

# Business Process

## BP\_SO 13.3 Interim Real Time NTC Reduction

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## 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;
- This process will be required until the Coreso Regional Security Coordinator (RSC) solution is in place. Coreso is the regional transmission system security co-ordinator for much of Western Europe. The objective of Coreso is to assist TSOs to maintain optimal security of supply in Europe by providing regional coordination services. One of the key Coreso tasks would be to perform the calculation of cross-zonal capacity for the Ireland - United Kingdom (IU) coordinated capacity region;
- The proposed solution as outlined in the 'Interim Coordinated Capacity Calculation Arrangements on SEM-GB Border' is the approved approach for managing coordinated capacity calculation in the interim; and
- The existing EirGrid Interconnector DAC (EIDAC), Moyle Interconnector Limited (MIL), National Grid Electricity Transmission plc (NGET), EirGrid/SONI Planned Outage Coordination process (as per the Interconnector Operation Protocol (IOP)) will as far as possible be used to set the level of NTC (separately for both directions of transfer across EWIC and Moyle Interconnector).

## 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 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).
SEM-GB Joint Implementation Group JIG023 – Interim Cross Zonal TSO Arrangements for GB-ISEM go-live	All	This document is a common proposal developed by all Transmission System Operators (hereafter referred to as "TSOs") within the IU <sup>1</sup> Capacity Calculation Region <sup>2</sup> regarding the requirement to develop interim TSO cross zonal arrangements for ISEM go-live. This proposal is for the IU Capacity Calculation Region and has been developed as

<sup>1</sup> The IU Capacity Calculation Region refers to the bidding zone border SEM-GB as described in ENTSO-E's all TSOs draft proposal for Capacity Calculation Regions in accordance with Article 15 of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management.

<sup>2</sup> Decision of ACER No 06/2016 of 17 November 2016 on the Electricity System Operator's proposal for the determination of capacity calculation regions.

		an all TSO proposal for submission to the SEM-GB Joint Implementation Group <sup>3</sup> .
Process for determining Transfer Capacity on the East West Interconnector	Outlines methodology	Paper outlines the approach and methodology adopted by EirGrid for determining Transfer Capacity on EWIC. A similar document will be developed for Moyle Interconnector.
Moyle Interconnector Operating Protocol	Appendix I & J	The Moyle Interconnector Operating Protocol is a tripartite agreement between MIL, SONI and NGET. The purpose of the document is to provide a common point of reference for MIL, SONI and NGET staff on issues associated with the operation of Moyle Interconnector.
EWIC Interconnector Operating Protocol	Appendix I & J	The EWIC Interconnector Operating Protocol is a tripartite agreement between EIL, EirGrid and NGET. The purpose of the document is to provide a common point of reference for EIDAC, EirGrid and NGET staff on issues associated with the operation of EWIC.

## 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.
Cross Zonal User Guide	System guide	A step-by-step system guide detailing procedures required in the Interconnector Manager Platform (ICMP).

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<sup>3</sup> The GB/ISEM Joint Implementation Group (JIG) is a meeting between the Northern Irish, the Irish and GB Regulatory Authorities (and ministries on an ad-hoc basis), as well as the TSOs (EirGrid plc, SONI Limited, EirGrid Interconnector DAC, Moyle Interconnector Limited and National Grid Electricity Transmission plc [NGET]). The Irish and GB NEMOs also attend: SEMOpX, APX Commodities Limited and NordPool Spot. These meetings discuss ISEM and European Electricity Network Code/Guideline implementation

## 3 PROCESS CONTEXT

### 3.1 BUSINESS MODEL RELATIONSHIP

The 'Interim Real Time NTC Reduction' process sits within 'Interim 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 in an interim capacity until the enduring RSC (Coreso) solution is in place, until that point interim measures will persist.

### 3.2 BACKGROUND AND SCOPE

#### Background

There are two key network codes which outline specific requirements and obligations on TSOs in relation to Europe's cross-border electricity networks, these include:

1. Commission Regulation (EU) 2015/1222 of 24 July 2015 on establishing a guideline on capacity allocation and congestion management (CACM) which sets requirements to:
  - 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 sets requirements to:
  - 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.

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.

This is known as Enduring Capacity Calculation methodology and is being developed for the SEM-GB market by the TSO Channel-IU (BritNed Development Limited, National Grid Electricity Transmission plc, National Grid Interconnectors Limited, Reseau de Transport d'Electricite, TENNET, Elia, NEMOLink, EirGrid plc, Moyle Interconnector Limited, SONI Limited, and EirGrid Interconnector DAC) group.

In the enduring solution Coreso, the Regional Security Coordinator (RSC) for the Ireland-United Kingdom (IU) Region, will act as the Coordinated Capacity Calculator performing the calculation of cross-zonal capacity for the IU coordinated capacity region. However, the enduring Coreso solution will not be in place to meet CACM and FCA compliance at the time of I-SEM go-live and as a result an interim solution has been developed for the IU region to support the achievement of I-SEM go-live objectives to be compliant with the CACM Regulation (EU) 2015/1222 and/or FCA Regulation (EU) 2016/1719.

The Interim Coordinated Capacity Calculation Arrangements will go live in line with I-SEM timelines and will remain in place until replaced by an enduring solution which will be compliant with all applicable European Network Codes (ENCs) and seek to achieve the objectives set out above to the extent possible.

#### Scope

The scope of this process, Interim Real Time NTC Reduction, covers how changes to the NTC calculated for the year ahead as part of the Interim Coordinated Capacity Calculation process are managed and updated for firm market periods. Changes after sixty minutes before IDA1 Gate Closure (16:30 local time D-

1 at time of writing) for the first twelve hours of trading day D and after sixty minutes before IDA2 Gate Closure (07:00 local time D at time of writing) for the last twelve hours of trading day D will be implemented through this process, i.e. for periods that are already market firm. Prior to the timelines above, where market periods are non-firm, changes to NTC are managed by Near Time under the Long-Term NTC Change process.

In real time, if an NTC reduction is identified by any TSO or Interconnector Owner (ICO) or is required after an interconnector trip or partial trip (one of the poles on Moyle Interconnector), Real Time must identify the reduction required. Real Time will be responsible for entering the new 'Minute NTC' values into the Interconnector Management Platform (ICMP) which will generate a new Interconnector Reference Programme (ICRP). In the event of a trip on East West Interconnector (EWIC) the minute NTC should initially be set to 0 MW until the end of the firm ICRP period which is 11:00 following IDA1 or 23:00 following IDA2. In the event of trip on Moyle Interconnector the minute NTC should initially be set to 0 MW for a period of 4 hours.

Upon entry of a Minute NTC change, the system shall generate a new ICRP based on the new information. In doing so, the ICRP curve shall not exceed the outage-reflected NTC value for the duration of the outage. If the ICRP curve immediately at the start of the outage exceeds the unplanned outage (Minute NTC) value, the system shall instantaneously ramp the ICRP curve to the value of the unplanned outage. Otherwise, the ICRP generated should adhere to the Interconnector Ramp Rate, where applicable.

The Minute NTC update should also trigger an update of ICO declared NTC (this refers to the NTC value declared by the Interconnector Owners. When inputting the NTC values users will be able to flag if the amount has been declared by the Irish Systems Operator (EirGrid/SONI), the GB Systems Operator or the Interconnector Owner) interval values for all periods which are not market firm but are contained within the affected Minute NTC period. This ICO NTC update will trigger a recalculation of NTC for the period. This will ensure that the Minute NTC value will be used in ATC calculations relating to later auctions for the affected periods.

It is possible for a user to manually update the ICO NTC at a later stage which will overwrite the update caused by the Minute NTC entry.

Where the Minute NTC update ends in the start/middle of a delivery period, the ICO interval NTC value should be calculated pro-rata, e.g. For Period 01:00 – 01:30, the original ICO NTC equals 500 MW. A Minute NTC update to 0 MW is entered starting at 01:24. This will cause the NTC for the period to be updated to  $(6 \times 0 + 24 \times 500) / 30 = 400$  MW.

## 4 PROCESS OBJECTIVE

The objective of this Business Process is to meet the following obligations under the EirGrid and SONI Grid Code, 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); and
- Ensure that NTC values are updated in Real Time, i.e. if reductions are required,

## 5 ROLES AND RESPONSIBILITIES

### 5.1.1 EIRGRID/ SONI

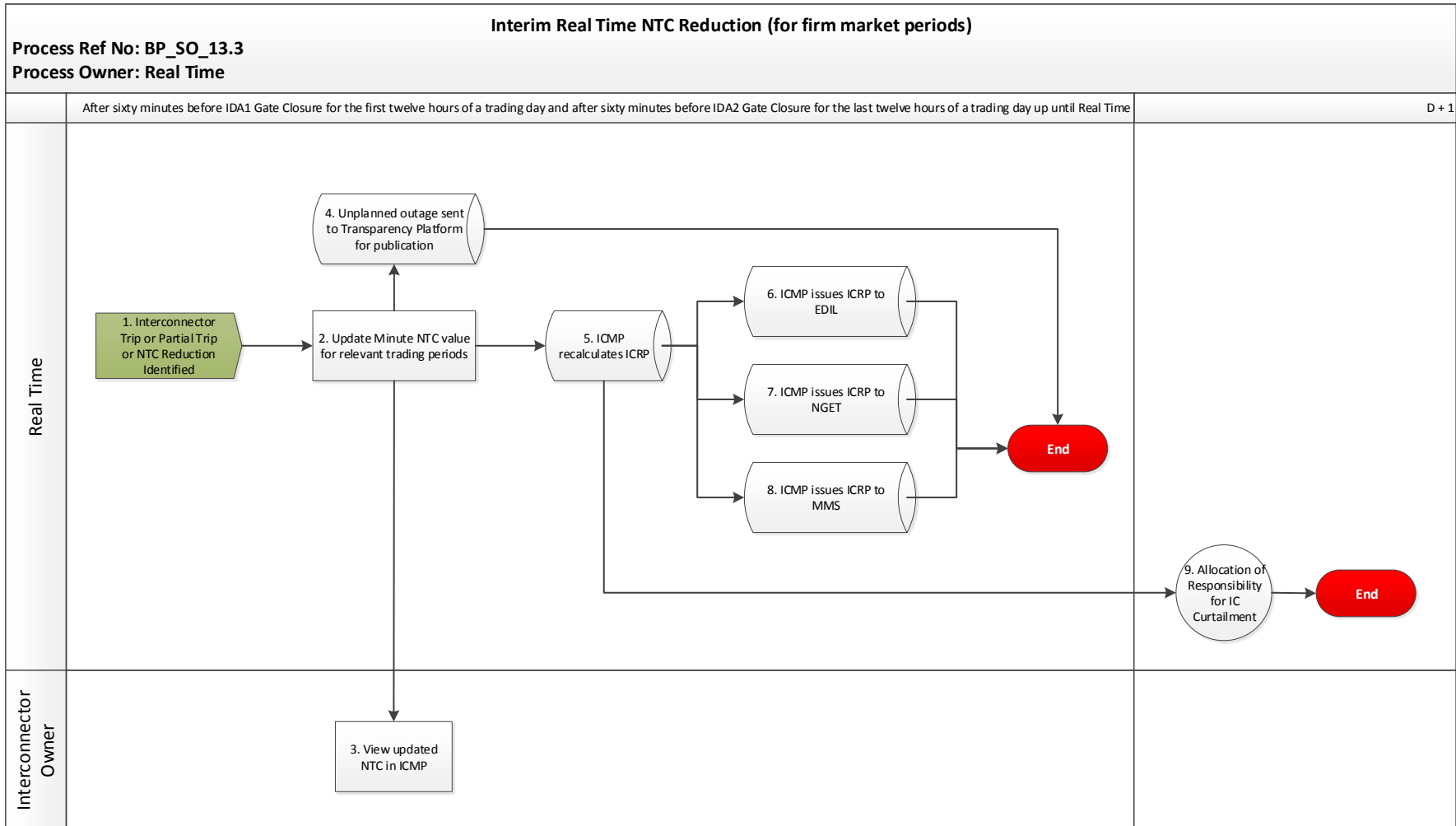
The following table provides a summary of the obligations of EirGrid & SONI in relation to this process.

<b>Function</b>	<b>Responsibility in relation to process</b>	<b>Timeline Associated</b>
Real Time	<ul style="list-style-type: none"><li>• Identify if NTC reductions required</li><li>• Enter recalculated NTC values into ICMP if required</li></ul>	As required

6 PROCESS DESCRIPTION

6.1 LEVEL 3 PROCESS

6.1.1 PROCESS MAP





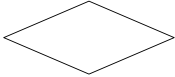


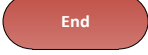



## 6.1.2 PROCESS STEPS

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	Interconnector Trip or Partial Trip or NTC Reduction Identified	This process will be triggered by an interconnector trip or partial trip (one of the poles on Moyle Interconnector) or Real Time may identify the need for NTC reductions through the course of dispatching the system. The Interconnector Owner or NGET may also trigger this process by contacting the Control Centre and informing them a reduction is required.	Real Time	N/A	As required	N/A
2	Update Minute NTC value for relevant trading periods	If an NTC reduction has been identified the Real Time user must then determine the maximum NTC for each trading period and update the Minute NTC. Minute NTC set to 0 MW for EWIC until the end of the firm ICRP period; 11:00 for IDA1 or 23:00 for IDA2. Minute NTC to 0 MW for Moyle for a period of 4 hours.	Real Time	N/A	As required	N/A
3	View updated NTC in ICMP	The Interconnector Owner can view the updated NTC in ICMP	Interconnector Owner	N/A	As required	ICMP
4	Unplanned outage sent to Transparency Platform for publication	Unplanned outage sent to Transparency Platform for publication	System Step	N/A	As required	EDIL, GDX
5	ICMP recalculates ICRP	Upon a Minute NTC value being updated the ICMP recalculates Interconnector Reference Programme (ICRP) based on the new information. In doing so, the ICRP curve shall not exceed the outage-reflected NTC value for the duration of the outage. If the ICRP curve immediately at the start of the outage exceeds the unplanned outage (Minute NTC) value, the system shall instantaneously	System Step	New Interconnector Reference Programme (ICRP)	As required	ICMP

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
		<p>ramp the ICRP curve to the value of the unplanned outage. Otherwise, the ICRP generated should adhere to the Interconnector Ramp Rate, where applicable.</p> <p>When Minute NTC is entered, a causer is specified. If the ICO is designated as the causer the ICO-declared NTC interval values for all periods which are not market firm but are contained within the affected Minute NTC period are updated. This ICO NTC update will trigger a recalculation of NTC for the period.</p> <p>It is possible for a user to manually update the ICO NTC at a later stage which will overwrite the update caused by the Minute NTC entry.</p> <p>Where the Minute NTC update ends in the start/middle of a period, the ICO interval NTC value should be calculated pro-rata.</p> <p>E.g. For Period 01:00 – 01:30, the original ICO NTC equals 500 MW. A Minute NTC update to 0 MW is entered starting at 01:24. This will cause the NTC for the period to be updated to <math>(6 \cdot 0 + 24 \cdot 500) / 30 = 400</math> MW.</p>				
6	ICMP issues ICRP to EDIL	ICMP issues new ICRP to EDIL (Interconnector).	System Step	N/A	As required	ICMP
7	ICMP issues ICRP to NGET	ICMP issues new ICRP to NGET.	System Step	N/A	As required	ICMP
8	ICMP issues ICRP to MMS	ICMP issues new ICRP to MMS.	System Step	N/A	As required	ICMP
9	Allocation of responsibility for IC curtailment	Enters the Allocation of Responsibility for IC Curtailment process.	Real Time	N/A	As required	N/A

## 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)