Business Process
BP_SO_11.3 Interconnector Emergency Actions

EIRGRID SONI

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1 ASSUMPTIONS

Assumptions made during the design of this process include:

- This is an all-island business process, meaning the same process will be used across both jurisdictions on the island, Ireland and Northern Ireland. It can be conducted by the relevant team in either Dublin or Belfast;
- The following business process addresses all requirements, including roles, tools, and activities that will enable the TSO to achieve its objectives;
- All required systems, including EDIL, MMS and ICMP are in place. They offer all required functionalities to support business needs; and
- System security issues identified ahead of real time should be managed through the routine scheduling and dispatch process and resolved ahead of real time to reduce the dependency on cross-zonal actions.

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
Moyle Interconnector Operating Protocol	- Chapter 8 MI Instructions - Appendix L MI CBB Service	The protocol operates as a common point of reference for Moyle Interconnector Limited, SONI and NGET in relation to the operation of the Moyle 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.
EWIC Interconnector Operating Protocol	- Chapter 8 EWIC Instructions - Appendix L EWIC CBB Service	The protocol operates as a common point of reference for EIDAC, EirGrid and NGET in relation to the operation of the EWIC 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.
EWIC Balancing and Ancillary Services Agreement		The agreement details the provision of commercial ancillary services across the East West Interconnector including cross-border balancing and emergency assistance prices.
Moyle Balancing and Ancillary Services Agreement		The agreement details the provision of commercial ancillary services across the Moyle Interconnector including cross-border balancing and emergency assistance prices.

2.2 RELATED DOCUMENTS

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

Document Title	Relationship	Description
BP_SO_11.2 CBB Trading between EirGrid	Related Process	This process covers cross-border balancing trades to alter physical interconnector flows and trades initiated

/ SONI and National Grid Electricity Transmission plc (NGET)		following a high or low frequency event that resulted in an automatic change to the interconnector reference program.
BP_SO_13.3 Real Time Net Transfer Capacity Reduction	Output of this Process	If an Emergency Action or Emergency Instruction is initiated a reduction in net transfer capacity is required which triggers this process.
EDIL User Guide for System Operations	System Guide	Includes detailed procedures on how to manipulate an interconnector reference program in EDIL.
MMS User Guide for System Operations	System Guide	Includes detailed procedures on how to implement process steps in MMS.
ICMP User Guide for System Operations	System Guide	Includes detailed procedures on how to implement process steps in ICMP and also steps for manual entry of CBB trades.
Methodology for determining System Operator and Non-Marginal Flags	Information	Appendix N of the Trading and Settlement Code requires the TSO to publish a methodology on how actions are flagged for the purpose of imbalance pricing.
Balancing Market Principles Statement	Information	Public guide to the scheduling and dispatch process.

3   PROCESS CONTEXT

3.1   BUSINESS MODEL RELATIONSHIP

The 'Trading' process group details the mechanisms available to EirGrid, SONI and National Grid Electricity Transmission plc (NGET) to exchange energy across the Moyle and EWIC interconnectors. The arrangements are similar for both Moyle and EWIC interconnectors in accordance with the operating agreements between the TSOs, and any differences are captured in the relevant process steps.

Cross-zonal actions used close to real time (less than two and a half hours before delivery) allow the TSOs to exchange energy across the interconnectors. In emergency circumstances, the physical flow on the interconnectors can be varied by Emergency Assistance or reduced towards zero by an Emergency Instruction. Settlement of these services is outside the scope of this group.

3.2   BACKGROUND AND SCOPE

Background

There are a number of services or actions collectively referred to as Cross-Zonal Actions available to EirGrid/SONI and NGET to exchange flows across the EWIC and Moyle interconnectors, including:

- Coordinated Third-Party Trading (CTPT)
- Cross Border Balancing (CBB)
- Emergency Assistance (EA)
- Emergency Instruction (EI)
- Frequency Deviation Cross-Zonal Flow

EirGrid and SONI may need to alter the Interconnector Reference Program (ICRP) calculated based on Day-Ahead Market (DAM) and Intra-Day Market (IDA) auction results to maintain system security. Similarly National Grid Electricity Transmission plc (NGET) may also request a change to the ICRP. Section 3.4.6 of

the Balancing Market Principles Statement summarises the key cross-zonal actions available on both Moyle and EWIC interconnectors.

Scope

This process covers two of the Cross-Zonal Actions available to EirGrid/SONI and NGET; Emergency Assistance (EA) and Emergency Instruction (EI).

Emergency Assistance

Emergency Assistance (EA) is seen as an effective increase or decrease in active energy into the requesting TSO transmission system. It is required in extreme cases when one of the parties foresees a difficulty in meeting the expected demand on its system, or foresees a difficulty in maintaining security of its transmission system. EA will be assumed available for each TSO to instruct unless specifically withdrawn or a system warning has been issued. Any available EA volume is capped by the NTC.

Such a request should be accepted once the provision of this service does not result in a difficulty in meeting the expected demand on its own system or a difficulty in maintaining security on its own transmission system. The EA service will only be withdrawn for reasons of safety (people or plant) or system security (except for reducing our replacement reserves if reasonable). When entering an EA in the Interconnector Management Platform (ICMP) the 'emergency action' reason code should be used, and the only appropriate rejection code that can be used is 'system security'.

A minimum of two minutes' notice to the start of EA delivery should be given and any trade will use the normal operating ramp rate. All EA trades should be entered in ICMP within 30 minutes of the start of trade delivery, where possible, to ensure emergency actions are appropriately included in the imbalance pricing in the Market Management System (MMS).

Emergency Instruction

In the event that EirGrid / SONI or NGET experience a problem on their system that may have a safety or system security implication it may be necessary to reduce the transfer on the interconnector. The transfer change will at most be to 0 MW (no change in transfer direction permitted) and this is referred to as an Emergency Instruction (EI). If EirGrid / SONI initiate an EI they will endeavour to contact NGET prior to the reduction in the interconnector flow or as soon as practical after the event. If instructed by NGET it must be carried out without delay by EirGrid / SONI. A Significant Incident Report should be issued by the initiating TSO in accordance with the Interconnector Operating Protocol. A reduction in the Net Transfer Capacity (NTC) should be entered in to ICMP by the initiating TSO in accordance with that business process.

4   PROCESS OBJECTIVE

The objective of this Business Process is to meet the following obligations under the Interconnector Operating Protocols, namely:

1) EWIC Interconnector Operating Protocol, Chapter 8 EWIC Instructions
2) Moyle Interconnector Operating Protocol, Chapter 8 MI Instructions

5 ROLES AND RESPONSIBILITIES

5.1.1 REAL TIME

The following table provides a summary of the obligations of Real Time relating to Interconnector Emergency Actions:

Team Name	Responsibility in relation to process	Timeline Associated
Real Time (Process Owner)	Identifying any need for emergency assistance or emergency instruction on Moyle or EWIC interconnector, reviewing and accepting / rejecting any requests from NGET for these services and implementing them in accordance with the Interconnector Operating Protocols. Real Time also has a responsibility to capture these actions in the relevant systems within 30 minutes, where possible, to ensure they feed in to imbalance pricing.	As required. All information should be captured within 30 minutes, where possible, of delivery start for the purpose of the imbalance price calculation.

5.1.2 NATIONAL GRID ELECTRICITY TRANSMISSION PLC

The following table provides a summary of the obligations of National Grid Electricity Transmission plc (NGET) relating to Interconnector Emergency Actions:

Team Name	Responsibility in relation to process	Timeline Associated
NGET	Identify any need for emergency assistance or emergency instruction on Moyle or EWIC interconnector, reviewing and accepting / rejecting any requests from EirGrid or SONI for emergency assistance or emergency instruction in accordance with the Interconnector Operating Protocols.	As required

6 PROCESS DESCRIPTION

6.1 LEVEL 3 PROCESS

6.1.1 PROCESS MAP – EIRGRID/SONI REQUEST EMERGENCY ASSISTANCE

EirGrid or SONI Request Emergency Assistance

Process Ref No: BP_SO_11.3a
Process Owner: Real Time
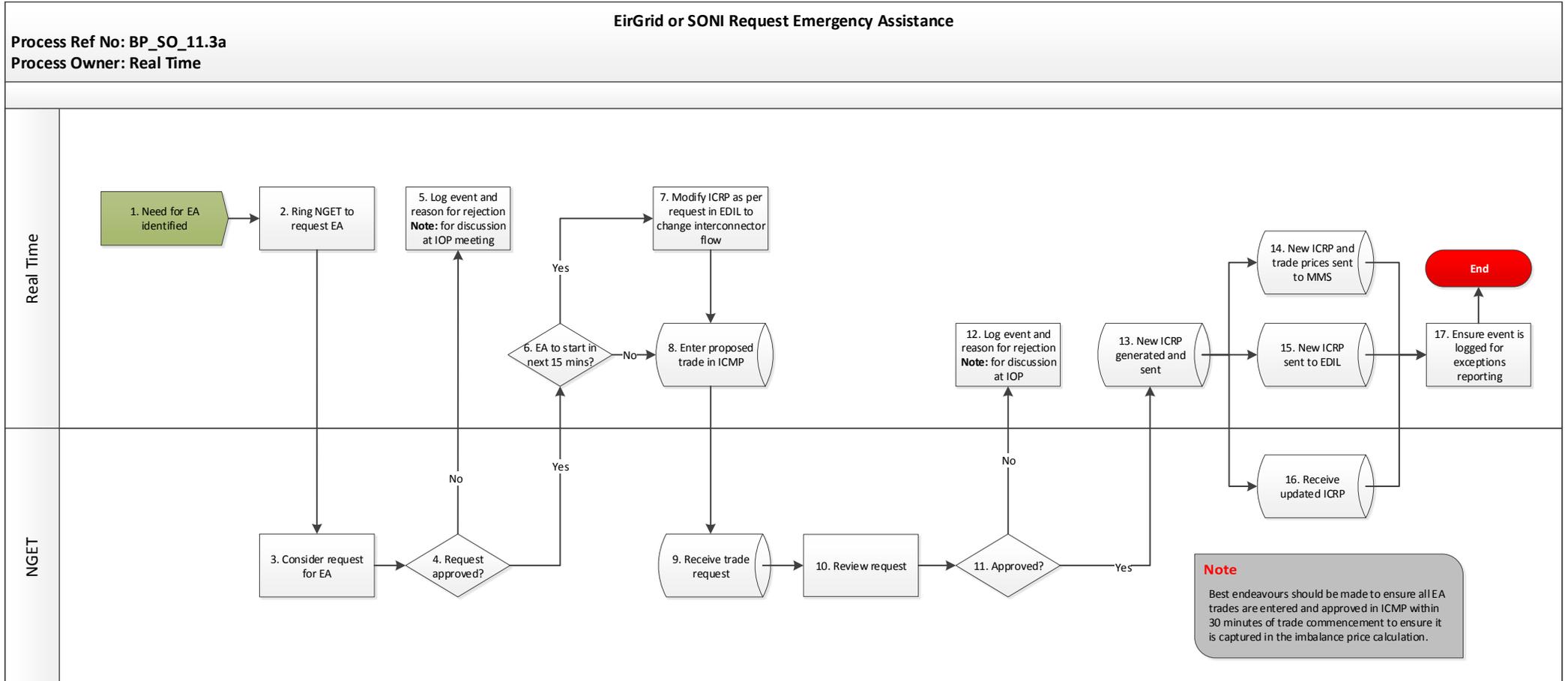
6.1.2 PROCESS STEPS – EIRGRID/SONI REQUEST EMERGENCY ASSISTANCE

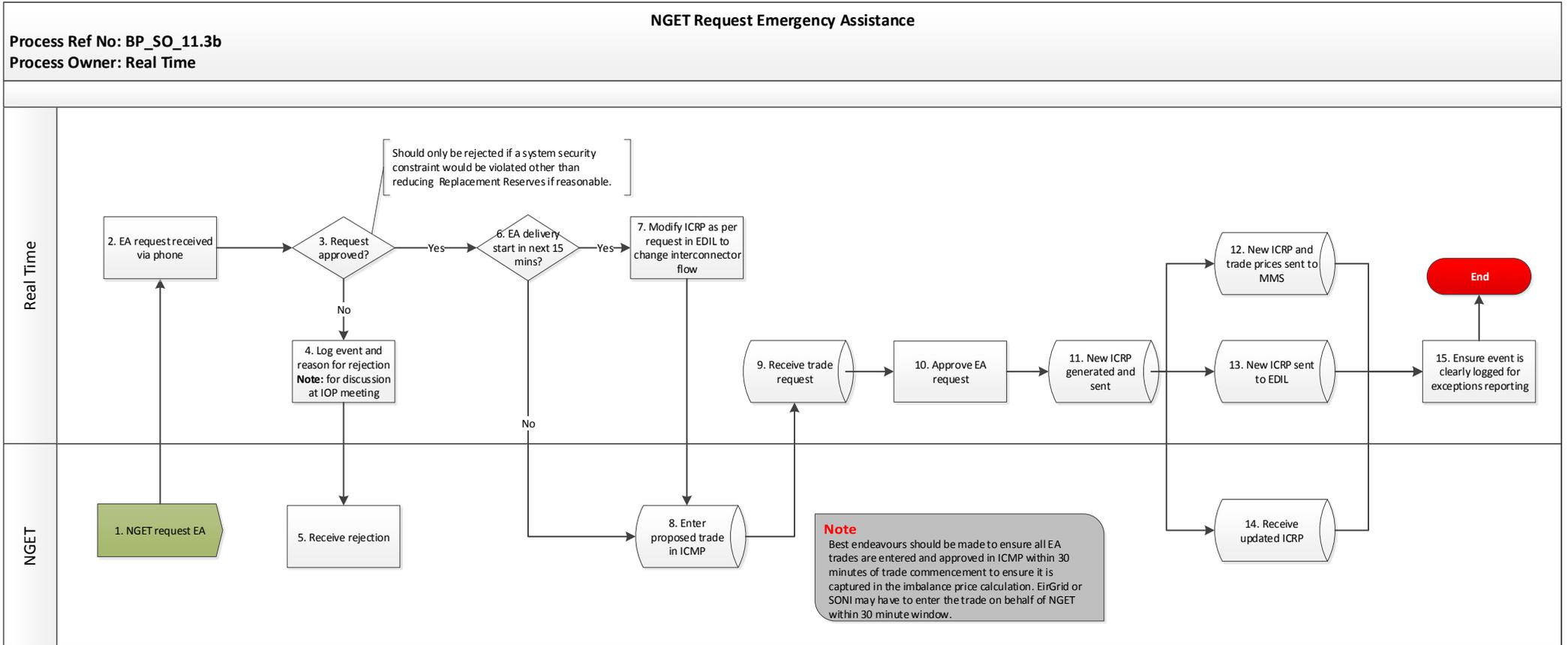| #	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	Need for EA identified	This is the trigger to this process.	Real Time	Decision	As required	N/A
2	Ring NGET to request EA	Request for EA should be made via phone to NGET.	Real Time	Phone Call	As required	N/A
3	Consider request for EA	Consider if EA can be provided.	NGET	N/A	As required	N/A
4	Request approved?	If the request for emergency assistance approved? If no, go to Step 5. If yes, go to Step 6.	NGET	Decision	As required	N/A
5	Log event and reason for rejection	Following rejection of EA request the event should be logged including reason for rejection. Note: for discussion at next Interconnector Operating Protocol meeting. No further steps are required.	Real Time	Log entry	As required	All-Island Control Centre Log
6	EA to start in next 15 minutes?	Is the delivery of the EA required to start within 15 minutes? If yes, go to step 7. If no, go to step 8. Note: even if 15 minutes notice has been provided until start of delivery it may not be possible to complete step 8 in advance. In this instance proceed directly to Step 7.	Real Time	Decision	As required	N/A

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
7	Modify ICRP as per request in EDIL to change interconnector flow	Modify the ICRP as per request to NGET to change interconnector flow to required output for the agreed start time.	Real Time	Updated ICRP	As required	EDIL
8	Enter proposed trade in ICMP	Enter the proposed trade in ICMP using the reason code 'Emergency Action' and send to NGET. Note: If the trade is entered ex-post best endeavours should be made to ensure all EA trades are entered and approved in ICMP within 30 minutes of trade commencement to ensure it is captured in the imbalance price calculation.	System step	Proposed trade	As required	ICMP
9	Receive trade request	Receive trade request.	NGET	Trade request	As required	ICMP (or NGET's equivalent system)
10	Review request	Consider proposed trade request for EA.	NGET	N/A	As required	ICMP (or NGET's equivalent system)
11	Approved?	Is the proposed trade request approved? If no, proceed to Step 12. If yes, proceed to Step 13.	NGET	Decision	As required	ICMP (or NGET's equivalent system)
12	Log event and reason for rejection	Following rejection of EA request the event should be logged including reason for rejection. Note: for discussion at next Interconnector Operating Protocol meeting. No further steps are required.	Real Time	Log entry	As required	All-Island Control Centre Log
13	New ICRP generated and sent	Following approval of trade by NGET, a new ICRP is automatically generated and sent.	System step	New ICRP	AS required	ICMP

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
14	New ICRP and trade prices sent to MMS	New ICRP and trade prices sent to MMS for inclusion in scheduling, imbalance pricing & reporting.	System step	New ICRP	As required.	MMS
15	New ICRP sent to EDIL	New ICRP sent to EDIL for control of the interconnector.	System step	New ICRP	As required.	EDIL
16	Receive updated ICRP	New ICRP sent to NGET for information.	System step	New ICRP	As required.	ICMP (or NGET's equivalent system)
17	Ensure event is logged for exceptions reporting	Ensure the event is logged for exceptions reporting.	Real Time	Log entry	As required	All-island Control Centre Log

NGET Request Emergency Assistance

Process Ref No: BP_SO_11.3b
Process Owner: Real Time

Real Time

Should only be rejected if a system security constraint would be violated other than reducing Replacement Reserves if reasonable.

2. EA request received via phone

3. Request approved?

Yes

6. EA delivery start in next 15 mins?

Yes

7. Modify ICRP as per request in EDIL to change interconnector flow

12. New ICRP and trade prices sent to MMS

End

No

4. Log event and reason for rejection
Note: for discussion at IOP meeting

No

9. Receive trade request

10. Approve EA request

11. New ICRP generated and sent

13. New ICRP sent to EDIL

15. Ensure event is clearly logged for exceptions reporting

NGET

1. NGET request EA

5. Receive rejection

8. Enter proposed trade in ICMP

Note
Best endeavours should be made to ensure all EA trades are entered and approved in ICMP within 30 minutes of trade commencement to ensure it is captured in the imbalance price calculation. EirGrid or SONI may have to enter the trade on behalf of NGET within 30 minute window.
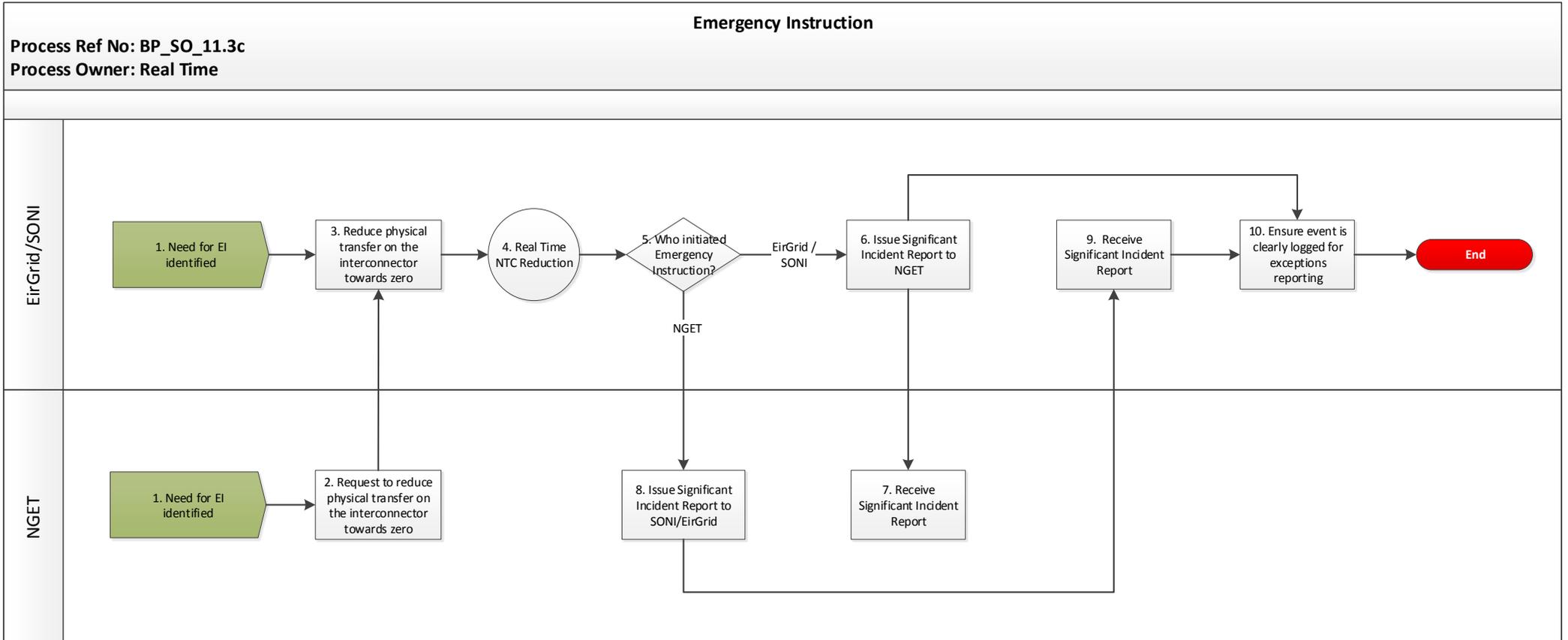
14. Receive updated ICRP

6.1.4 PROCESS STEPS – NGET REQUEST EMERGENCY ASSISTANCE

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	NGET request EA	This is the trigger to this process.	NGET	Decision	As required	N/A
2	EA request received via phone	Request for EA should be received via phone to EirGrid or SONI.	NGET	Phone Call	As required	Phone
3	Request approved?	Is the request for emergency assistance approved? If no, go to Step 4. If yes, go to Step 6.	NGET	Decision	As required	N/A
4	Log event and reason for rejection	Following rejection of EA request the event should be logged including reason for rejection. Note: for discussion at next Interconnector Operating Protocol meeting. **Should only be rejected if a system security constraint would be violated other than reducing Replacement Reserves if reasonable.**	Real Time	Log entry	As required	All-Island Control Centre Log
5	Receive rejection	EA request has been rejected.	NGET	EA rejection	As required	N/A
6	EA to start in next 15 minutes?	Is the delivery of the EA required to start within 15 minutes? If yes, go to step 7. If no, go to step 8. Note: even if 15 minutes notice has been provided until start of delivery it may not be possible to complete step 8 in advance. In this instance proceed	Real Time	Decision	As required	N/A

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
		directly to Step 7.				
7	Modify ICRP as per request in EDIL to change interconnector flow	Modify the ICRP as per NGET's to change interconnector flow to required output for the agreed start time.	Real Time	Updated ICRP	As required	EDIL
8	Enter proposed trade in ICMP	Enter the proposed trade in ICMP using the reason code 'Emergency Action' and send to Real Time. Note: If the trade is entered ex-post best endeavours should be made to ensure all EA trades are entered and approved in ICMP within 30 minutes of trade commencement to ensure it is captured in the imbalance price calculation.	NGET	Proposed trade	As required	ICMP (or NGET's equivalent system)
9	Receive trade request	Receive trade request.	Real Time	Trade request	As required	ICMP
10	Approve EA request	Approve EA request.	Real Time	Approval	As required	ICMP
11	New ICRP generated and sent	Following approval by Real Time, a new ICRP is automatically generated and sent.	System step	New ICRP	AS required	ICMP
12	New ICRP and trade prices sent to MMS	New ICRP and trade prices sent to MMS for inclusion in scheduling, imbalance pricing & reporting.	System step	New ICRP	As required.	MMS
13	New ICRP sent to EDIL	New ICRP sent to EDIL for control of the interconnector.	System step	New ICRP	As required.	EDIL
14	Receive updated ICRP	New ICRP sent to NGET for information.	System step	New ICRP	As required.	ICMP (or NGET's equivalent system)

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
15	Ensure event is logged for exceptions reporting	Ensure the event is logged for exceptions reporting.	Real Time	Log entry	As required	All-island Control Centre Log

6.1.5 PROCESS MAP – EMERGENCY INSTRUCTION

Emergency Instruction

Process Ref No: BP_SO_11.3c
Process Owner: Real Time

EirGrid/SONI

1. Need for EI identified → 3. Reduce physical transfer on the interconnector towards zero → 4. Real Time NTC Reduction → 5. Who initiated Emergency Instruction? → (EirGrid / SONI) → 6. Issue Significant Incident Report to NGET → 9. Receive Significant Incident Report → 10. Ensure event is clearly logged for exceptions reporting → End

(NGET branch from decision 5)

NGET

1. Need for EI identified → 2. Request to reduce physical transfer on the interconnector towards zero

8. Issue Significant Incident Report to SONI/EirGrid
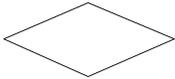
7. Receive Significant Incident Report

6.1.6 PROCESS STEPS – EMERGENCY INSTRUCTION

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	Need for EI identified	NGET or Real Time may request an Emergency Instruction which will trigger this process. If NGET triggers this process, go to Step 2. If Real Time triggers this process, go to Step 3.	NGET or Real Time	Decision	As required	N/A
2	Request to reduce physical transfer on the interconnector towards zero	Request to reduce physical transfer on the interconnector towards zero. As per Interconnector Operating Protocol, NGET will start the call with, "This is an Emergency Instruction…."	NGET	Phone Call	As required	Phone
3	Reduce physical transfer on the interconnector towards zero	Without delay, Real Time should reduce the physical transfer on the interconnector towards zero as per request.	Real Time	N/A	As soon as possible	EMS
4	Real Time NTC Reduction	This step triggers the Real Time NTC reduction business process.	Real Time	Business process trigger	As required	ICMP
5	Who initiated Emergency Instruction?	Who initiated Emergency Instruction? If Real time initiated the EI, go to Step 6. If NGET initiated the EI, go to Step 8.	Real Time	Decision	As required	N/A
6	Issue Significant Incident Report to NGET	Prepare and issue a SIR as soon as practical but within 2 hours (as in GB Grid Code OC10.4.1.4).	Real Time	SIR	Within 2 hours of process trigger	Fax / email
7	Receive Significant	Receive SIR sent by Real Time.	NGET	SIR	As required	N/A

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
	Incident Report	Go to step 10.				
8	Issue Significant Incident Report to Real Time	Prepare and issue a SIR as soon as practical but within 2 hours (as in GB Grid Code OC10.4.1.4)	NGET	SIR	Within 2 hours of process trigger	Fax / email
9	Receive Significant Incident Report	Receive SIR sent by NGET.	Real Time	SIR	As required.	N/A
10	Ensure event is logged for exceptions reporting	Ensure the event is logged for exceptions.	Real Time	Log entry	As required	All-island Control Centre Log

7 APPENDICES

7.1 PROCESS FLOWCHART KEY

FLOWCHART KEY	
Trigger	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)
End	Process end
	System (automatic step)