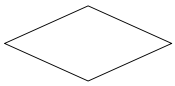
#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
5	Reductions Planned?	Each party must decide if reductions are planned. If yes, go to step 7. If no, go to step 6.	EirGrid GOP Team / SONI Back Office / Interconnector Owners / NESO	Long-Term NTC values	Annually – June Y-1	N/A
6	Circulate values via email	If no reductions to NTC values are determined, the proposed values can be circulated via email to all parties. Go to step 9.	EirGrid GOP Team / SONI Back Office / Interconnector Owners / NESO	Long-Term NTC values	Annually – June Y-1	Email
7	Agree to proceed with lower of values	The NTC values will be the lower of those proposed by the TSOs and ICOs	All TSOs & ICOs	N/A	Annually – June Y-1	N/A
8	Circulate values via email	Circulate values	EirGrid GOP Team / SONI Back Office	Long-Term NTC values	Annually – June Y-1	Email
9	Input NTC values into ICMP	EirGrid/SONI will then input the values from each party into the Interconnector Management Platform (ICMP).	EirGrid / SONI (Market Operations Trading)	N/A	Annually – June Y-1	ICMP

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
10	ICMP calculates Final NTC values	On save of updated NTC for any interval by an Interconnector Owner or System Operator, the system shall recalculate the Final NTC for each of the updated intervals, interconnectors and directions as follows: **Final NTC = min (NTC_{SO1}, NTC_{SO2}, NTC_{ICO1})** Where: • NTC is the final Net Transfer Capacity calculated in the system that will be used in all later external communications and calculations; • NTC_{SO1} refers to the NTC as declared by the Irish System Operator relating to the Interconnector (SONI for Moyle Interconnector and EirGrid for EWIC and Greenlink); • NTC_{SO2} refers to the NTC as declared by the GB System Operator relating to the Interconnector (always NESO); and • NTC_{ICO1} refers to the NTC as declared by the Interconnector Owner.	System step	NTC values calculated	Annually – June Y-1	ICMP

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
11	Values input correctly?	Check performed to ensure values have been input correctly. If yes, go to End. If no, go to step 9.	EirGrid / SONI (Market Operations Trading)	N/A	Annually – June Y-1	ICMP
12	Ensure values entered correctly	Once values have been input into the system, the ICO and TSO will be able to log-in and ensure the values they submitted have been inputted correctly.	EirGrid GOP Team / SONI Back Office / Interconnector Owners	NTC file sent to ICOs, NESO & MMS	Annually – June Y-1	ICMP
13	NTC forecast is sent to ENTSO-E Transparency Platform	Once values have been agreed, a forecast needs to be sent to ENTSO-E Transparency Platform. ICMP automatically sends this data to Transparency platform via GDX.	System step	NTC file sent to ENTSO-E Transparency platform	Annually – June Y-1	ICMP/GDX

7. Appendices

7.1. Process flowchart key

FLOWCHART KEY	
	Trigger
	Process step
	Process decision / question
	Reference to another process
	Another business process to be implemented following current step (current step is a trigger for another process)
	Process end
	System (automatic step)