

GNI (UK) Limited

Connections Policy

Effective from 8 January 2021

Revision 1.4



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1. Introduction

Background

GNI (UK) Limited (GNI (UK)) owns and operates two natural gas transmission pipelines in Northern Ireland. The North-West gas pipeline, from Carrickfergus to Londonderry, serves Coolkeeragh power station in Derry and enabled the development of gas networks along the route. The South-North gas pipeline runs from Gormanston, in County Meath, to Ballyclare, Co. Antrim, where it links into the North-West pipeline. The pipelines are shown in the figure below.



Figure 1: Map of GNI (UK) network.

This document sets out the charging and policy requirements for future connections to the GNI (UK) Transportation System and also outlines what, at this stage, are the minimum requirements for all new connections to the GNI (UK) Transportation System. Given the individual nature and complexity of such connections, GNI (UK) 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.

Guiding Principles

GNI (UK) will enter into discussions with any bona-fide interested party for the provision of a connection to its network. All design and construction work undertaken by GNI (UK) associated with the connection and offtake facilities is fully rechargeable to the party entering into the contracts with GNI (UK). No differentiation will be made between classes of applicant.

In all cases the parties requesting a connection to the GNI (UK) Transportation System shall meet the full costs of making the connection and therefore no recovery of connection costs will be sought by way of conveyance charges to gas suppliers.

GNI (UK) requires offtake facilities to be installed to enable monitoring and control of offtake rates to take place. GNI (UK) will give full consideration to any request by a connecting party for additional equipment to be installed in order to provide greater offtake flexibility.

GNI (UK) will own and have sole control of the physical connection to the pipeline (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 connecting party to obtain all relevant planning consents and land or wayleave acquisitions, to enable the connection, compound and any associated pipework to be constructed.

GNI (UK) will not be required to make or maintain such a connection if:

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

In any such case GNI (UK) will provide substantiated reasons for believing such circumstances apply.

Role of the Utility Regulator

The Licence granted by the Utility Regulator (UR) to GNI (UK) for the conveyance of gas includes Condition 2.3 which requires GNI (UK) to issue a statement of policy regarding connection charges, terms for connection and meter connections and disconnections. This connection policy document is prepared and issued in accordance with this licence condition and is subject to approval by UR.

Where there is a dispute between GNI (UK) and any person entitled or claiming to be entitled to a connection to the GNI (UK) 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 UR for determination of the terms of the connection agreement.

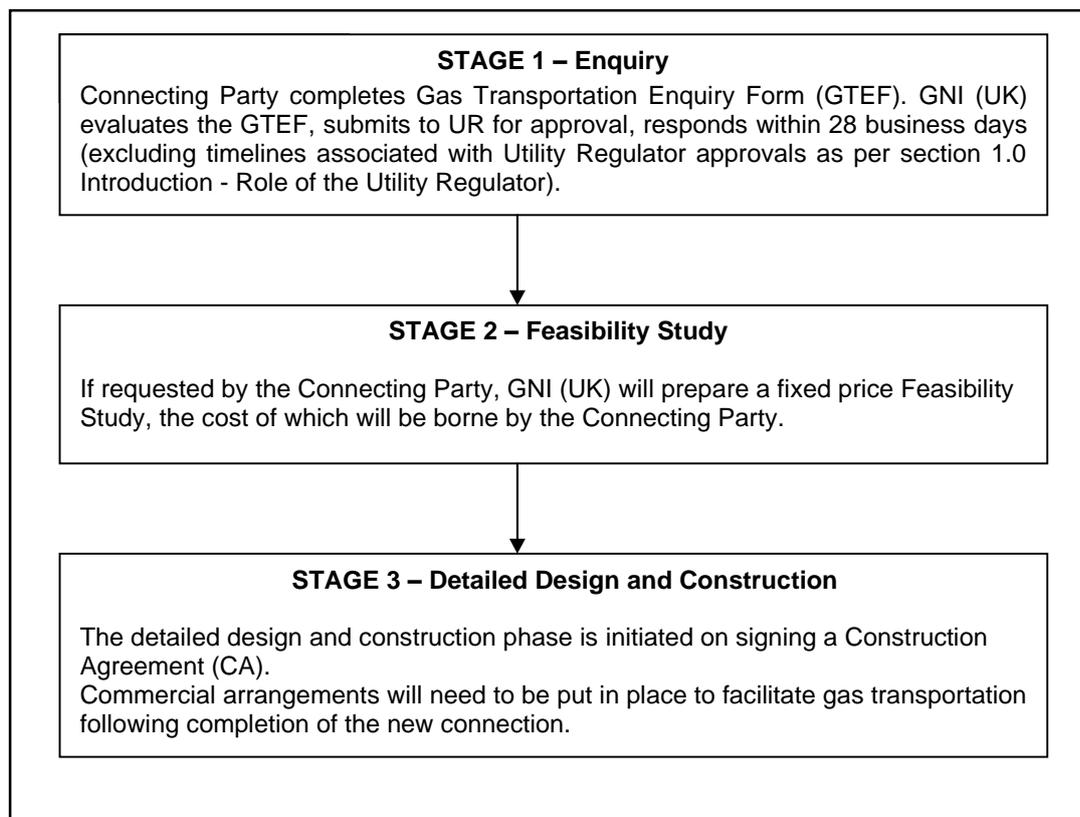
GNI (UK) shall not make or agree to make a connection between any premises (other than any premises which may constitute a Storage Facility or LNG Facility) and the network without the prior written approval of the Utility Regulator to the making of that connection.

2. Enquiry process and costs

GNI (UK) will enter into discussions for the provision of a connection to the GNI (UK) Transportation System on receipt of a bona-fide request. A connection request is initiated by the completion of a Gas Transportation Enquiry Form (see Appendix 3) by a Connecting Party.

A “Connecting Party” is any entity that has formally applied for a connection to the GNI (UK) Network under this Connection Policy.

The connection process comprises three stages, as outlined below:



Stage 1 – Enquiry

When GNI (UK) receives a properly completed enquiry regarding a new connection to the GNI (UK) Transportation System, a budget estimate of the connection costs will be provided to the Connecting Party within 28 business days (excluding timelines associated with Utility Regulator approvals as per section 1.0 Introduction - Role of the Utility Regulator), the estimate will be based on the following indicative scope:

- (a) hot tap, remotely operated valve, bypass, insulation joint and associated pipework, C&I equipment;
- (b) security fence around the connection compound;
- (c) a prefabricated telemetry kiosk, not a building;
- (d) minimum lighting;
- (e) no vehicular access inside the compound;
- (f) all civils and ground works inside the compound;
- (g) minimum modifications required to the GNI (UK) SCADA system; and

- (h) the provision of the land for permanent and temporary works by the connecting party at nil cost to GNI (UK).

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

- (a) planning consent (including environmental impact and environmental statement) being undertaken and obtained by the Connecting Party for the GNI (UK) installation;
- (b) no technical restrictions;
- (c) no major underground problems;
- (d) the availability of all utilities at the connection site during construction and operation;
- (e) the termination of GNI (UK) connection work outside the GNI (UK) compound in a dome end; and
- (f) vehicular access to the connection location

The budget estimate may include a list of additional assumptions used in the development of the budget estimate and/or a list of any conditions upon which the budget estimate is based.

Within 10-days of receiving a request for a connection to the Network, the applicant will be advised that UR approval is needed for a connection and that GNI (UK) shall submit a copy of the connection request to UR, together with such supporting information as UR may reasonably require for the purposes of its approval decision.

Stage 2 – Feasibility Study

If the Connecting Party wishes to pursue the enquiry further, then GNI (UK) will prepare a feasibility study, the cost of which will be borne by the Connecting Party. If, in the future, the project goes ahead, then this may form part of the overall final connection charge.

The feasibility study package will normally include:

standard drawings of the connection including layouts, line diagrams and materials schedules;

- (a) a draft Construction Agreement for the connection to the GNI (UK) Transportation System;
- (b) in the case of a Connected Pipeline System, an initial draft of a Connected Systems Agreement between GNI (UK) and the Connected System Operator;
- (c) an outline provisional programme including dates which will be subject to confirmation by GNI (UK); and
- (d) a fixed price (with validity period) and timescales for payment of instalments.

The standard drawings will not be site specific as these will be prepared at the detail design stage. However, the drawings will indicate the normal installation requirements and layout together with a list of materials required, typical fencing details and Control & Instrumentation (C & I) equipment layouts. The package will also include an itemised breakdown of the budget price that will be discussed with the Connecting Party during the presentation of the report.

Stage 3 – Detailed Design And Construction

If the Connecting Party wishes to progress the project to the detail design and construction stage, then it will be required to enter into a Construction Agreement. In the case of a connected pipeline system the Connecting Party will also be required to enter into a Connected Systems Agreement.

3. Technical and Operational Requirements

For the purposes of this policy, a Connection is defined as:

"the physical tie-in (normally a hot tap) at the pipeline, including the Remotely Operable Valve (ROV) and associated telemetry system and modifications to existing control systems, which GNI (UK) will design, construct, operate, maintain and own, plus the right to agree to the meter installation, which may be designed, constructed, operated, maintained and owned by others."

For a new connection, GNI (UK) will be responsible for the hot tap, bypass and associated materials. It will be the responsibility of the Connecting Party to ensure that its equipment is 'fit for purpose' and designed in accordance with relevant codes and specifications. All connections should be designed generally in accordance with the requirements of the Institution of Gas Engineers Recommendation IGE/TD/1 and IGE/TD/13 or such other standards notified by GNI (UK) to the Connecting Party. GNI (UK) will, on request, supply the Connecting Party with a list of the relevant standards.

The following sections outline the technical and operational requirements in general terms.

Connection of Measurement Equipment

Provision and installation of gas measurement equipment may be undertaken by the Connecting Party or GNI (UK). In all cases the measurement equipment is to be designed and built to a standard specified and approved by GNI (UK). In all cases, the relevant metering signals will be transmitted to the GNI (UK) connection site in a form specified by GNI (UK), for relaying to GNI (UK)'s control centre.

In all cases, for new connections, GNI (UK) requires that suitable measurement equipment should be sited at, or immediately adjacent to, the connection point to the GNI (UK) Transportation System. It may, in certain circumstances, be designed and constructed by others, with the GNI (UK) 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.

Where a Connecting Party owns the measurement system, and is therefore responsible for the design, operation and maintenance of this equipment, GNI (UK) will require:

- (a) the right to witness the calibration of the measurement system;
- (b) the right to audit and test the measurement system;
- (c) the measurement system installation to comply with any code of practice required by GNI (UK) and/or a competent authority (including the UR);
- (d) evidence regarding the continued certainty of measurement, and the maintenance, calibration and re-calibration procedures; and
- (e) predetermined disputes procedures in cases where the uncertainty of measurement is disputed including, where appropriate, provision for reference to an Expert

It is anticipated that the matters above will be addressed in the Connected Systems Agreement (see Commercial Arrangements section).

Flow and CV Measurement

Unless GNI (UK) notifies the Connecting Party of such other specifications to be applied, the flow measurement systems should be designed, built, installed and validated to BS7965, ISO 5167, ISO 5168, EN12261; and the CV measurement systems should be designed, built, installed and validated to ISO 10723:1995.

Communications Interface

The signal type, quality and quantity will be discussed and agreed between GNI (UK) and the Connecting Party. Exchange of information may also be required regarding the status of the ROV, alarms and any other information required by GNI (UK) for the operation of the Transportation System.

The telemetry system, as well as the range of the signals, will be determined at the detail design stage, and must be compatible with GNI (UK)'s control centre equipment. The telemetry system must be located at the GNI (UK) Connection, within the secure compound.

Other Issues

The gas that passes through the connection from the GNI (UK) Transportation System needs to be measured for flow and, depending on location, for calorific value as determined by GNI (UK).

Depending on the size of load and the potential ramp rate, GNI (UK) may require volumetric control to allow it to control the quantities of gas passing through the Exit Point.

In order for others to design, construct, own, operate and maintain the connected equipment, GNI (UK) must be satisfied that:

- a) An appropriate measurement system (including filtration) is installed at the Exit Point from the GNI (UK) Transportation System;
- b) 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) the communications interface is compatible with GNI (UK) telemetry equipment;
- d) GNI (UK) has the right to witness periodic validations of the meter as well as the right to agree the design; and
- e) the system of calibration, verification and maintenance for the meter, together with service level agreements for the level of data is appropriate.

Before GNI (UK) agrees to pressurise the Connecting Party's facilities (including the filter/measurement equipment and pipeline) with commissioning gas, the GNI (UK) Project Manager shall require 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 to the satisfaction of GNI (UK).

Principally, for new connections this may include the agreement of and compliance with the terms of a Connection Agreement. Where the Connecting Party is intending to install a gas compressor or compressors downstream of the offtake, suitable protective devices to prevent back pressurisation into the GNI (UK) Transportation System must be installed.

Gas Quality

| Characteristics as defined in Gas Safety (Management) Regulations (NI) 1997 | |
|--|---|
| Characteristic | Value |
| Hydrogen Sulphide | Max 5mg/m ³ |
| Total Sulphur (including Hydrogen Sulphide) | Max 50mg/m ³ |
| 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 ³ - 51.41 MJ/m ³ |
| Incomplete Combustion Factor | ≤ 0.48 |
| Soot Index | ≤ 0.60 |
| Characteristics as defined by the Transporter acting as RPO | |
| Characteristic | Value |
| Water content | 50mg/m ³ |
| Gross Calorific Value | 36.9 to 42.3 MJ/m ³ (Real Gross Dry) |
| Carbon Dioxide | 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. |
| Odour | 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. |
| Delivery Temperature | 1 to 38 C |
| Organo Halides | Max 1.5mg/m ³ |
| Radioactivity | Max 5 Becquerals/g |
| Ethane | Max 12%mol |

Standard Reference Conditions: Combustion reference temp=15 C, Volume unit=m³ at 15 C and 1.01325 bar

4. Commercial Arrangements

The overall process, namely to provide Entry or Exit Capacity, is initiated as an enquiry, developed as a physical connection and concluded by commercial transportation arrangements specific to the GNI (UK) Transportation System, as part of the Northern Ireland Transportation System.

Construction Stage

Once the feasibility study has been completed, the next stage is to go to the detailed design stage (Stage 3).

It will be necessary for the Connecting Party to obtain planning consent for the project.

GNI (UK) will assist by providing any relevant information as reasonably required by the Connecting Party or the planning authority. Detailed design and construction of the offtake by GNI (UK) will commence only after the signing of a Construction Agreement (CA) between GNI (UK) and the Connecting Party.

The CA will provide for GNI (UK) to design and build the facilities to agreed criteria by a certain date, and for the Connecting Party to fully reimburse GNI (UK) and to provide GNI (UK) with timely and accurate information.

The Construction Agreement does not give the Connecting Party a right to tie-in to the GNI (UK) Transportation System, nor does it give the Connecting Party the right to offtake gas, nor does it place on GNI (UK) any obligation to reinforce the GNI (UK) Transportation System.

Shippers will contract with the Transporter for the right to have gas transported on the GNI (UK) Transportation System pursuant to the Code.

Transportation Stage

In the case of a Connected Pipeline System, GNI (UK) and the operator of the connected pipeline must sign a Connected Systems Agreement before any tie-in between the two parties' systems can be completed. The Connected Systems Agreement will contain various site specific information including maintenance and emergency procedures and also sections related to technical matters including, but not limited to, pressure, ramp rates and notice periods. These technical matters will be dictated by the technical parameters agreed in the CA. The terms of the GNI (UK) code shall apply to all Exit Points from the GNI (UK) Transportation System.

Gas transportation may only take place following a nomination by a Shipper under the terms of the NI Network Gas Transmission Code.

5. Disconnections

GNI (UK) will discuss terms for disconnection from the pipeline system on a case by case basis with the end-user.

In the event that GNI (UK) 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.

6. Other Arrangements

Connection to Another Pipeline System

In the case of a connection to another pipeline system the Connected System Operator shall agree procedures for interfacing with GNI (UK) to support the commercial arrangements. Some of these will form part of the Connected Systems Agreement, whilst others will address operational and safety areas including a requirement for the Connected System Operator to develop emergency procedures.

Entry Connections

GNI (UK) will discuss terms for a connection to a pipeline system from which gas is to be conveyed into the GNI (UK) Transportation System on a case by case basis.

The location of the connection point would be agreed between the Applicant and GNI (UK). 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 GNI (UK) gas quality specification.

Storage Facilities

GNI (UK) will discuss terms for a connection to a Storage Facility from which gas is to be conveyed into or from the GNI (UK) Transportation System on a case by case basis.

The location of the Storage Facility would be agreed between the Applicant and GNI (UK). 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 GNI (UK) gas quality specification.

Appendix 1: Indicative Estimated Costs Of Offtakes

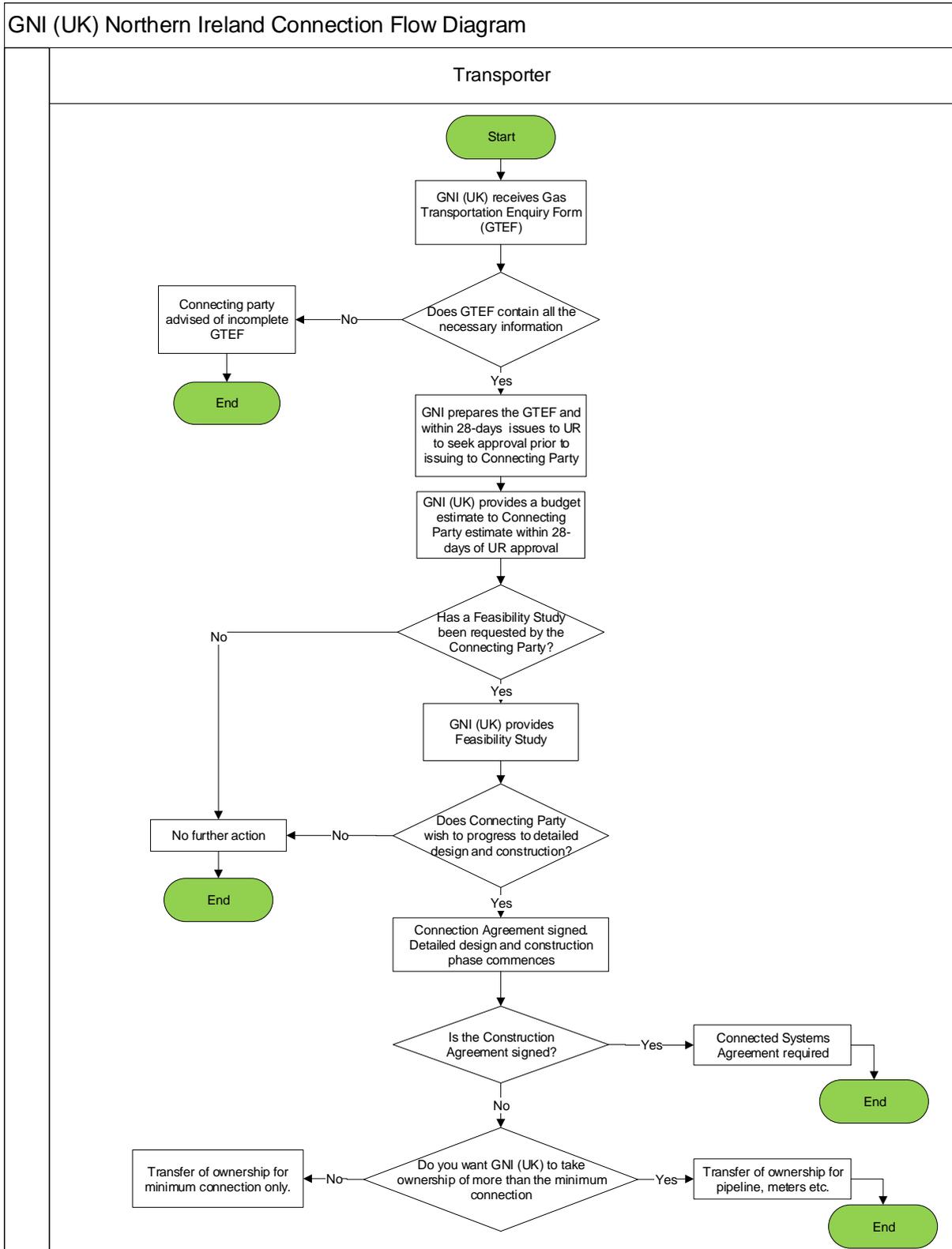
Indicative approximate costs at 2019 rates are in the following ranges depending on requirements for an AGI, distance from the existing network, regulator capacity, filters and heating. The full costs of making any connection, including project management costs, will be borne by the party wishing to connect to the Network and no element of such connection capital costs will be passed on to other users of the Network.

| PEAK FLOW (scm/hour) | COST RANGE (£000) |
|----------------------|-------------------|
| 850 | 1500-2,550 |
| 5,670 | 1,600-2,800 |
| 14,150 | 1,880-3,200 |
| 28,300 | 2,100-3,600 |
| 56,600 | 2,400-5,000 |
| 141,500 | 2,750-6,850 |
| 283,000 | 3,500-8,400 |

Table: Indicative Estimated Costs of Offtakes

These cost ranges are provided for information only. Any Connecting Party wishing to be connected to the GNI (UK) Transportation System should contact GNI (UK) for a budget estimate, as outlined in Section 5.

Appendix 2 - Connection Process Flow Diagram



Appendix 3 - Gas Transportation Enquiry Form



Project No:

For internal use only

Enquiry Details

Originator :

Name:

Address / Contact Details:

Phone:

Fax:

Email:

Description of Purpose / Use:

(If necessary, please furnish additional details on a second page and attach to this form.)

Location :

(If possible, please supply a detailed site map.)

Load Details :

MHQ (KWh) :

Pressure (Barg):

MDQ (KWh) :

Ramp Rate (KW/min) :

Requested Supply Date of Gas : _____

Phasing of Load :

Signed :

Date :

“Maximum Daily Quantity” and its abbreviation “MDQ” means the maximum Quantity of Natural Gas which may be offtaken at an Exit Point by a Shipper on any Day in respect of the Reserved Capacity set out in its Reserved Capacity Notice as may be varied in accordance with the provisions of the GNI (UK) Transportation Network Code.

“Maximum Hourly Quantity” and its abbreviation “MHQ” means the maximum Quantity of Natural Gas which may be offtaken at an Exit Point by a Shipper on any hour in respect of the Reserved Capacity set out in its Reserved Capacity Notice as may be varied in accordance with the provisions of the NI Network Gas Transmission Code.

Please send completed Gas Transportation Enquiry Form to:

GNI (UK) Transportation Services Co-Ordinator, PO Box 51, Gasworks Road, Cork, Ireland.
Phone: +353 21 453 4072 / E-Mail: GNI_UK_Transportation@gasnetworks.ie