Outline of Interconnector Business Rules

1. Introduction

The **Interconnector** is a gas pipeline that connects two **Locations**, Bacton in the UK with Zeebrugge in Belgium. The pipeline is bi-directional, customers can nominate in either direction at each end of the pipe, such that the physical **Flow Direction** may be either from Bacton to Zeebrugge, termed **Forward Flow**, or from Zeebrugge to Bacton, termed **Reverse Flow**.

At each Location the Interconnector is connected to one or more **Approved Transmission Systems (ATS)**. There are two **Connection Points** at the Bacton Location and a single Connection Point at the Zeebrugge Location. The connections are to National Grid's National Transmission System (NTS) and the SILK Pipeline at Bacton, and to Fluxys' Transmission System at Zeebrugge.

IUK provides services to its customers, the **Shippers**[1], such that they can transport gas between the Connection Points or store gas within (or remove gas from) the Interconnector.

2. Capacity Rights

The **Standard Capacity** of the existing infrastructure is 20 billion cubic metres[2] (bcm) per year in physical Forward Flow (using the compression facilities[3] at the Bacton Location) and 25.5 bcm per year in physical Reverse Flow (using the compression facilities at the Zeebrugge Location).

Shippers have a share of the Forward Flow and/or Reverse Flow Standard Capacity. Although, on aggregate, the Interconnector is either in Forward Flow or Reverse Flow, an individual Shipper can utilise their Capacity Rights in the opposite direction such that they are "flowing" in the **Contra-Flow** direction.

Subject to the physical Flow Direction of the Interconnector and operational conditions, IUK may make additional **Interruptible Capacity** available to Shippers. Interruptible Capacity is shared between Shippers in proportion to their Standard Capacity.

Originally, 9 Shippers acquired Capacity Rights in the Interconnector for a period of 20 years from 1 October 1998 through to 30 September 2018. These Capacity Rights can be permanently transferred (in whole or in part) to another party through an **Assignment**, or temporarily transferred to another party for a specified period of time via either a **Sub-Let** or a **Capacity Transfer**. The business rules that apply to such temporary transfers are further described in the following table:

Transaction Type	Notice Required	Minimum Duration	Notes
Initial Sub-Let	1 Month*	1 day	Quantity must be at least 11,000 Nm^3/hr in at least one Flow Direction. (* Shorter notice will be accepted if reasonable to do so)
Subsequent Sub-Let	2 hours	1 hour	Enables existing Sub-Let Shippers to receive additional Sub-Let capacity.
Capacity Transfer	2 hours	1 hour	Between IUK Shippers[4] only.
Capacity received through a Sub-Let or Capacity Transfer cannot be further transferred via an Assignment, Sub-Let or Capacity Transfer			

Since 1 October 1998 the number of Interconnector capacity holders has increased as Capacity Rights have either been assigned to new IUK Shippers or Sub-Let to other parties.

[1] Within this document, Shipper refers to both IUK Shippers and Sub-Let Shippers.
[2] 1 bcm per year is approximately equivalent to: 110 TJ per day; 1 million therms per day; 30,000 MWh/day.
[3] Plant and equipment that increase the gas pressure to enable flow through the Interconnector.
[4] IUK Shippers are the 9 Shippers that acquired Capacity Rights in the Interconnector from 1 October 1998 and/or Shippers that have subsequently acquired Capacity via an Assignment.

3. Matching

The Interconnector receives, transports and distributes gas from and to Approved Transmission Systems that adjoin the Interconnector. As the gas transfers between the Interconnector and an Approved Transmission System (ATS), the ownership of that gas will transfer between a Shipper and an **ATS Shipper**[5]. The **Matching Process** ensures that the gas transportation requirements of the Shipper and ATS Shipper[6] are agreed prior to the generation of a Nomination.

ATS Shippers provide their gas flow requirements either directly or via a **Matching Agent**, whereas Shippers provide their gas flow requirements directly to IUK. These gas flow requirements are referred to as **Matching Data** and are commercially sensitive. To maintain confidentiality all Shippers referred to in Matching Data are coded such that a Matching Agent is not able to identify the Shippers involved in the Matching Information that they are processing.

The Matching Process compares Matching Data provided by the Shipper with that provided by the ATS Shipper. This Matching Process is performed "on demand", upon submission of new or revised Matching Information by a Shipper, ATS Shipper or Matching Agent. The Matching Process results in:

- Matching Data received but awaiting corresponding data from the appropriate Shipper, ATS Shipper or Matching Agent (**Unmatched**)
- Matching Data with corresponding data but with differing Matching Quantities (**Counterparty Matched**)
- Matching Data with corresponding data and equivalent Matching Quantities (**Fully Matched**)

Matching Data that is Fully Matched or Counterparty Matched is passed onto the Nomination Process and is used as the basis for creating the Shipper's Nomination.

4. Nominations

A **Nomination** is created from hourly Matching Data supplied by a Shipper and an ATS Shipper or Matching Agent. A **Delivery Nomination** is a quantity of natural gas to be delivered in to the Interconnector at a Connection Point, with the ownership of the gas transferring from the ATS Shipper to the Shipper. A **Redelivery Nomination** is a quantity of natural gas to be redelivered out of the Interconnector at a Connection Point, with the ownership of the gas transferring from the Shipper to the ATS Shipper.

A Shipper may have a Delivery Nomination and a Redelivery Nomination at a Connection Point at the same time. A Shipper's **Net Nomination** is the difference between their Delivery and Redelivery Nominations.

A Nomination comprises of up to 3 components (or **Tranches**) as shown in the following table:

Nomination Component	**Description**
Firm	IUK are contractually obliged to transport the quantity of gas.
Reasonable Endeavours (RE)	IUK will make reasonable endeavours to transport the quantity of gas. IUK is not obliged to accept an RE Nomination if IUK considers that it would prejudice the transportation of gas with a Firm Nomination.
Interruptible (IC)	The Shipper is making use of Interruptible Capacity that has been made available by IUK. IC can be removed at short notice by IUK.

The Nomination is sub-divided into Firm, RE and IC Tranches, depending on:

- The time that the Nomination is created - Increases in a Nomination after the **Nominations Deadline**[7] for a **Gas Day**[8] will not be Firm;

[5] An ATS Shipper is a Shipper in an Approved Transmission System.
[6] The IUK and ATS Shipper may, but need not be, the same company.
[7] The Nominations Deadline is 14:00 UKT on the previous Gas Day.
[8] A Gas Day runs from 06:00 UKT to 06:00 UKT in the UK and from 06:00 CET to 06:00 CET in Belgium.

- Whether the Shipper's Nominations are balanced through the Interconnector - only Nominations for gas flow through the Interconnector (i.e. Nominations for transportation as opposed to Nominations for storage) can be Firm; and
- Whether the Net Nomination is in excess of the Shipper's Standard Capacity - any such Nomination will be Interruptible (assuming that Interruptible Capacity has been made available by IUK).

In addition, the Net Nomination at each Location and Connection Point cannot exceed the Shipper's Capacity Rights. If a Net Nomination exceeds their Capacity Rights then the Shipper's Nominations will be Invalid and IUK will calculate a set of **Restricted Nominations** that do not breach the Shipper's Capacity Rights.

5. Scheduled Quantities

Shippers' gas flow requirements are specified through the Matching and Nominations processes. A **Scheduled Quantity** is the quantity of gas that IUK actually intends to flow on behalf of the Shipper, and like a Nomination consists of Firm, RE and IC components. A Scheduled Quantity is normally equal to the Nomination on which it is based, but in some scenarios the Scheduled Quantity can be less than the Nomination, namely:

- If a **Constraint** is declared by either IUK or one of the ATS operators when only a limited flow rate can be achieved;
- If a Shipper's Inventory account exceeds limits, resulting in an **Inventory Constraint** for that Shipper.

6. Allocation

The Allocation processes ensure that an individual Shipper's gas is identified as it is delivered in to and redelivered out of the Interconnector.

The flow of gas is metered at each Connection Point and **Allocation** is the process of apportioning the gas delivered and redelivered at each Connection Point to Shippers on the basis of their Scheduled Quantities.

At both the Bacton and Zeebrugge Connection Points, Allocation is performed on the basis of Total Scheduled Quantities (Firm + RE +IC) and does not prioritise Firm, RE and IC Scheduled Quantities individually.

Shippers are required to supply their share of the **Fuel Gas**[9] that is used both to transport and store gas in the Interconnector. Shippers' Inventory accounts are debited with the amount of fuel gas they are allocated.

In Reverse Flow, Shippers are required to pay for their share of the **Compressor Electricity**[10] that is used to transport and store gas in the Interconnector.

7. Inventory

The gas physically held within the Interconnector is known as **Inventory**. Some Inventory is required for gas to flow, and Shippers[11] provide and maintain this quantity of gas in proportion to their Capacity Rights and their Nominations. Subject to this requirement, Shippers can store additional Inventory in the Interconnector.

Shippers are required to maintain their Inventory within specified **Inventory Limits**, and IUK has the right to curtail a Shipper's Scheduled Quantities if they would cause the Shipper's Inventory to move outside their Inventory Limits.

A Shipper's Inventory level will vary over time according to their Delivery and Redelivery Allocation at each Connection Point, as well as the amount of Fuel Gas, which has been allocated.

It is possible for Shippers to transfer quantities of inventory to/from other Shippers. Such **Inventory Transfers** require two hours notice.

[9] The Fuel Gas is mainly used to power the gas turbine driven compressors at Bacton.
[10] The Compressor Electricity is used to power the electric motor driven compressors at Zeebrugge.
[11] IUK does not own any gas within the Interconnector.

8. Flow Transitions

The Interconnector can operate in either physical Forward Flow or Reverse Flow. Under most conditions, there is a clear requirement for either Forward Flow or Reverse Flow and all plant and equipment at both terminals, in particular the metering systems and the compression equipment, is aligned for the required flow direction.

At times of low demand for transportation services, physical flow rates are relatively low and it is possible for the net requirement at each end of the pipe to be in opposite directions i.e. either putting gas into storage or removing from storage.

When there is a material change in the direction of the overall transportation requirement it is necessary to implement a **Flow Transition** - this is the process of changing both the physical alignment of the plant and the inventory model that is in effect - from either Forward Flow to Reverse Flow settings, or from Reverse Flow to Forward Flow settings.

On an ongoing basis, dependent on Nominations received from Shippers and taking account of operating arrangements with connected transporters and other operational factors, decisions are taken about the direction of physical flow at each end of the pipe and whether or not it is appropriate to initiate a Flow Transition.

Whilst the physical process (moving valves and realigning plant and equipment) to change flow direction normally takes around 4 hours to complete, this can be achieved without disruption to the commercial service provision.