Business Process

BP_SO_11.1 Calculation of CBB Trade Price & Volumes

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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 border 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 K 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 EWIC Interconnector including cross border balancing including 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 including 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/SONI and NGET	Associated process	This process takes the prices and volumes calculated as part of this process as in input.
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.
Balancing Market Principles Statement	Information	Describes the scheduling and dispatch process including descriptions of the LTS, RTC and RTD tools.
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.

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 in accordance with the operating agreements between the TSOs, and any differences are captured in the relevant steps. This process determines the prices and volumes for these exchanges with NGET. 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 the daily calculation and subsequent updates of prices and volumes for both Moyle and EWIC interconnectors that are submitted to NGET. For Cross Border Balancing trades indicative volumes and prices are exchanged for every hour of the Operational Day by 17:00 D-1. These prices are submitted in 25 MW blocks and can be positive, negative, zero or null. NGET and EirGrid/SONI prices will be submitted electronically via Interconnector Management Platform (ICMP).

When submitting Bid and Offer prices for each hour, the TSO will submit a full set of prices for that hour. These submissions will overwrite any already submitted prices. Either TSO can re-declare Bid/Offer prices up until 2 hours before the start of the delivery hour. After this the prices declared are fixed. The Available Quantity (Volume) can be re-declared at any time.

The energy that is delivered or taken on activation of the high or low frequency service (Frequency Response service) is priced based on the following rules:

- If there is no CBB price then the EA price is used

- If both CBB and EA prices are available, then the lower price is used MIN (CBB,EA)

So the price of the energy delivered on the Frequency Response service is effectively capped at the EA price.

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 the Real Time team relating to Calculation of CBB Trade Prices and Volumes:

Function	Responsibility in relation to process	Timeline Associated
Real Time	• Calculate prices and volumes (which will be as specified in the relevant Operating Protocol document unless otherwise specified) available for Cross Border Balancing trades to offer to National Grid on a daily basis, including updates to these prices and volumes. • Receive electronically prices and volumes calculated by National Grid for Cross Border Balancing trades.	Daily. No later than 17:00 D-1. May be updated as required.

5.1.2 NATIONAL GRID ELECTRICITY TRANSMISSION PLC (NGET)
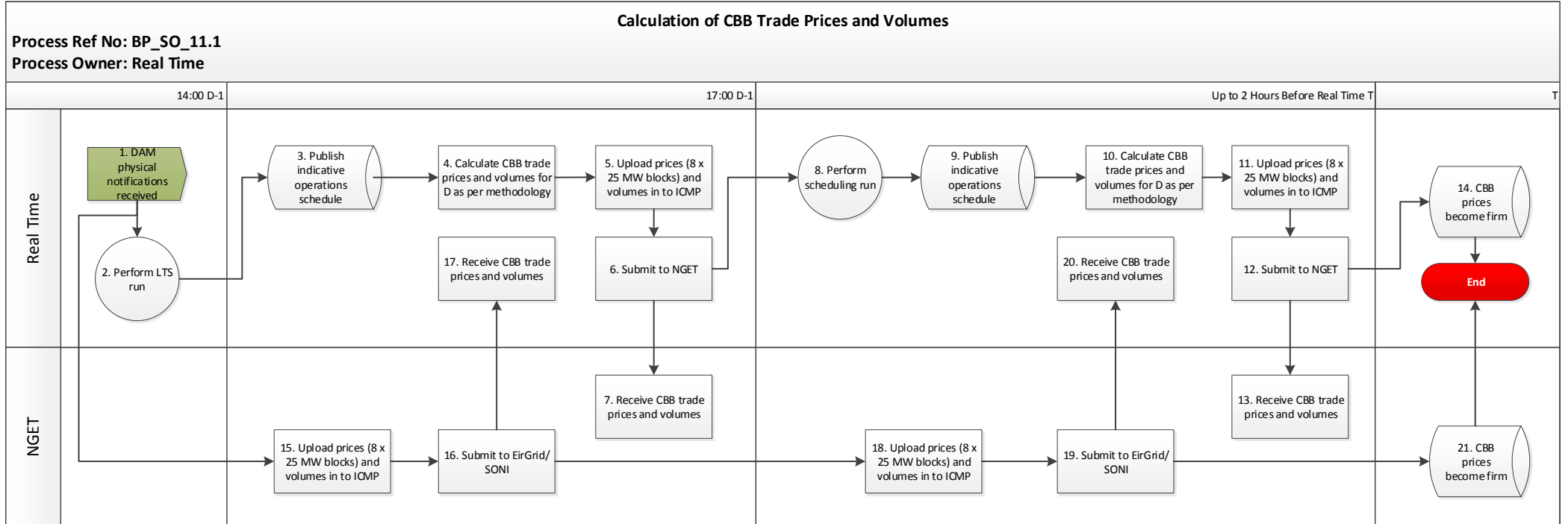
The following table provides a summary of the obligations of NGET relating to Calculation of CBB Trade Prices and Volumes:

Function	Responsibility in relation to process	Timeline Associated
NGET	• Calculate prices and volumes (which will be as specified in the relevant Operating Protocol document unless otherwise specified) available for Cross Border Balancing trades to offer to SONI and Eirgrid on a daily basis, including updates to these prices and volumes. • Receive electronically prices and volumes calculated by Real Time for Cross Border Balancing trades.	Daily. No later than 17:00 D-1. May be updated as required.

6 PROCESS DESCRIPTION
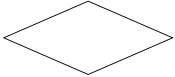
6.1 LEVEL 3 PROCESS

6.1.1 PROCESS MAP

Calculation of CBB Trade Prices and Volumes

Process Ref No: BP_SO_11.1
Process Owner: Real Time

| | 14:00 D-1 | 17:00 D-1 | Up to 2 Hours Before Real Time T | T |

Real Time

1. DAM physical notifications received
2. Perform LTS run
3. Publish indicative operations schedule
4. Calculate CBB trade prices and volumes for D as per methodology
5. Upload prices (8 x 25 MW blocks) and volumes in to ICMP
6. Submit to NGET
17. Receive CBB trade prices and volumes
8. Perform scheduling run
9. Publish indicative operations schedule
10. Calculate CBB trade prices and volumes for D as per methodology
11. Upload prices (8 x 25 MW blocks) and volumes in to ICMP
12. Submit to NGET
20. Receive CBB trade prices and volumes
14. CBB prices become firm
End

NGET

7. Receive CBB trade prices and volumes
15. Upload prices (8 x 25 MW blocks) and volumes in to ICMP
16. Submit to EirGrid/ SONI
18. Upload prices (8 x 25 MW blocks) and volumes in to ICMP
19. Submit to EirGrid/ SONI
13. Receive CBB trade prices and volumes
21. CBB prices become firm

6.1.2 PROCESS STEPS

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	DAM physical notifications received	This is the trigger for this business process.	N/A	Market participant physical notifications	Daily 13:30	SCUC
2	Perform LTS Run	Following receipt of DAM physical notifications a Long Term Scheduling run is performed.	Real Time	Indicative operations schedule	Following receipt of DAM scheduling runs, run initiated at 14:00	SCUC
3	Publish indicative operations schedule	Following completion of LTS run an indicative operations schedule is published covering remainder of trading day D and D+1.	System step	Indicative operations schedule	Immediately following completion of Step 2	SCUC
4	Calculate CBB trade prices and volumes for D as per methodology	The prices and volumes for CBB trading are determined as per the methodology. The default volume is that detailed in the relevant Interconnector Operating Protocol unless otherwise specified.	Real Time	Prices and volumes	As required	
5	Upload prices (8 x 25 MW blocks) and volumes in to ICMP	The calculated prices (8 x 25 MW blocks) and volumes (between 0 MW and 200 MW) for every 30 minutes are manually uploaded to ICMP.	Real Time	Successful upload	As required	ICMP
6	Submit to NGET	Once uploaded the Operator submits the prices and volumes to NGET.	Real Time	Send receipt	As required	ICMP
7	Receive CBB trade prices and volumes	Receive CBB trade prices and volumes for the next trading day.	NGET	Trade prices and volumes	No later than 17:00 D-1	ICMP

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
8	Perform scheduling run	Long Term Scheduling and Real Time Commitment runs are performed with the latest Physical Notifications and system conditions.	Real Time	Indicative operations schedule	As required	SCUC
9	Publish indicative operations schedule	Following completion of LTS run an indicative operations schedule is published covering remainder of trading day D and D+1.	System step	Indicative operations schedule	Immediately following completion of Step 8	SCUC
10	Calculate CBB trade prices and volumes for D as per methodology	The prices and volumes for CBB trading are determined as per the methodology. The default volume is that detailed in the relevant Interconnector Operating Protocol unless otherwise specified.	Real Time	Prices and volumes	As required	
11	Upload prices (8 x 25 MW blocks) and volumes in to ICMP	The calculated prices (8 x 25 MW blocks) and volumes (between 0 MW and 200 MW) for every 30 minutes are manually uploaded to ICMP.	Real Time	Successful upload	As required	ICMP
12	Submit to NGET	Once uploaded the Operator submits the prices and volumes to National Grid.	Real Time	Send receipt	As required	ICMP
13	Receive CBB trade prices and volumes	Receive CBB trade prices and volumes for the next trading day.	NGET	Trade prices and volumes	As required	ICMP
14	CBB prices become firm	CBB prices become fixed for all trades.	Real Time	Fixed prices	Rolling two hour period ahead of real time	ICMP
15	Upload prices (8 x 25 MW blocks) and volumes in to ICMP	The calculated prices (8 x 25 MW blocks) and volumes (between 0 MW and 200 MW) for every 30 minutes are	NGET	Successful upload	As required	ICMP

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
		manually uploaded to ICMP.				
16	Submit to NGET	Once uploaded the Operator submits the prices and volumes to EirGrid/SONI.	NGET	Send receipt	As required	ICMP
17	Receive CBB trade prices and volumes	Receive CBB trade prices and volumes for the next trading day.	Real Time	Trade prices and volumes	No later than 17:00 D-1	ICMP
18	Upload prices (8 x 25 MW blocks) and volumes in to ICMP	The calculated prices (8 x 25 MW blocks) and volumes (between 0 MW and 200 MW) for every 30 minutes are manually uploaded to ICMP.	NGET	Successful upload	As required	ICMP
19	Submit to NGET	Once uploaded the Operator submits the prices and volumes to EirGrid/SONI.	NGET	Send receipt	As required	ICMP
20	Receive CBB trade prices and volumes	Receive CBB trade prices and volumes for the next trading day.	Real Time	Trade prices and volumes	As required	ICMP
21	CBB prices become firm	CBB prices become fixed for all trades.	NGET	Fixed prices	Rolling two hour period ahead of real time	ICMP

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)