

**PREMIER TRANSMISSION LTD**

**BELFAST GAS TRANSMISSION LIMITED**

**WEST TRANSMISSION LIMITED**

**CONNECTION POLICY**

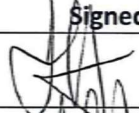
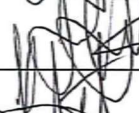
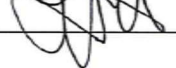
## A. Document Review and Approval

### A.1 Review

Premier Transmission Ltd, Belfast Gas Transmission Limited and West Transmission Limited (collectively or individually as the circumstances require, the "Transporters") reserve the right at any time to amend, alter or revise this statement of policy in accordance with their Conveyance Licences subject to the approval by the Northern Ireland Authority for Energy Regulation (the "Authority").

Premier Transmission Ltd, Belfast Gas Transmission Limited and West Transmission Limited will review this document periodically to ensure that it remains current and up to date.

### A.2 Approval

Document Title	Premier Transmission Limited/Belfast Gas Transmission Limited / West Transmission Limited Connection Policy		
	Name	Signed	Date
Approved by PTL:	S. HEMPHILL		27/10/20
Approved by BGTL:	S. HEMPHILL		27/10/20
Approved by WTL:	S. HEMPHILL		27/10/20

## STATEMENT OF CONNECTION POLICY

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## 1.0 INTRODUCTION

The Licences granted by the Northern Ireland Authority for Energy Regulation (“the Authority”) to Premier Transmission Limited (“PTL”), Belfast Gas Transmission Limited (“BGTL”) and West Transmission Limited (“WTL”) for the conveyance and supply of gas include a condition (2.3) that requires PTL, BGTL and WTL (together the “Transporters”) to issue a statement of policy regarding connection charges, terms for connection and meter connections and disconnections. This statement of policy is prepared and issued in accordance with this Licence requirement.

Under this Licence condition, the Transporters are also required to publish this statement of policy and forward a copy to anyone who asks for it.

A copy of this statement of policy is posted on the Mutual Energy website ([www.mutual-energy.com](http://www.mutual-energy.com)) or can be obtained from PTL, BGTL or WTL on request at 1<sup>st</sup> Floor, The Arena Building, 85 Ormeau Road, Belfast BT7 1SH.

A copy of the relevant Transporter Licence can be obtained from the Authority at Queens House, 14 Queens Street, Belfast BT1 6ED or viewed on the Authority’s website ([www.uregni.gov.uk/gas/licences](http://www.uregni.gov.uk/gas/licences)).

This statement of policy sets out the charging and policy requirements for future connections to introduce gas to (entry) and take gas from (exit) the gas transmission pipeline and associated infrastructure owned and operated by PTL, which is more particularly described in Part 1 of Appendix 4, to the extent located in Northern Ireland (the “PTL Network”) and the gas transmission pipeline and associated infrastructure owned and operated by BGTL, which is more particularly described in Part 2 of Appendix 4 (the “BGTL Network”) and the gas transmission pipeline and associated infrastructure owned and operated by WTL, which is more particularly described Part 3 of Appendix 4 (the “WTL Network”). The PTL Network, BGTL Network and WTL Network are collectively referred to as the Networks.

As Network Operators, PTL, BGTL and WTL have a Transportation Code, the NI Network Gas Transmission Code which contains the terms for the conveyance of gas through the PTL, BGTL and WTL Network.

This document sets out the requirements for all connections on the Networks:

- i. to individual premises;
- ii. to connected pipeline systems; and
- iii. to meters within individual premises not owned by the Transporters.

The Transporters are committed to working with the Authority and other interested parties to develop the regime for connections to the Networks.

The Transporters’ shall not make or agree to make a connection between any premises (other than any premises which may constitute a Storage Facility or LNG Facility) and the network without the prior written approval of the Utility Regulator to the making of that connection.

The Transporters' policy is that the full costs of making any connection, including project management costs, would be borne by the party wishing to connect to the Networks and no element of such connection capital costs will be passed on to other users of the Networks.

Given the individual nature and complexity of such connections, the Transporters will consider each application for a connection on a case by case basis. All connections will need to meet the minimum technical requirements detailed within this document.

## **2.0 REQUESTING A CONNECTION**

The Transporters will enter into discussions with any bona-fide interested party (an “Applicant”) for the provision of a connection to the Networks. No differentiation will be made between classes of Applicant.

There are a number of different classes of Applicant who may request a connection from the Transporters. These include:

- a. Any owner or occupier of premises to be connected;
- b. Any developer that is planning to construct a new premise and wishes to have a gas supply;
- c. Any developer that is planning to construct a new gas pipeline network; and
- d. Any other party with a reasonable interest in making a connection request.

For the purposes of this statement of policy a shipper shall include:

- a. any person other than the Transporters who, for the time being, has acceded to and is bound by the Code by an Accession Agreement; (a “Shipper” as defined by the Codes); or
- b. any person wishing to become a Shipper (a “Prospective Shipper” as defined by the Codes).

The transporters have no obligation to make or maintain a connection if:

- a. if the making or maintaining of the connection involves danger to the public and / or a risk to the safety of the Network, provided that the Licensee has taken all such reasonable steps to prevent such danger from occurring;
- b. if there is insufficient capacity in the Network;
- c. if the Licensee has reasonable grounds to believe the making of the connection would be in conflict with:
  - i. the relevant objectives set out in Condition 2.4.1 of the Licence;
  - ii. any public service obligation (where applicable); or
- d. if there are any serious economic difficulties with take or pay contracts;

and in any such case the Licensee shall give duly substantiated reasons for believing such circumstances apply.

### **2.1 Connection Application Process**

The connection application process diagram is included in Appendix 1.

#### **2.1.1 Request for a Quotation of Connection Charges**

The connection charging methodology is outlined in high level terms in Section 8.0, below. Any

person or interested party may apply to receive a quotation of connection charges covered by this statement of policy, by submitting a request in writing to the relevant Transporter at the address specified in Appendix 2 of this document.

In the event that an interested party (hereafter referred to as “the Applicant”) wishes to proceed to seek a connection to the Networks, the Applicant should submit a letter (“the Initial Connection Application”) providing the following details:

- a. An introduction and details of the Applicant;
- b. Nominated person to receive / send information with contact details;
- c. Type of connection requested (Entry / Exit / Storage / Combined);
- d. Proposed location for the connection;
- e. Estimated “First Gas Date”;
- f. Status of the relevant project; (e.g. Planning Approval applied for / received)
- g. Anticipated gas flow and pressure parameters.

Following receipt of an “Initial Connection Application”, the relevant Transporter will set up a meeting with the Applicant to discuss the connection request and to clarify any details.

Within 10 days of receiving a request for a connection to the Network from any person requesting a connection in respect of any type of premises other than a Gas Storage Facility or LNG Facility the relevant Transporter shall;

- a) inform the person or interested party applying that the approval of the Authority is required to the making of the connection; and
- b) submit a copy of the connection request to the Authority requesting approval to proceed with the connection request.

Within 28 days of receiving approval from the Authority, the relevant Transporter will provide the person or interested party with a specific statement of the connection charges or further detail of the methodology for calculating such charges and other terms of connection applicable to the request for a quotation. The actual connection charges will depend on the size and complexity of the connection sought and it may not be possible to provide details of exact connection charges without completion of studies or other works.

After consideration of the Initial Connection Application and any additional information sought or obtained from the Applicant, the relevant Transporter will determine the requirements for feasibility studies and a conceptual design study and discuss these requirements with the Applicant, including an estimate of the costs of such studies.

A feasibility study (or studies) may be necessary to evaluate the full requirements of a connection, to determine the optimum location of a connection, to determine the capabilities of the Networks to deliver the Applicants requirements or to identify any Network reinforcement that may be necessary.



A Conceptual Design Study may be necessary to provide a preliminary design for a connection to the Network and an estimate of cost and time to construct the preliminary design. Unless otherwise agreed by the relevant Transporter, the conduct of any such Conceptual Design Study will be conditional upon receipt by the relevant Transporter of the applicable Connection Charges, including payment by the Applicant to the relevant Transporter of the cost of any such Conceptual Design Study in advance.

Depending on the nature of the Initial Connection Application, the relevant Transporter and the Applicant may agree to defer any feasibility studies until a later date and proceed initially with a conceptual design study.

Prior to commencing any study (feasibility or conceptual design study), the relevant Transporter will seek to agree the scope, cost and estimated delivery time with the Applicant for each study undertaken. The Applicant should note that depending on the nature of the connection sought, the Transporter may be subject to the formalities of public procurement in engaging consultants to undertake studies and the Applicant should factor this into their timeline. The study reports will be made available to the Applicant as soon as they have been finalized and received by the relevant Transporter.

Once the agreed studies have been completed, the relevant Transporter will respond to the Applicant as soon as reasonably practicable, to indicate whether a connection could be made as requested by the Applicant and stating the conditions on which a connection could be made. This notification does not constitute a connection offer and is not capable of acceptance. This notification is for the sole purpose of assisting the Applicant to complete its Final Connection Application.

### **2.1.2 Final Connection Application**

Following the receipt of notification from the relevant Transporter of the basis on which a connection offer could be made, the Applicant may submit a "Final Connection Application". Together with the details specified in Section 2.1.1 above, if these have not already been provided, the Applicant shall provide the relevant Transporter with the following confirmed details and information:

- a. Statement that it has decided to proceed to the detailed design and construction of a connection to the Network;
- b. Sufficient evidence that the Applicant has received Planning Approval and any enabling permits and consents required for its facilities and project;
- c. The final requested location of the connection to the Network;
- d. The "First Gas Date" taking into account reasonable time for it to receive Planning Approval for the connection and for the relevant Transporter to engineer, procure, construct and commission the connection facilities;
- e. The maximum hourly and instantaneous gas flows;

- f. The maximum and minimum gas pressures and temperatures on exit from and entry to the Applicants facilities relevant to the type of connection;
- g. State whether the Applicant wishes to engineer, procure, construct and commission the connection facilities.
- h. Request that the relevant Transporter proceeds to prepare a “Connection Offer”.

If the Applicant subsequently changes or modifies the details and information provided to the relevant Transporter in the Final Connection Application, the Applicant will accept that these changes or modifications may increase the cost and delay the delivery of the Connection Offer. The Final Connection Application must be accompanied by a non-refundable deposit in a sum notified by the relevant Transporter, which amount will be determined having regard to the cost and complexity of the connection.

### **2.1.3 Connection Offer**

On receipt of a “Final Connection Application”, the relevant Transporter will set up a meeting with the Applicant to discuss the Final Connection Application, review the relevant studies completed and seek clarification on any details.

The relevant Transporter will carry out such further network and system studies and seek any consents as it deems necessary to prepare and issue the Connection Offer.

The relevant Transporter will then proceed to prepare and issue a “Connection Offer” to the Applicant.

The Connection Offer will:

- A. Be subject to:
  - 1) Execution of a ‘Connection Agreement’;
  - 2) Execution of a ‘Network Entry/Exit Agreement’ which will in turn require the execution of an Accession Agreement to the Code;
  - 3) Any necessary modification of any Codes, Policies and Procedures relevant to the connection of the Applicants facility to the Network;
  - 4) Any necessary consents required by the relevant Transporter in connection with the connection;
  - 5) unless otherwise agreed by the relevant Transporter, receipt by the relevant Transporter of the Connection Charges, including the estimated costs incurred by the relevant Transporter in completing the connection.
- B. Specify the “Transporter Requirements” (technical and operational) that the Applicant must meet including the design of the Applicants facility, for example filtration and metering.

- C. Specify a time period within which the Applicant must confirm its acceptance of the Connection Offer unless an alternative time is agreed between the relevant Transporter and the Applicant.
- D. Confirm that the Transporter may proceed to engineer, procure, construct and commission a connection to the Network that meets the connection requirements as agreed by the parties.
- E. Restate or update the estimate of the cost of providing the connection to the Network. The final cost of construction will be dependent on the payment terms in the respective construction contract executed between the relevant Transporter and the construction contractor and the Applicant will be required to confirm that it will pay all such costs.
- F. Restate or update the estimate of time to complete the connection to the Network. The final time to complete the connection will be dependent on the terms of the respective construction contract executed between the relevant Transporter and the construction contractor. The Applicant will be required to confirm that the relevant Transporter will have no liability for any delay in completion of the connection, provided that the relevant Transporter acts as a Reasonable and Prudent Operator.

In the event that the Applicant has requested, and the relevant Transporter has agreed to the Applicant constructing the connection, the details of items C, D and E above will reflect such agreement.

If the Applicant changes or modifies the details and information provided to the relevant Transporter in the Final Connection Application after the Connection Offer has been issued, the Applicant will accept that these changes or modifications may necessitate the preparation of a revised or new Connection Offer and increase the final cost of providing the Connection Offer.

Where there is a dispute between the Licensee and any person entitled or claiming to be entitled to a connection to the Network in respect of the terms of an agreement for the connection to be made ('connection agreement'), any party to the dispute may make an application to the Authority for determination of the terms of the connection agreement.

### **3.0 ENTRY CONNECTIONS**

The location of the connection point would be agreed between the Applicant and the relevant Transporter. The costs would include the equipment and construction costs of the physical connection, metering, quality monitoring and odourisation, if not already undertaken. All gas entering the Network will comply with the Transporters gas quality specification. Gas quality is discussed further in Section 7.

The equipment will depend on the particular circumstances, but the basic technical requirement is the minimum level of control and monitoring equipment at the point of connection necessary to safeguard the Network and to ensure that gas entering the system is safe for use. Additionally, the equipment has to provide the necessary information to allow the Transporter to run an economical system.

The Transporter will consider individually the requirement of other equipment (such as for gas odourisation, pressure or volume regulation) which may, depending on the circumstances, be installed either by the Transporter or the Applicant. Where the Transporter installs this plant, all costs related to this equipment will be paid by the Applicant in accordance with Section 9.0, below.

## **4.0 EXIT CONNECTIONS**

### **4.1 Connections from the Network**

All design and construction work undertaken by the Transporters associated with the connection and offtake facilities is fully rechargeable to the Applicant entering into the contracts with the relevant Transporter, usually the facility or pipeline developer.

The Transporters require offtake facilities to be installed to enable monitoring and control of offtake rates to take place. The relevant Transporter will give full consideration to any request by an Applicant for additional equipment to be installed in order to provide greater offtake flexibility.

For the purposes of this policy, a connection is defined as the physical tie-in (normally a hot tap) to the Network, including the remotely operable valve (ROV) and associated telemetry system and modifications to existing control systems, which the relevant Transporter will design, construct, operate, maintain and own, plus the right to agree to the meter installation, which can be designed, constructed, operated, maintained and owned by others. Any such meter will comply with the relevant Metering Regulations for Northern Ireland.

For any connection from the Network, whether it is to an individual premise, or a pipeline system operated by another gas transporter, there are a number of principal areas which the relevant Transporter require to be addressed for any connection.

These are:

- a. the physical tie-in to the Network (i.e. the hot tap or other connection and ROV);
- b. the filtration and calorific value / flow measurement equipment;
- c. the control and telemetry equipment;
- d. ramp rates; and
- e. commercial aspects including service agreements.

The relevant Transporter will own and have sole control of the physical connection to the Network (for security of supply) and will also need to know the volume and the calorific value of the gas which passes through that connection (for charging and pipeline integrity monitoring purposes).

Where necessary, it will be the responsibility of the Applicant to obtain all and or wayleave acquisitions, to enable the connection, compound and any associated pipework to be constructed. Unless otherwise agreed, it will also be the obligation of the Applicant to obtain all relevant planning consents.

### **4.2 Transporters' Minimum Requirements**

The Transporters must ensure that all equipment associated with connections to the Network is capable of operating under any anticipated conditions, and that the equipment complies with the

latest editions of the technical and engineering standards specified in Appendix 3 of this document.

When a new connection is required from the Network, the relevant Transporter will install the physical connection (usually an 'under pressure' hot tap) complete with a remotely operable valve (ROV) facility and an associated telemetry system. The relevant Transporter will also modify the pipeline control systems to include the new offtake.

If so desired, the Applicant may request to build the physical tie-in itself. The relevant Transporter will consider such request and determine whether it will agree to such a request. In the event that the relevant Transporter agrees to the request, the parties will meet to discuss the various design phases of the project, the detailed program of work and ownership of the physical connection will transfer to the relevant Transporter following completion. These arrangements will be included in the terms of a Connection Agreement as set out in Section 9.

#### **4.3 Connection of Measurement Equipment**

Provision and installation of gas measurement equipment may be undertaken by the Applicant or Transporters. In all cases the measurement equipment is to be designed and built to a standard specified by the relevant Transporter such as ISO 5167, ISO 17089 and the Metering Regulations for Northern Ireland (when enacted). In all cases, the relevant metering signals will be transmitted to the Transporters connection site in a form specified by the relevant Transporter, for relaying to its Control Centre.

In all cases, for new connections, the Transporters require that suitable measurement equipment should be sited at or immediately adjacent to the Exit Point from the Network. It can be designed and constructed by others, with the connection (the hot tap, ROV and telemetry system) either separately fenced off, or in the same compound, providing the developer's/operator's security measures are adequate.

In the event that a Transporter receives a legitimate request to disconnect any measurement equipment, the party making the request shall bear the full cost of such disconnection. Such a cost shall cover the cost of the disconnection contractor plus an overhead to cover the Transporter's time.

#### **4.4 Other Requirements**

The gas that passes through the connection from the Network needs to be measured for both flow and calorific value. This information is required by PTL and the Supplier and may be required by the gas user.

Connected System Operators are normally responsible for controlling the offtake rate from the

Network. If the Applicant requires a regulated supply, it can install a pressure reduction station on its own pipeline. The Transporters would consider taking ownership of any such pressure reduction station along with the pipeline, subject to satisfactory fulfillment of the relevant criteria in the transfer of ownership procedures.

Depending on the size of demand and the potential ramp rate, the relevant Transporter may require volumetric control to allow it to control the quantities of gas passing through the Exit Point. Typically, connections to other transmission and distribution networks will require volumetric flow control to be installed.

In order for others to design, construct, own, operate and maintain the connected equipment, the relevant Transporter shall:

- a. ensure that a satisfactory measurement system (including filtration) is installed at the exit point from the Network;
- b. agree that the proposed measurement system has the ability to calculate the flow and energy conveyed to a specified level of accuracy and over a range of turndown flow rates. Typically, an accuracy of +/-1 % over the normal operating range of the measurement equipment should be achieved;
- c. be satisfied that the communications interface is compatible with the Transporter's telemetry equipment;
- d. have the right to witness periodic validations of the meter as well as the right to agree the design;
- e. agree the system of calibration, verification and maintenance for the meter, together with service level agreements for the level of data, disputes procedures, etc.

Before the relevant Transporter agrees to pressurise the customer's facilities (filter/measurement equipment, pipeline. etc.) with commissioning gas, the relevant Transporter's Project Manager needs confirmation that the downstream facilities have been suitably tested and certified as fit for purpose, and also that all relevant commercial issues have been finalised. Principally for new connections this would include the agreement of and compliance with the terms of a Network Exit/Entry Agreement.

Where the Applicant is intending to install a gas compressor or compressors downstream of the offtake, it must also install suitable protective devices to prevent back pressurisation into the Network.

## 5.0 OUTLINE TECHNICAL SPECIFICATION FOR A CONNECTION

This Section deals with the technical specification for the construction of the offtake from the Network.

The Transporters are responsible for the integrity of the hot tap, bypass and associated materials. It will be the responsibility of the Connected System Operator or end user to ensure that its equipment is 'fit for purpose' and designed in accordance with relevant codes and specifications. In the event that the Applicant wishes for the relevant Transporter to take ownership of the new pipeline, the relevant Transporter will on request supply the Applicant with a list of the relevant standards.

The Transporters must ensure that all equipment associated with connections to the Network is capable of operating under any anticipated conditions, and that the equipment complies with the latest editions of the technical and engineering standards set out in Appendix 3.

The connection will be designed generally in accordance with the requirements of the Institution of Gas Engineers Recommendation IGE/TD/1.

The materials will be rated to a pressure rating of ANSI Class 600.

Pipe, fittings and associated equipment will comply with recognised National and International Standards, which take account of material properties, fracture toughness and welding procedures. It is acceptable to use recognised commercial standards where these meet the requirements of the technical standards specified in Appendix 3.

All equipment must be capable of meeting a minimum temperature of -20 deg C (i.e. to allow for the flow conditions at extreme winter ambient) and a maximum temperature of +50 deg C.

The security fencing should take account of all perceived risks such as the strategic importance to the Transporters and the potential for vandalism. The fencing should be 2.4 m high galvanised welded mesh to BS 1722 part 10 or palisade fencing to BS 1722 part 12, both with a concrete ground sill. Although economics will largely determine the type of fencing used, the Planning Authority or the Security Authority (currently the CPNI) may insist on a particular type. Planting strips may also be required outside the security fence as part of the Planning Authority requirements.

Gas Venting matters should be generally in accordance with IGE/SR/23.

Stress Analysis (where required) shall be carried out in accordance with IGE/TD/12. Pressure cycling shall be considered and it must be shown that the fatigue life is not less than 40 years unless otherwise stated.

Hazardous areas produced by the connection equipment must be assessed using IGEM/SR/25 and must be contained within the Transporter's compound.



## **6.0 FILTER FUNCTIONAL SPECIFICATION**

Filtering is required upstream of the installed measurement equipment in order to ensure that the measurement facility is not contaminated or damaged by dust. If the supply is not to be interrupted, two or more filters of appropriate rating should be installed with valves and equipment so as to facilitate continuous operation during maintenance periods i.e. 1 working and 1 standby filter.

The level of filtration must be not greater than 50 microns. Filters should be sized such that the pressure drop across the clean filter unit is not greater than 100 mbar at maximum design flow and minimum inlet pressure.

The filters must comply with recognised national / international pressure vessel standards. It should be noted that the operation and maintenance of such equipment may generate dust or debris which the customer should ensure is disposed of in accordance with local legislation and regulations.

Filtration is considered to be a part of the measurement specification and as such must be agreed to by the relevant Transporter even where the design, maintenance, operation and ownership remains with the customer.

## 7.0 GAS QUALITY AND FLOW MEASUREMENT SPECIFICATION

The Transporters will not normally be responsible for the design and installation of the measurement system. However, there are certain criteria that both the gas quality and flow measurement facilities have to comply with before the relevant Transporter will agree to the equipment being used.

### 7.1 Gas Quality

The specification of the gas made available for offtake by the relevant Transporter will be in accordance with the relevant Code.

The following gas specification is intended to be indicative only and the Applicant should refer to the relevant Code for the applicable Gas Specification (Code Appendix 2).

Characteristics as defined in Gas Safety (Management) Regulations (NI) 1997	
Characteristic	Value
Hydrogen Sulphide	Max 5mg/m <sup>3</sup>
Total Sulphur (including Hydrogen Sulphide)	Max 50mg/m <sup>3</sup>
Hydrogen content	Max 0.1%mol
Oxygen content	Max 0.2%mol
Impurities/ contaminants	Shall not contain solid, liquid or gaseous material which may interfere with the integrity or operation of pipes or any natural gas appliance which a consumer or transporter could reasonably be expected to operate. With respect to Mist, Dust, Liquid gas delivered shall be technically free in accordance with BS 3156 11.0 1998
Hydrocarbon & water dewpoint	Shall be at such levels that they do not interfere with the integrity or operation of pipes or any natural gas appliance which a consumer or transporter could reasonably be expected to operate.
Wobbe Number	47.20 MJ/m <sup>3</sup> - 51.41 MJ/m <sup>3</sup>
Incomplete Combustion Factor	≤ 0.48
Soot Index	≤ 0.60

Characteristics as defined by the Transporter acting as RPO	
Characteristic	Value
Water content	50mg/m <sup>3</sup>
Gross Calorific Value	36.9 to 42.3 MJ/m <sup>3</sup> (Real Gross Dry)

<b>Carbon Dioxide</b>	Max 2.5%mol. Limit will not be considered breached if the total inerts in the gas is low in the opinion of the Transporter.
<b>Odour</b>	Gas delivered shall have no odour that might contravene the obligation of the transporter to transmit gas which possesses a distinctive and characteristic odour. Where the transporter requires gas to be odourised, the gas shall be odourised in accordance with the following specification: Odour intensity of 2 Olfactory degrees on the Sales Scale (Ref – IGE/SR/16/1989), or such other specification determined by the transporter acting as a RPO.
<b>Delivery Temperature</b>	1 to 38 C
<b>Organo Halides</b>	Max 1.5mg/m <sup>3</sup>
<b>Radioactivity</b>	Max 5 Becquerals/g
<b>Ethane</b>	Max 12%mol

Standard Reference Conditions: Combustion reference temp=15 C, Volume unit=m<sup>3</sup> at 15 C and 1.01325 bar

## 7.2 Energy Calculation

The Gas (Calculation of Thermal Energy) Regulations 1996 (and amendments 1997 and 2002) which apply in Great Britain will be used until such times as applicable legislation is enacted for Northern Ireland to determine the basis for the calculation of energy conveyed by the Transporters. The transporters require a corrected volume measurement (standard conditions - 1013.25 mbar @ 15 deg C) with an uncertainty of not greater than 1% of the reading over the specified flow range.

## 7.3 Calorific Value (CV) Measurement

The Calorific Value (CV) measurement would be obtained by the calorimeter at the offtake or, if agreed with the Transporter At an agreed existing calorimeter site on the transporters network.

Where the Network Exit/Entry Agreement and/or Code specifies that the CV shall be measured, the standard for Calorific Value determination by composition will be the methods specified in current version of ISO 6976.

Calorific Value data will be required to be transmitted, along with the other measurement signals to the relevant Transporters' Control Centre via the Transporters telemetry system at the connection point.

The Transporters will require the right to evaluate the instrument used to determine the CV or composition of the gas in addition to the right to witness the calibrations or perform tests on the apparatus.

## **7.4 Flow Measurement**

The Transporters will accept flow measurement systems which are designed, built, installed and validated to ISO 5167, ISO 5168, ISO 9951 and ISO 17089 and meet current DTI standards for custody transfer/fiscal metering of gas.

ISO 5167 : Measurement of Fluid Flow by means of Orifice Plates. Nozzles and Venturi Tubes inserted in circular cross section conduits running full.

ISO 5168 : Measurement of Fluid Flow - Evaluation of Uncertainties

ISO 9951 : Measurement of Gas Flow in closed conduits - Turbine Meters

ISO 17089 : Measurement of fluid flow in closed conduits - Ultrasonic meters for gas

Instantaneous and totalised flows will be required to be transmitted to the Transporter's Control Centre via the telemetry system at the connection point.

## **7.5 Communications Interface**

The signal type, quality and quantity will need to be discussed to establish the agreed interface between the relevant Transporter and the customer. Exchange of information may also be discussed regarding the status of the ROV, alarms, etc. Typical signals required by the relevant Transporter from the customer's measurement facility are:

- a. CV Analogue
- b. Meter outlet pressure (Analogue)
- c. Meter outlet temperature (Analogue)
- d. Relative Density (Analogue)
- e. Instantaneous corrected volume flow (Analogue)
- f. Instantaneous corrected energy flow (Analogue)
- g. Integrated corrected volume flow (Digital)
- h. Integrated corrected energy flow (Digital)

The telemetry system, as well as the range of the signals, will be determined at the detail design stage, and must be compatible with the Transporter's Control Centre equipment. In addition to the list shown, other signals required by the Transporters are pressure and temperature signals either

side of the hot-tap valve, ROV status and control operation. The telemetry system must be located at the relevant Transporter's connection, within the secure compound.

## **7.6 Other Issues to be Agreed by the Transporters.**

Where an Applicant wishes to own the measurement system, and is therefore responsible for the design, operation and maintenance of this equipment, the Transporters will require:

- a. the right to witness the calibration of the measurement system;
- b. the right to audit and test the measurement system;
- c. that the measurement system installation complies with any code of practice issued by the Authority;
- d. evidence regarding the continued certainty of measurement and the maintenance and calibration and re-calibration procedures;
- e. predetermined disputes procedures in cases where the uncertainty of measurement is disputed, etc.

The above will be set out in the Network Exit/Entry Agreement (see 'Commercial Arrangements' - Section 9).

## **8.0 CONNECTION COSTS**

The full costs of making any connection, including project management costs, would be borne by the party wishing to connect to the Network and no element of such connection capital costs will be passed on to other users of the Network.

In the event that an Applicant withdraws either its Initial Connection Application or its Final Connection Application, the Applicant shall be liable to pay for all of the costs incurred by the relevant Transporter to the time the notice of withdrawal was received including any fixed costs associated with any studies agreed with the Applicant which have commenced. The Transporters will offset any such costs incurred by applying any unused portion of a non-refundable deposit and/or prepayment of charges.

The costs for a connection to the Network fall into two categories:

- a. connection fees; and
- b. cost of engineering, procuring, construction and commissioning of the physical connection.

### **8.1 Connection Fees**

The connection fees are comprised of all the relevant Transporter's costs in providing a connection offer requested by the Applicant including the Transporters costs involved in processing any connection request, Initial Connection Application or Final connection Application; preparing the Connection Offer and executing associated agreements including the Connection Agreement and Network Exit/Entry Agreement. These costs include all external legal and consultants costs and will include a non-refundable deposit to be paid as part of the Final Connection Application.

### **8.2 Costs of System Studies**

Prior to the commencement of any study (Feasibility, Network or Conceptual Design Study), the relevant Transporter will agree the scope, estimated cost and estimated delivery time with the Applicant for each study undertaken.

#### **8.2.1 Conceptual Design Study**

In the event that the Applicant requests an estimate of the connection construction costs, the relevant Transporter and the Applicant will agree to proceed to carry out a Conceptual Design Study, on the following basis to be finalised with the Applicant:

- i. hot tap, ROV, bypass, insulation joint and associated pipework, C&I equipment;
- ii. security fence around the connection compound;

- iii. a prefabricated telemetry kiosk, not a building;
- iv. minimum lighting;
- v. no vehicular access inside the compound;
- vi. all civils and ground works inside the compound;
- vii. modifications required to the Network control system;
- viii. customer provides the land (at nil cost to the Transporter) for permanent and temporary works.

The budget cost information will be based on various assumptions including:

- planning consent (including environmental impact and environmental statement) being undertaken and obtained by the Connecting Party for the Transporter's installation, customer installation and customer pipeline if applicable;
- no IGE TD1 restrictions;
- no major underground problems;
- all utilities available at the connection site during construction and operation;
- PTL connection work will terminate outside the 'PTL compound' in a dome end (\*\*);
- there is vehicular access to the connection location;
- all based on limited information of the area.

(\*\*) the connection will be gassed up to line pressure on the Network side of the ROV valve. This valve will then be validated onto the system upon commissioning of the customers pipeline / measurement facility.

Unless the Applicant and the relevant Transporter have otherwise agreed to carry out a feasibility study, the budget cost will exclude:

- a. Network reinforcement costs; and
- b. Costs of extending the Network to the Applicant's facility.

The relevant Transporter and the Applicant will also agree the study requirements in respect of the provision of drawings (P&ID, General Arrangement etc.) and estimates for the time required to engineer, procure, construct, and commission the proposed connection.

### **8.2.2 Feasibility and Network Studies**

Feasibility and network studies may be necessary to evaluate the full requirements of a connection, to determine the optimum location of a connection, to determine the capability of the Network to deliver the Applicants requirements or to identify any Network reinforcement requirements.

Prior to any study (Feasibility or Conceptual Design Study), the relevant Transporter will agree the scope, cost and estimated delivery time with the Applicant for each study undertaken. The study reports will be made available to the Applicant as soon as they have been finalized and received by the relevant Transporter.

### 8.2.3 Construction Costs

Construction costs will vary depending on the nature of the Applicants project and requirements. The full and final costs of constructing a connection to the Network will only fully be known when the relevant Transporter has completed the connection.

Indicative Construction Costs	
Construction works for a 24" connection at an existing Transporter site	Approximately £1,000k to £1,200k (dependent on the site complexity) Conceptual Design Study will provide an estimate of the likely connection construction cost.
Construction works for a 24" connection at a single 'greenfield' site	Approximately £1,000k to £1,500k (dependent on the location of the site and the services required) Conceptual Design Study will provide an estimate of the likely connection construction cost.
Construction works for an extension to the Network	Approximately £1200k per km assuming a 24" pipeline (dependent on the soil conditions and topography of the land). A feasibility study will provide an estimate of the likely connection construction cost.

The costs in the above table are indicative only and will vary according to the Applicants requirements particularly the location connection and nature of the connection.

### 8.3 Payment

Unless otherwise agreed by the relevant Transporter, all Connection Charges will be paid by the Applicant in advance. If the relevant Transporter's reasonably incurred costs exceed the Connection Charges paid by the Applicant, the Applicant will reimburse such shortfall to the relevant Transporter. The Transporters reserve the right to cease works until any such Connection Charges are paid. If the relevant Transporter's reasonably incurred costs are less than the Connection Charges paid by the Applicant, the relevant Transporter will reimburse such excess to the Applicant.

The Applicant shall be required to provide a Non-refundable Deposit in a sum determined by the relevant Transporter with the Final Connection Application. If the connection does not proceed, this sum is not refundable but will be set off against the Connection Charges in a Connection Offer.



## **9.0 COMMERCIAL ARRANGEMENTS**

This Section deals mainly with the commercial arrangements associated with the provision of the physical hardware to enable gas to be offtaken from the Network. Whilst this is a very important process in itself, it cannot stand alone in the overall process of providing transportation arrangements for suppliers.

The overall process, namely, to provide Exit Capability, is initiated as an enquiry, developed as a physical connection and concluded by commercial transportation arrangements specific to the Network. Each stage of the process feeds into the next and has to be carefully managed to ensure customer satisfaction and to safeguard the relevant Transporter 's legitimate business interests.

### **9.1 Construction Stage**

Once the Final Connection Offer has been accepted by the Applicant, the next stage is to obtain necessary consents, including planning consent for the project. Unless otherwise agreed, obtaining planning consent will be the responsibility of the Applicant, although the relevant Transporter will assist by providing any relevant information as reasonably required by the Planning Authority. Detailed design and construction of the offtake by the relevant Transporter will commence only after the execution of the Connection Agreement between the relevant Transporter and the Applicant.

The Connection Agreement will specify the terms of the agreement between the relevant Transporter and the Applicant in respect of the construction of the connection facilities to the agreed criteria by a certain date consistent with the terms of the construction contract, the obligations on the Applicant to make the relevant payments to the relevant Transporter in respect of the cost of constructing the connection facilities and to provide the relevant Transporter with timely and accurate information.

In the event that the Applicant has requested and the relevant Transporter has agreed to the Applicant constructing the connection facilities, the terms of the Connection Agreement will reflect such an arrangement including the terms upon which the ownership of the connecting facilities will be transferred to the relevant Transporter on completion.

It must be made clear that this agreement does not give the customer a right to be tied-in to the Network, nor does it give the customer the right to offtake gas, nor does it put either Transporter under any obligation to reinforce the system. These rights are all obtained by entering into a Network Exit/Entry Agreement and by the Gas Supplier agreeing to gas transportation arrangements through the Code.

### **9.2 Transportation Stage**

For a new connection to the Network, the relevant Transporter and the operator of the Applicant's

facilities must sign a Network Exit/Entry Agreement before any tie-in between the two parties' systems can be completed. The Connection Agreement will contain various pieces of site-specific information including, maintenance and emergency procedures and also sections related to technical matters such as pressure, ramp rates, notice periods etc. These technical matters will be dictated by the technical parameters agreed in the Connection Agreement, hence the requirement for consistency throughout the project.

At existing connections, the items normally contained within the Network Exit/Entry Agreement are contained within the Code. Modifications to existing facilities may require the Code to be modified but may not require amendment of the Network Exit/Entry Agreement.

Any gas transportation may only take place following a nomination by a relevant shipper under the terms of the Code. No offtake of gas for any purpose will be permitted before this time.

### **9.3 OTHER ARRANGEMENTS**

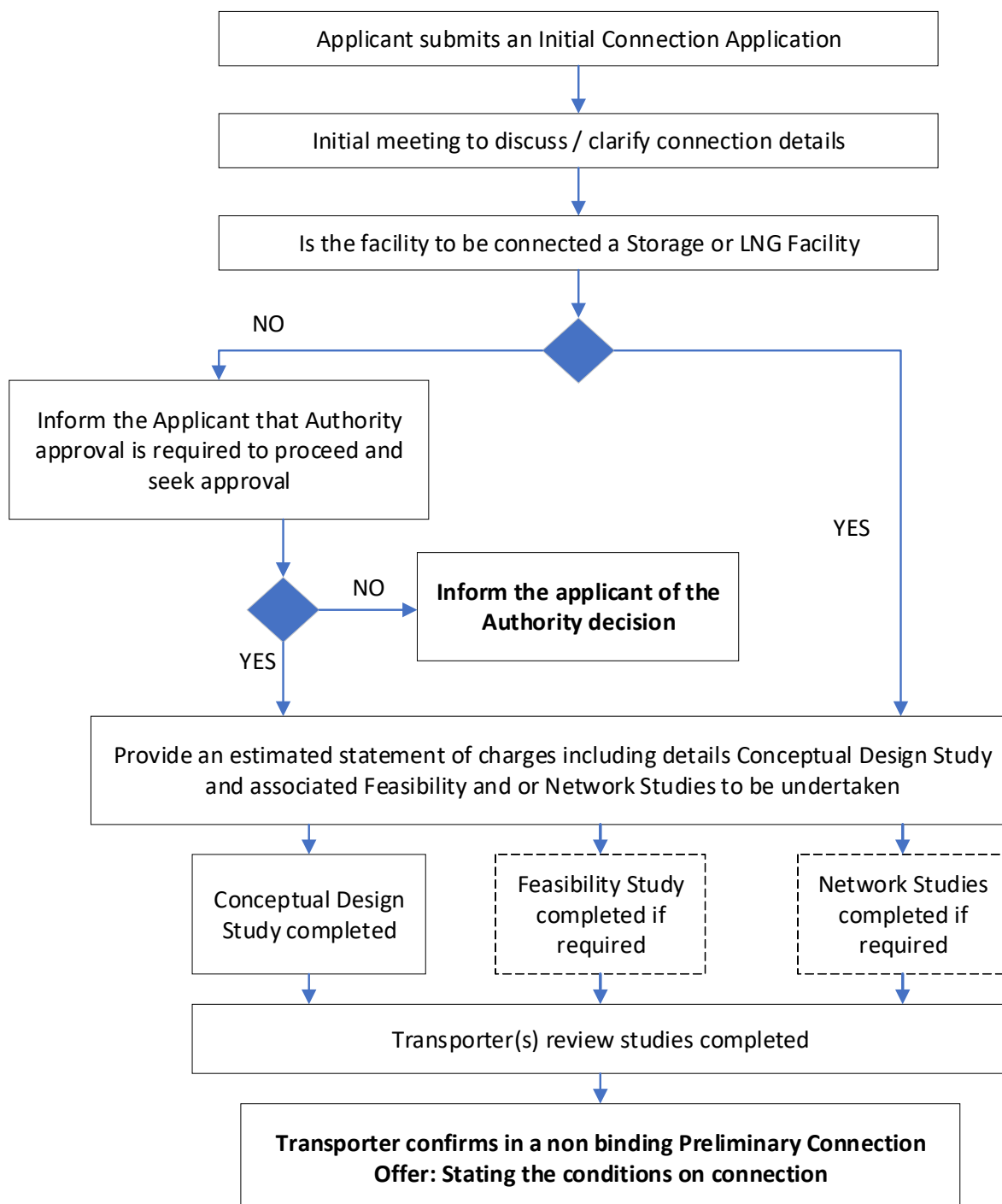
The Connected System Operator will have to agree procedures for interfacing with the relevant Transporter(s) to support the commercial arrangements. Some of these will form part of the Network Entry/Exit Agreement, whilst others will support other operational and safety areas, e.g. the Connected System Operator will need to develop procedures to be followed in an emergency.

## APPENDIX 1

### Gas Connection Application Process (High level)

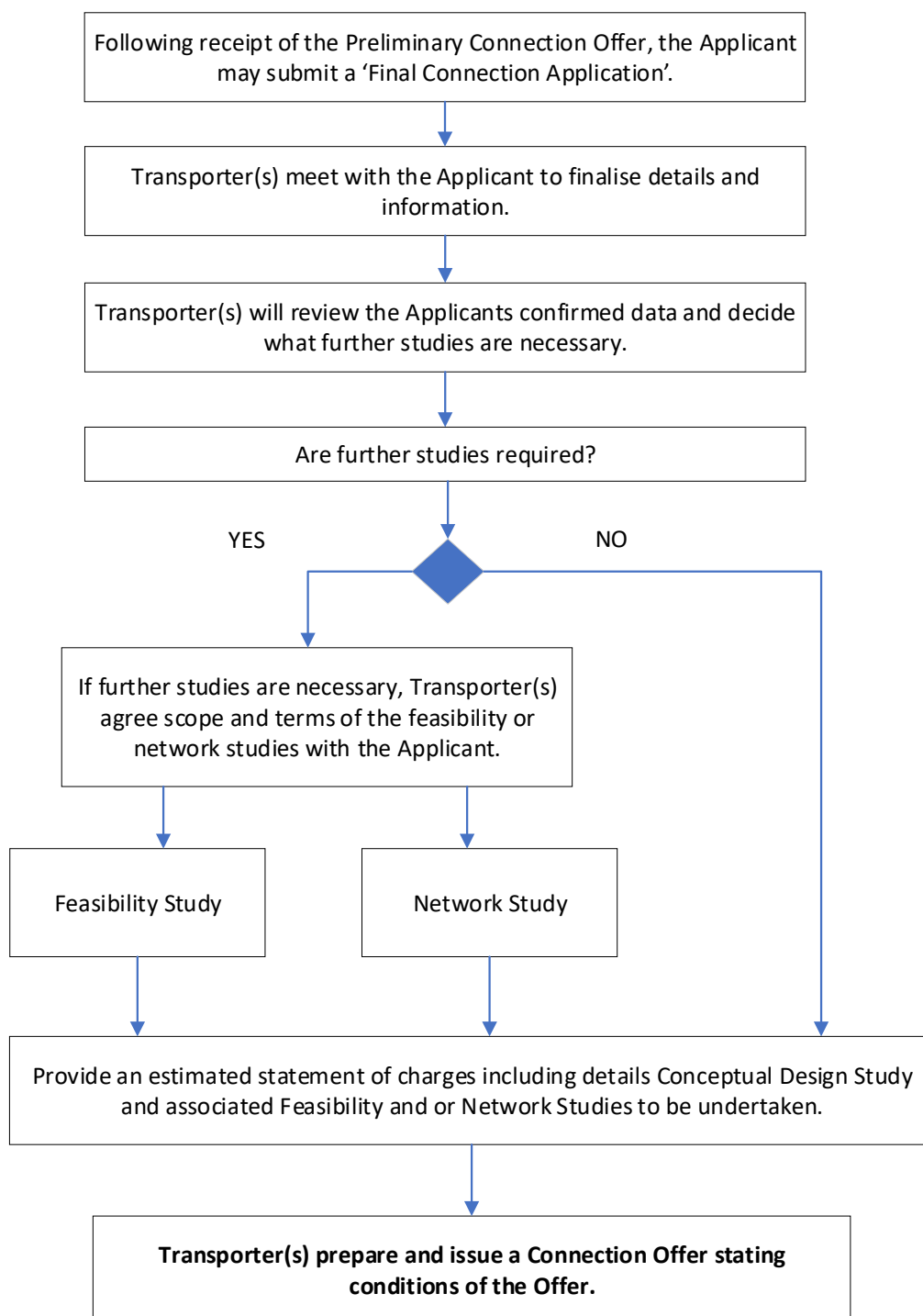
## Transmission Connection Application Process

### A. Initial Connection Application



## Transmission Connection Application Process

### B. Final Connection Application



## APPENDIX 2

### Contact Information

## Premier Transmission Limited

<b>Registered Address</b>	1 <sup>st</sup> Floor, The Arena Building 85 Ormeau Road, Belfast BT7 1SH Northern Ireland
<b>Main Contact</b>	Group Operations Manager
<b>Telephone</b>	+44 (0)28 9043 7580
<b>Email</b>	info@mutual-energy.com
<b>Website</b>	<a href="http://www.mutual-energy.com">www.mutual-energy.com</a>

## Belfast Gas Transmission Limited

<b>Registered Address</b>	1 <sup>st</sup> Floor, The Arena Building 85 Ormeau Road, Belfast BT7 1SH Northern Ireland
<b>Main Contact</b>	Group Operations Manager
<b>Telephone</b>	+44 (0)28 9043 7580
<b>Email</b>	info@mutual-energy.com
<b>Website</b>	<a href="http://www.mutual-energy.com">www.mutual-energy.com</a>

## West transmission Limited

<b>Registered Address</b>	1 <sup>st</sup> Floor, The Arena Building 85 Ormeau Road, Belfast BT7 1SH Northern Ireland
<b>Main Contact</b>	Group Operations Manager
<b>Telephone</b>	+44 (0)28 9043 7580
<b>Email</b>	info@mutual-energy.com
<b>Website</b>	<a href="http://www.mutual-energy.com">www.mutual-energy.com</a>

## APPENDIX 3

### Technical and Engineering Standards



## Technical and Engineering Standards

The Transporters need to ensure that equipment associated with connections to the system is capable of operating under all anticipated conditions, and that the equipment complies with the latest editions of the following technical and engineering standards:

- a) British Standards for Pipelines BS PD 8010, parts 1-3;
- b) Institution of Gas Engineers Recommendations on Gas Engineering and Practice:
  - i. IGEM/TD/1 – “Steel Pipelines for High Pressure Gas Transmission”
  - ii. IGEM/TD/2 – “Pipeline Risk Assessment”
  - iii. IGE/TD/12 – “Pipework Stress Analysis”
  - iv. IGEM/TD/13 – “Pressure Regulating Installations”
  - v. IGEM/SR/15 – “Integrity of Safety-related Systems”
  - vi. IGEM/SR/16 – “Odorant Plant”
  - vii. IGE/SR/23 – “Venting of Natural Gas”
  - viii. IGEM/SR/25 – “Hazardous Area Classification”

## APPENDIX 4

### PTL and BGTL Assets

#### PART 1

PTL assets comprise: -

- The **Scotland to Northern Ireland Pipeline (SNIP)** which comprises a 24" 75bar rated steel transmission pipeline from Twynholm AGI in Scotland to Ballylumford Power Station in Northern Ireland. This includes 90km of onshore pipeline in Scotland, 40km of subsea pipeline in the North Channel and 2.5km of onshore pipeline across Island Magee in NI.
- Four block valve sites and a pig trap facility (**South Cairn AGI**) in Scotland. One of these block valve sites also acts as an offtake to the Stranraer AGI which is owned and operated by SGN and which supplies a distribution system in Stranraer.
- **Ballylumford AGI** located within the grounds of Ballylumford Power Station with the purpose of supplying Ballylumford.

#### PART 2

BGTL assets comprise: -

- The **Belfast Transmission Pipeline (BTP)**, a 24" 75bar rated steel transmission pipeline running from Ballylumford AGI to **Torytown AGI**.
- The **Belfast Lough Crossing Pipeline (BLC)**, a 24" 75bar rated steel transmission pipeline subsea pipeline running from Torytown AGI across Belfast Lough and terminating at **Knocknagoney AGI**.
- An offtake from the BTP (situated within Ballylumford AGI) supplying **Larne AGI** which in turn feeds a separate 19bar system below.
- The **Larne Lough Crossing Pipeline (LLC)**, an 8" 19 bar rated steel transmission pipeline from Larne AGI subsea across Larne Lough to Curran Point PRS.

### Part 3

WTL assets comprise: -

- The **Maydown Pipeline System (MPS)**, a 6" 85bar rated steel transmission pipeline running from Maydown Offtake owned and operated by GNI to Maydown AGI. **PLEASE NOTE THIS IS NOT A CONNECTABLE PIPELINE**
- The West Transmission Pipeline (WTP), a 16" 85 bar rated steel transmission pipeline running from **Portadown Offtake** to **Dungannon PRS** and a 12" 85 bar rated steel transmission pipeline running from **Dungannon Tee** to **Tullykenneye PRS**.

