

UNC Final Modification Report	At what stage is this document in the process?
<h1>UNC 0808:</h1> <h2>Reverse Compression</h2>	<div style="display: flex; flex-direction: column; gap: 5px;"> <div style="border: 1px solid #ccc; border-radius: 5px; padding: 5px; display: flex; align-items: center; gap: 10px;"> <span style="border: 1px solid #ccc; border-radius: 50%; padding: 2px 5px;">01</span> Modification         </div> <div style="border: 1px solid #ccc; border-radius: 5px; padding: 5px; display: flex; align-items: center; gap: 10px;"> <span style="border: 1px solid #ccc; border-radius: 50%; padding: 2px 5px;">02</span> Workgroup Report         </div> <div style="border: 1px solid #ccc; border-radius: 5px; padding: 5px; display: flex; align-items: center; gap: 10px;"> <span style="border: 1px solid #ccc; border-radius: 50%; padding: 2px 5px;">03</span> Draft Modification Report         </div> <div style="border: 1px solid #ccc; border-radius: 5px; padding: 5px; display: flex; align-items: center; gap: 10px;"> <span style="border: 1px solid #ccc; border-radius: 50%; padding: 2px 5px;">04</span> Final Modification Report         </div> </div>
<p><b>Purpose of Modification:</b></p> <p>To modify the UNC to enable a Distribution Network Operator (DNO) and an Independent Gas Transporter (IGT) to enter into a bilateral ‘operator to operator’ agreement, enabled by the iGT Arrangements Document (IGTAD) and containing Network Entry Provisions, to allow physical gas to be offtaken from a DNO by an IGT, compressed to a higher pressure, then returned to the same DNO by the IGT, through a process known as reverse compression.</p> <p>Reverse compression has zero net impact on physical flow into or out of the Total System, other than the initial filling (commissioning) of the IGT System, which is already established in IGTAD and the DNO’s associated CSEP Connection Arrangements. Neither reverse compression nor commissioning require User involvement.</p>	
<p><b>Next Steps:</b></p> <p>The Panel recommends implementation.</p>	
<p><b>Impacted Parties:</b></p> <p>High: Some Distributed Gas Producers, Compression service developers.</p> <p>Low: Distribution Network Operators (DNOs) and IGTs</p> <p>None: Gas Shippers and Suppliers, CDSP and Consumers</p>	
<p><b>Impacted Codes:</b></p> <p>UNC IGTAD</p> <p>UNC TPD Section I</p> <p>Possibly - UNC TPD Sections A and Y</p> <p>Possibly - IGT-UNC</p>	

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<b>Modification timetable:</b>		
Pre-Modification Discussed	28 April 2022	 Any questions?
Date Modification Raised	09 May 2022	Contact: Joint Office of Gas Transporters
New Modification to be considered by Panel	19 May 2022	 <a href="mailto:enquiries@gasgovernance.co.uk">enquiries@gasgovernance.co.uk</a>
First Workgroup Meeting	26 May 2022	 0121 288 2107
Workgroup Report to be presented to Panel	20 July 2023	Proposer: Tim Davis Barrow Shipping Ltd
Draft Modification Report issued for consultation	21 July 2023	 <a href="mailto:tdavis@barrowshipping.co.uk">tdavis@barrowshipping.co.uk</a>
Consultation Close-out for representations	10 August 2023	 07768 456 604
Final Modification Report available for Panel (at short notice)	11 August 2023	Transporter: David Mitchell, SGN
Modification Panel recommendation	17 August 2023	 <a href="mailto:david.mitchell@sgn.co.uk">david.mitchell@sgn.co.uk</a>
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## 1 Summary

### What

The Code is silent on embedded “Reverse Compression”. This Modification was initially proposed to allow private sector investment in reverse compression to be treated in the same way as network investment, for example with no entry or exit charges applicable. Legal advice is that a Gas Transporter (GT) licence would be required for any pipeline system that supports reverse compression. This Modification now seeks to introduce the requirements that would apply in cases where gas can flow from an IGT to a DNO.

### Why

Compressors can be used to move gas from a lower to higher pressure tier pipeline. This can relieve capacity constraints for distributed entry. This can only be effective if the relevant DNO supports the process and manages its network to accommodate the changed flows. Embedded pipeline reinforcement and smart pressure control are also able to provide additional entry capacity. Compressors can be used when these options cannot deliver all the necessary capacity. It is proposed that this and any specific requirements the DNO has of the IGT be captured in a bilateral ‘operator to operator’ agreement. This UNC Modification is proposed to require the IGT and DNO to enter into such an agreement.

### How

UNC amendment to recognise that gas can flow from an IGT to a DNO and, when proposed, require an IGT and a DNO to enter into a bilateral ‘operator to operator’ agreement in order to support this.

## 2 Governance

### Justification for Authority Direction

Reverse compression will only be successful if supported by the relevant DNO and so cooperation is essential. This is an enabling Modification that would require development of the operating parameters, but the actual operation would not be impacted. This is a clarifying and enabling Modification, however implementation may have a material impact on a party, so Authority Direction is appropriate.

### Requested Next Steps

This Modification should:

- be subject to Authority Direction as it may be considered a non-material change.
- proceed to Consultation

### Workgroup’s Assessment

The Workgroup agree with the Proposer that this Modification should be subject to Authority Direction and should be issued to Consultation.

### 3 Why Change?

The injection of distributed gas is growing. As at the end of March 2022, 126 DN entry points were registered on Gemini.

Barrow Green Gas (BGG) understands that around 15 existing biomethane projects flare gas from time to time because of DNO capacity constraints. BGG has seen an estimate that suggests around half of the currently identified potential new biomethane sites face local grid capacity constraints and, as a result, are unlikely to be developed. This may be exacerbated by high gas prices that can be expected to reduce gas demand, with a consequence being additional flaring of biomethane due to the capacity reduction (biomethane plants cannot be instantaneously turned off and the ability to flare gas is a safety measure to ensure pressure can be relieved).

Constraints typically arise in the summer months when demand is low. However, it is possible to export gas from one pipeline pressure tier (e.g. Medium Pressure) to a higher one (e.g. Intermediate Pressure). This increases the ability of a DNO to accept gas, with higher pressure tiers able to more easily accommodate additional gas as it provides access to more widespread sources of demand.

The ability of Reverse Compression to increase the capacity available to accommodate distributed gas is established in Europe, for example with over 30 projects in France. Cadent are completing the first such project in GB at a site near Doncaster, funded by Ofgem NIC. All the DNOs are proposing to offer reverse compression within their networks as an option, with discussions underway in an entry connections forum. Distributed gas producers, however, are interested in arranging this for themselves, and a number of such projects are being actively pursued.

This Modification was initially brought forward to ensure a level playing field such that private sector investment in reverse compression could compete with DNO investment. However, legal advice from the DNOs is that any pipeline installed to deliver reverse compression would have to be subject to a GT licence. The UNC is silent on the concept of an IGT that supports gas being injected to as well as receiving it from a DNO, and does not envisage reverse compression via an IGT system. This Modification is, therefore, proposed to address this and provide clarity about the requirements when gas originally taken from a DNO can flow back from the IGT to the DNO.

### 4 Code Specific Matters

#### Reference Documents

UNC IGTAD

UNC TPD Section A, I, J and Y

iGT-UNC

#### Knowledge/Skills

Understanding of connected system rules and distributed gas entry requirements.

### 5 Solution

#### Setting the scene: UNC 'Total System' boundary definitions

The UNC has generic terms for physical connection facility interfaces between UNC signatory gas transporters and non-UNC signatory operators at the boundaries of the 'Total System':

- 'System Exit Point'
- 'System Entry Point'

The UNC is based upon the operators of these facilities having non-UNC bilateral 'operator to operator' agreements, but requires that such agreements contain specified binding operational provisions/parameters which are referenced and used by UNC gas transportation provisions relating to gas leaving and entering the Total System.

The provisions are respectively:

- 'Network Exit Provisions', enabled by TPD Section J. For non-UNC parties, they are held in a bilateral 'operator to operator' agreement, such as a Network Exit Agreement, which is otherwise operational and does not contain any commercial gas transportation rules. For IGTs, these provisions are contained within UNC IGTAD, which they are party to.
- 'Network Entry Provisions', enabled by TPD Section I. For non-UNC parties, they are held in a bilateral 'operator to operator' agreement, termed a 'Network Entry Agreement' for UNC purposes, which is otherwise operational and does not contain any commercial gas transportation rules. At the time of creation of IGTAD, it was not anticipated that entry would be required, so there are no entry provisions within it and it cannot be considered a Network Entry Agreement.

For an IGT System to provide reverse compression, it requires exit and entry interfaces with the DNO System.

The arrangements for exit are already established for IGT Systems through the IGTAD, and include provisions for the initial filling of the IGT System with gas (commissioning) without the involvement of Users.

Arrangements for entry exist for non-IGTs, but no variant appropriate for IGT System reverse flow exists. This modification proposal aims to introduce such arrangements through additions and amendments to IGTAD and where required to make this work, minor changes to TPD sections including A and I.

As the modification is based on there being no new gas entry to the IGT System (and therefore the DNO network, being a part of the Total System) and the arrangements being exclusively operational, no changes to iGT-UNC are anticipated, however development of the business rules may change that.

For the avoidance of doubt, whilst outside the scope of this modification, it is recognised that having the principle of an entry point for reverse compression physical flows in IGTAD could facilitate a future modification proposal to add 'new IGT gas entry' provisions to IGTAD by creating 'entry' equivalents of the CSEP Supply Point/IGTS Supply Point principles already in use in TPD and IGTAD, subject to a further UNC modification and corresponding changes in iGT-UNC being agreed.

For the avoidance of doubt, IGTAD A 1.2.3 *"Nothing in this Document provides for the supply of any service between any DN Operator and an Independent Gas Transporter or creates any payment obligation as between a DN Operator and an Independent Gas Transporter"* would remain unchanged, likewise A 1.4.1 (a) under which IGT licensees are required to notify each DN Operator should a connection be envisaged through which an IGT System would be connected to more than one DNO System, or to a DNO System in more than one Exit Zone.

### **Proposed Business Rules**

- 1) Where an IGT System includes reverse compression assets, the arrangements described in these business rules shall apply (and not otherwise).
- 2) The existing defined term CSEP can remain unchanged; likewise the physical flow and gas transportation principles associated with an 'Unmetered CSEP'.
- 3) An entry point can include a point where gas flows from an IGT System to the Total System.

- 4) A new type of entry point is to be achieved by applying a prefix of 'IGT' to the existing TPD Section I 3.11.1 term 'LDZ System Entry Point', thereby creating 'IGT LDZ System Entry Point'.
- 5) An 'IGT LDZ System Entry Point' shall not be a relevant point for the purposes of commercial gas transportation including capacity, metered flows for daily balancing etc.
- 6) The flow at an 'IGT LDZ System Entry Point' will not be metered, assessed for pressure or composition.
- 7) Any generic entry provisions applicable to relevant IGT Systems shall be incorporated in IGTAD, and site specific content shall be held in the 'Network Entry Provisions' section of a bilateral 'operator to operator' agreement outside UNC that shall otherwise be operational and not contain any commercial gas transportation rules.
- 8) It is proposed that an Independent Gas Transporter and a DN Operator will not permit gas to flow into a DNO System at an IGT LDZ System Entry Point as a result of reverse compression (i.e. through the use of facilities the operation of which by the Independent Gas Transporter causes gas to flow back from the IGT System to the DNO System to which it is connected at an IGT LDZ System Entry Point) unless there is in force an IGT LDZ System Network Entry Agreement.
- 9) The Independent Gas Transporter shall ensure that any gas that is subject to reverse compression shall not be offtaken at premises connected to the IGT System and all such gas will be returned to the Total System.
- 10) The IGTAD Section C mechanism for shrinkage shall continue to apply unchanged.
- 11) The GDN shall have the right to apply, and subsequently alter, a system of monitoring of gas composition values at the redelivery point which is proportionate to the risk posed by the RC facility to the GDN's ability to meet the Standard Offtake Requirements including where appropriate the installation of a ROV to control gas flow off/on to the network. The GDN shall have the right to require reimbursement from the RC facility in respect of the costs associated with such monitoring and, should the RC facility refuse to pay such amounts the GDN shall have a right to terminate the network entry provisions in respect of the relevant system entry point.
- 12) The GDN will give the reverse compression facility advance notice of maintenance on its network that will impact the operation of the reverse compression facility. This notice of maintenance will cover (i) non-operational windows for assets upstream of the reverse compression facility but which have the potential to impact the behaviour of gas at the reverse compression facility's system entry point and (ii) the action required from the reverse compression facility including exit/entry volume to be reduced, equipment to be turned off or turned on at the GDN's request to assist the undertaking of such network maintenance activities. The maintenance may cover other matters.
- 13) During the period prior to the commissioning of the IGT LDZ System Entry Point to be used for the purposes of reverse compression the GDN shall, upon request of the relevant Independent Gas Transporter deliver to the Independent Gas Transporter a document.
  - (1) containing visibility of system changes planned in the period typically addressed in a document of that type which may impact the technical need for and/or commercial usefulness of the reverse compression assets and
  - (2) providing that to the extent network changes are made by the GDN after the period covered by that document, or where network changes are made during the period covered by that document the need for which could not have been reasonably foreseen by the GDN at the time the document was issued, that the GDN shall have no liability to the Independent Gas Transporter / the RC asset owner in respect of any asset stranding or other diminution of expected value experienced by those reverse compression assets. By way of context the period covered by the study in question is expected to be 5 years.

### Additional information to support the Business Rules

- 1) Whilst outside UNC, it is anticipated that the Connection Charging Methodology Statements and the associated terms and conditions of connection for the 'IGT LDZ System Entry Point' would have provisions similar to those in existing LDZ System Entry Point documents, but with minimal monitoring equipment required, based on the gas entering the Total System being the same gas that left the Total System, with little potential for change except perhaps rare and exceptional small scale and short duration instances of oil contamination.
  - a. Requirements for design assessments, HAZOPs and GL/5 compliance would be anticipated to apply and the DNOs would have further comfort as the IGT System would be subject to the Gas Safety (Management) Regulations (GS(M)R) including the obligation on the IGT to have a Safety Case, which includes arrangements for 'operator to operator' communication and interaction, and also the Pipelines Safety Regulations (PSR).
  - b. The details of the initial requirement for the IGT to include any non-fiscal measurement device in the design and construction, for 'operational phase' system operation purposes, and telemetry interface to be constructed for later use under the bilateral 'operator to operator' agreement would be contained here.
- 2) The design of the exact form of the bilateral 'operator to operator' agreement would be for the DNO as it is outside UNC, other than it having to meet the requirement for such agreement to be a 'Network Entry Agreement' for UNC purposes, i.e. by containing Network Entry Provisions site specific detail.
  - a. As with existing NEXAs for large Supply Meter Points and NEAs, the provisions for ongoing operation of the telemetry interface to be constructed under (a) above would be contained here.
  - b. Likewise provisions for any non-fiscal measurement device for system operation purposes, however such arrangements must not be considered as within the UNC term 'Measurement Provisions' as this triggers gas transportation provisions in TPD sections.
  - c. The 'operator to operator' bilateral agreement 'Local Operating Procedures' section as used in 'Network Entry Agreements' would seem to be the place to cover matters such as:
    - i. enduring operational communications between IGT and DNO concerning the day-to-day operation of the reverse compression asset
    - ii. updates on expected exit and entry flow rates from and to the network.

## 6 Impacts & Other Considerations

### Does this Modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

No.

### Consumer Impacts

Reduced biomethane flaring has positive environmental benefits. Increasing biomethane supply theoretically lowers consumer prices (higher supply and unchanged demand puts downward pressure on prices), but the limited scale means any impact would be minimal.

**What is the current consumer experience and what would the new consumer experience be?**

No Change.

<b>Impact of the change on Consumer Benefit Areas:</b>	
Area	Identified impact
<p><b>Improved safety and reliability</b> No change.</p>	None
<p><b>Lower bills than would otherwise be the case</b> Theoretical benefit but too small to be realised in practice.</p>	None
<p><b>Reduced environmental damage</b> Reducing biomethane flaring has clear environmental benefits. Reverse compression will also facilitate additional distributed entry that would otherwise not be developed due to DNO capacity constraints.</p>	Positive
<p><b>Improved quality of service</b> No change</p>	None
<p><b>Benefits for society as a whole</b> Small employment opportunities would be created through the development and installation of compressors (due to the enabling effect of more capacity for biomethane into gas grid).</p>	Positive

**Cross-Code Impacts**

There may be an impact on the iGT-UNC, although at this time it is unknown as to the actual impact. Assessments are being undertaken and any impact is likely to be consequential and not a direct impact on IGT UNC Parties or services.

**EU Code Impacts**

None

**Central Systems Impacts**

No impact. The CDSP confirmed that based on there being no requirement for these new types of entry points to be entered into the system, there would be no central systems impact.

**Rough Order of Magnitude (ROM) Assessment**

None required.

**Performance Assurance Considerations**

Workgroup believed there was no impact on Performance Assurance aspects.

**Initial Representations**

None Received.

## Panel Questions

### 1. Consequential impact on upstream metering

Workgroup clarified that there is an impact on upstream metering of increased biomethane injection but not directly as a result of this Modification. The upstream metering impact is a separate issue which will be addressed outside this Modification.

### 2. Clarification of who would operate the installation and thus whether it is part of "the network"

Initial Workgroup discussions focused on whether the installation could be;

- Built and owned by the relevant GDN.
- A self-lay option (to be built by the developer) if a specification can be agreed that can be purchased. The relevant Network would then adopt (and operate) the installation.
- The Modification approach where the installation would be owned and operated by the IGT (acting for the local Anaerobic Digestion developer).

### 26 January 2023

The Workgroup concluded that all three options are viable. If the first two options are not possible for whatever reason, the third option can be developed and this Modification facilitates this third option.

### 3. What are the charging implications?

A Workgroup Participant identified that a Modification may be required in order to suspend certain charges in respect of reverse compression exit/entry charges.

This Modification specified in the Business Rules that there will be no Transportation charges. There may be charges associated with Section 4B.

Charging Relevant Objectives have been filled in since there may be changes required in the Legal Text for Section Y due to the Modification Solution. However, no changes are required to UNC TPD Section Y as clarified in the Legal Text published alongside this Workgroup Report.

## Workgroup Impact Assessment

Workgroup Participants have discussed the Modification at the following Workgroup meetings:

- Workgroup 0808 28 June 2023
- Workgroup 0808 23 May 2023
- Workgroup 0808 25 April 2023
- Workgroup 0808 21 March 2023
- Workgroup 0808 23 February 2023
- Workgroup 0808 26 January 2023
- Workgroup 0808 12 December 2022
- Workgroup 0808 24 November 2022
- Workgroup 0808 27 October 2022
- Workgroup 0808 25 August 2022
- Workgroup 0808 28 July 2022
- Workgroup 0808 23 June 2022
- Workgroup 0808 26 May 2022

Discussions have covered the following topics to date:

1. Whether the "special" points where gas will exit at low pressure for reverse compression and entering at higher pressure again need a new definition?

2. Who will own/operate the reverse compression facility (RCF)?
3. How to prevent other connections to the RCF?
4. Responsibility for the gas during reverse compression – licence requirements/title and risk?
5. Would RCF operator need to be an IGT?
6. How will Code obligations be managed by the RCF owner/ operators? How much will need to be disapplied?
7. Metering requirements/ Calorific Value (CV) monitoring
8. Bi-lateral agreement document– requirements, topics and scope
  - Communications between 3rd party & GDN
  - Site management/non-operational windows
  - Gas quality and operating rules
  - Site operation – manual/auto?
  - ROV requirement?
  - Asset responsibility (ownership and operational responsibility)
  - Exit and entry rates (Scm/h)
  - End of life decommissioning responsibilities
  - Impact of conversion of network to hydrogen.
9. Requirement for more detail in the Solution section and an amended Modification (clear solution; business rules; some for avoidance of doubt statement(s) e.g. regarding bi-lateral agreements).
10. Legal Text production not yet possible, answering queries from legal perspectives
11. Requirement for a pre-agreement to enable feasibility/network analysis/lifetime estimate etc.
12. Requirement for changes to IGTAD (January / February 2023)
13. Discussion of the need for definition of reverse compression. (March 2023)

### **Workgroup updates (25 August 2022)**

The Workgroup has continued to consider whether the issue may be dealt with through direct agreements between network operators and thus not require a Code Modification. The proposer of the Modification has progressed with the option to obtain an IGT Licence that would facilitate such arrangements.

The Proposer has suggested that it will be preferable to have a generic form of arrangement rather than several bilaterally negotiated agreements. The Proposer noted that the specification for compression currently being suggested by networks is not realistically available for installation.

One Workgroup Participant has identified that even if direct arrangements can be agreed (between networks) there may still be a need for a change to Code in order to suspend certain Transportation charges.

The Proposer has agreed to continue in discussions with network operators to determine whether this Modification Proposal is needed. The Workgroup agreed to consider the feedback from these meetings at its next meeting in September 2022 and in the interim to seek from the Modification Panel permission to extend the duration of the Workgroup for two months.

## Workgroup updates (27 October 2022)

Some discussions have taken place between the proposer and Gas Distribution Network operators and the respective positions were considered at the October Workgroup meeting. The discussions have homed in on three potential models for ownership and operation of the 'reverse compression' facilities.

Two operators have indicated that they are content to develop the Proposer's preferred approach and will proceed to develop some business rules for a supporting agreement. Other networks express concerns or have not yet concluded to a preferred view.

It has been determined that a UNC Modification should be pursued to permit 3<sup>rd</sup> party operation of facilities because some additional drafting will be required to identify these as a special form of iGT and to set a prohibition on the facility being used to supply any other customer and that it cannot otherwise operate as a bypass of the GDN system.

The Proposer agreed to prepare an amended Modification for consideration at the November meeting.

Whilst Workgroup Participants recognised there is a strong desire from potential biomethane producers to have greater certainty on the arrangements for their connection to the System, the Workgroup cannot conclude until the outstanding questions are resolved and the GDN position is cleared. The Workgroup commended the Proposer and GDNs to resolve their discussions and in the interim agreed to seek from the Modification Panel permission to extend the duration of the Workgroup for a further two months.

## Workgroup updates (26 January 2023)

The Proposer clarified that the solution has been updated to make it clear that any DNO that agrees to do this will put it in their Licence Condition 4B statement.

### *Business Rules clarifications:*

- The operator – operator agreement is provided to draw people to the process this Modification aims to undertake. The previous terminology "Network Exit and Re-entry Agreement" is not helpful and will be removed.
- It was confirmed there will be several changes required to the Independent Gas Transporter Arrangements Document (IGTAD) which will be detailed in the Legal Text as the IGTAD assumes one directional flow, and it now needs to assume a bidirectional flow of gas.
- It was further clarified that IGTAD assumes that all flows are covered by Transportation Charges, therefore, the disapplication of Transportation Charges needs to be included.
- An amended Modification v3.0 is expected to be discussed at the February 2023 Workgroup.

## Workgroup updates (21 March 2023)

Workgroup reviewed detailed Business Rules contained in v4.0 of the Modification which led to discussion on the potential need for the definition of reverse compression and a review of the potential defined terms IGT unmetered SEP and IGT System Connected Arrangements.

## Workgroup updates (23 May 2023)

Workgroup reviewed detailed Business Rules contained in draft v8.0 of the Modification. The Workgroup considered the need for additional Business Rules, suggested by the Legal Text Provider and discussed the need for these. These additional rules have now formed BR11, BR12 and BR13.

Workgroup discussed whether there was a need for monitoring of gas quality but the consensus was that GS(M)R rules apply and there was no additional need for monitoring.

Workgroup also discussed payment of charges within UNC Section I. Workgroup reviewed the draft Legal Text, going through the document line by line. Overall Workgroup was content with the text provided.

Cadent Gas wished to highlight to Workgroup its view that the industry (Transporters/DNs) cannot operate and develop an economic and efficient network with 3rd parties owning and operating in-grid compressors. Cadent proposes to own and operate reverse compression facilities itself.

**Workgroup updates (28 June 2023)**

Cadent Gas reiterated its view that Transporters/DNOs cannot operate and develop an economic and efficient networks with 3rd parties owning and operating in-grid compressors. Cadent proposes to own and operate reverse compression facilities itself.

Wales & West Utilities stated that they have a Gas Act s9.1 obligation to develop an economical and efficient system for the transportation of gas to premises and any installation of reverse compression cannot affect that statutory obligation; therefore they will make it clear in their 4B statements that the overriding primacy of the statutory obligation and that reverse compression will only be permitted where it does not conflict with that obligation and where other measures to provide entry capacity are not sufficient.

**7 Relevant Objectives**

Impact of the Modification on the Transporters’ Relevant Objectives:	
Relevant Objective	Identified impact
a) Efficient and economic operation of the pipe-line system.	None
b) Coordinated, efficient and economic operation of (i) the combined pipe-line system, and/ or (ii) the pipe-line system of one or more other relevant gas transporters.	Positive
c) Efficient discharge of the licensee's obligations.	None
d) Securing of effective competition: (i) between relevant shippers; (ii) between relevant suppliers; and/or (iii) between DN operators (who have entered into transportation arrangements with other relevant gas transporters) and relevant shippers.	Positive
e) Provision of reasonable economic incentives for relevant suppliers to secure that the domestic customer supply security standards... are satisfied as respects the availability of gas to their domestic customers.	None
f) Promotion of efficiency in the implementation and administration of the Code.	None
g) Compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	None

**Proposer’s Views on Standard Relevant Objectives**

Ensuring that an operating agreement is in place between an IGT and DNO will facilitate economic and efficient system operation through clarity and certainty around how the connected systems will be operated.

By facilitating the development of IGT Connected Systems that deliver reverse compression, implementation would increase the likelihood of schemes being implemented that alleviate capacity constraints and allow increased volumes of distributed gas to be injected. This would facilitate:

Efficient and economic operation of the pipeline system through the existence of reverse compression that may not otherwise be installed, increasing the options available to a network operator.

Efficient discharge of the licensee's obligations by ensuring a level playing field between DNO and IGT compression schemes, avoiding any suggestion of undue discrimination.

Securing of effective competition between relevant Shippers and between relevant Suppliers by allowing injection of distributed gas that may otherwise be flared or not developed, with increased supply available to the market when it is economic to inject.

**Workgroup views**

When discussing whether Workgroup agreed with the Proposer’s assessment of whether the Modification furthers the Relevant Objectives, the Cadent representative at Workgroup stated that whilst not necessarily opposing the Modification (which is an enabling Modification), Cadent won’t be accepting projects onto its network to do with reverse compression at this time. Its view is that the Modification has a negative impact on Relevant Objective b) because this Modification could result in very many reverse compression installations and Cadent does not believe it is the most efficient way of operating its network. Specifically, it is Cadent’s view that:

*An economic and efficient network can’t be operated with 3rd parties owning an operating lots of in-grid compressors. If the network can’t make it possible for many such facilities, it should not be offered to one.*

This view was supported by Northern Gas Networks.

Representatives from other DNOs did not agree. The SGN and Wales & West Utilities representatives did not share the same view, as they were of the view that each individual site should be reviewed on its own merit.

Other Workgroup Participants agreed with the Proposer and agreed that the Modification furthers both Relevant Objective b) and d) for the reasons given by the Proposer above.

It should be noted that other than the Proposer, there were no other Shipper attendees present at the final meeting to express a view on the Relevant Objectives. This may have been due to a global issue preventing access to MS Teams meetings.

**Impact of the Modification on the Transporters’ Relevant Charging Methodology Objectives:**

Relevant Objective	Identified impact
a) Save in so far as paragraphs (aa) or (d) apply, that compliance with the charging methodology results in charges which reflect the costs incurred by the licensee in its transportation business;	None
aa) That, in so far as prices in respect of transportation arrangements are established by auction, either: <ul style="list-style-type: none"> <li>(i) no reserve price is applied, or</li> <li>(ii) that reserve price is set at a level -                             <ul style="list-style-type: none"> <li>(I) best calculated to promote efficiency and avoid undue preference in the supply of transportation services; and</li> <li>(II) best calculated to promote competition between gas suppliers and between gas shippers;</li> </ul> </li> </ul>	None

b) That, so far as is consistent with sub-paragraph (a), the charging methodology properly takes account of developments in the transportation business;	None
c) That, so far as is consistent with sub-paragraphs (a) and (b), compliance with the charging methodology facilitates effective competition between gas shippers and between gas suppliers; and	Positive
d) That the charging methodology reflects any alternative arrangements put in place in accordance with a determination made by the Secretary of State under paragraph 2A(a) of Standard Special Condition A27 (Disposal of Assets).	None
e) Compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	None

### Proposer’s Views on Charging Relevant Objectives

Charging Relevant Objective c) -

Compliance with the charging methodology facilitates effective competition between gas shippers and between gas suppliers by allowing injection of distributed gas that may otherwise be flared or not developed, with increased supply available to the market when it is economic to inject.

DNOs are likely to change their Licence Condition 4B Connection Charging Methodology Statements but this is unlikely to impact upon the relevant objectives.

### Workgroup Assessment of Charging Relevant Objectives

The Workgroup concluded that the Relevant Charging Methodology Objectives were not impacted as there are no changes proposed to UNC TPD Section Y.

## 8 Implementation

No implementation costs are envisaged as a result of this Modification.

Implementation should be as soon as practicably possible following Authority Direction.

## 9 Legal Text

Legal Text has been provided by SGN and is published alongside this report.

<https://www.gasgovernance.co.uk/0808>

### Workgroup Assessment

The Workgroup has considered the Legal Text on 27 June 2023. Most Workgroup Participants were content the Legal Text meets the intention of the Modification Solution.

One Participant was concerned the proposed Legal Text for IGTAD Section A 2.4 does not include the reference to Reverse Compression as required by the Modification Solution. The Legal Text provider noted the concern and provided a view that a reference to Reverse Compression is not required as this is referenced in IGTAD Section B 3.5.

Both parties agreed to review their respective comments and amended Legal Text would be provided if needed. It was agreed that if amended Legal Text is required, this would not require an amendment to the Modification Solution.

**Text Commentary**

Published alongside this report.

**Text**

Published alongside this report.

**10 Consultation**

Representations were invited from interested parties on 21 July 2023. All representations are included within the Appended Representations section, including any initial representations.

The following table provides a high-level summary of the representations. Of the 16 representations received 13 supported implementation, 1 offered qualified support, 1 provided comments and 1 was not in support.

Representations were received from the following parties:

Organisation	Response	Relevant Objectives	Relevant Charging Methodology Objectives
Acorn Bioenergy Limited	Support	b) positive d) positive	c) none
ACR Energy Ltd	Support	b) positive d) positive	c) none
Barrow Shipping Ltd	Support	b) positive d) positive	c) none
Biogen (UK) Ltd	Support	b) positive d) positive	c) none
Cadent Gas Ltd	Oppose	b) negative d) none	c) no response
Cannington Enterprises Ltd	Support	b) positive d) positive	c) none
CNG Services	Support	b) positive d) positive	c) none
Future Biogas Ltd	Support	b) positive d) positive	c) none
Grissan Renewable Energy	Support	b) positive d) positive	c) none
Iona Capital Ltd	Support	Nil response	Nil response
Ixora Energy Ltd	Support	b) positive d) positive	c) positive

Northern Gas Networks	Comments	a) negative b) no response d) no response	c) no response
SGN	Qualified Support	b) positive d) positive	c) positive
Stream Bioenergy	Support	b) positive d) positive	c) positive
Wales & West Utilities	Support	b) positive d) none	c) none
VTTI B.V.	Support	b) positive d) positive	c) positive

Please note that late submitted representations may not be included or referred to in this Final Modification Report. However, all representations received in response to this consultation (including late submissions) are published in full alongside this Report and will be taken into account when the UNC Modification Panel makes its assessment and recommendation.

## 11 Panel Discussions

### Discussion

The Panel Chair summarised that Modification 0808 will modify the UNC to enable a Distribution Network Operator (DNO) and an Independent Gas Transporter (IGT) to enter into a bilateral ‘operator to operator’ agreement, enabled by the IGT Arrangements Document (IGTAD) and containing Network Entry Provisions, to allow physical gas to be offtaken from a DNO by an IGT, compressed to a higher pressure, then returned to the same DNO by the IGT, through a process known as reverse compression.

Reverse compression has zero net impact on physical flow into or out of the Total System, other than the initial filling (commissioning) of the IGT System, which is already established in IGTAD and the DNO’s associated CSEP Connection Arrangements. Neither reverse compression nor commissioning require User involvement.

Panel Members considered the representations submitted during the Consultation noting that, of the 16 representations received, 13 supported implementation, 1 offered qualified support, 1 provided comments and 1 was not in support.

Panel Members were pleased to see the large number of responses to consultation. A Panel Member noted that many were from non-code parties.

### Net Zero

Some Panel Members acknowledged that this Modification supports growth of the biomethane industry particularly in areas where capacity would be constrained in the absence of reverse compression. It also provides the potential for some existing anaerobic digestion (AD) plants to expand, which is referenced in the consultation response from Iona Capital Ltd. Growth in this area is part of the total picture in achieving Net Zero targets and this growth can contribute positively to GB Energy Security.

Panel Members acknowledged that there would be an amount of energy used in running the reverse compression facility, though this is likely to be small.

## Flaring

Panel Members also wished to draw attention to the several consultation responses from those close to existing AD plants who refer to flaring being a current issue.

Some Panel Members believed this Modification could contribute to a reduction in flaring.

## Concept

Panel Members discussed the concerns raised by Cadent in its consultation response relating to 3<sup>rd</sup> parties operating in-grid compression on another DN's network, noting that Cadent supports in-grid compression as an entry capacity reinforcement option only where the host DN owns and operates such facilities itself.

A Panel Member agreed with Cadent's views on this Modification.

Some Panel Members noted that Modification 0808 offers a solution, however there are alternative solutions available which are for the DNs to put forward.

Some Panel Members believed that if there were viable alternatives then the Modification would not be required.

## Legal Text

Panel Members discussed the concerns in at least two consultation responses (NGN and Cadent) that the Modification introduces new concepts and rules that are not specifically ringfenced for the concept of "reverse compression" in the Business Rules and therefore the Legal Text. Panel Members agreed this was not a new issue.

The Independent Modification Panel Chair invited the Proposer to clarify their views on the Legal Text. T Davis confirmed that he was happy with the Legal Text because the DN and Dentons, the Legal Text Provider are happy with it.

A Panel Member confirmed they believed the Legal Text does ring fence reverse compression; it is done in a legal manner, rather than as plain text.

Panel Members heard clarification from the legal text provider (SGN) that the matter has been checked by both the legal firm providing the text (Dentons) and the internal lawyer of the legal text provider themselves. This query referred specifically to UNC TPD Section B Para 3.51:

### SECTION B – IGTS SYSTEMS – CONNECTION AND OPERATIONAL ARRANGEMENTS

#### 3.5 Reverse Compression

3.5.1 For the purposes of this paragraph 3.5 "reverse compression" occurs where a directly connected IGT System includes reverse compression facilities the operation of which by the Independent Gas Transporter causes gas which has flowed out of the DNO System and into the IGT System to flow back from the IGT System to the DNO System at an IGT LDZ System Entry Point.

Some Panel Members confirmed their concern remained with the text in Section A System Classification, where an IGT Entry Point is defined as an IGT LDZ System Entry Point but not a specific Entry Point for reverse compression. This query referred specifically to UNC TPD Section A Para 2.4:

### SECTION A – SYSTEM CLASSIFICATION

#### 2.4 IGT LDZ System Entry Point

An "IGT" LDZ System Entry Point is an LDZ System Entry Point where gas can flow from an IGT System (as defined in IGTAD Section A2.1.1) into an LDZ (in which case the IGT System is a Connected Delivery System).

Other Panel Members reminded Panel that a suitable amendment to the UNC can be made by Code Parties.

## Amendments required to DN Connections Charging Methodology and 4B Statement

Panel Members noted that DNs will need to amend their Connections Charging Methodology 4B Statement<sup>1</sup> to consider the obligations that this Modification would introduce in relation to the recovery of DNO costs associated with facilitating the reverse compression facility. This would be subject to Authority non-veto of the change. Time must be factored in for this process to complete (at least 2 months before it is effective).

### Implementation

Panel Members noted two responses referred to particular projects requiring this Modification (WWU and CNG Services), one of which needs a Reverse Compression solution to operate by 31st March 2024 due to loss of network capacity from a local factory closing.

The Ofgem representative noted that it would be helpful to specify a clear timetable for when Ofgem approval is required in order to facilitate specific projects.

Panel Members requested that the Joint Office/Panel Secretary contact the 16 consultation respondents and ask them to respond directly to Ofgem with the date that they require the Ofgem approval to be received by. The Joint Office/Panel Secretary agreed to carry this out.

The Proposer confirmed that there are long lead time items which must be purchased in advance of installation. He confirmed there are at least 16 projects he knew about. Specific dates are difficult to set.

Panel Members noted that the Green Gas Support Scheme is open to applicants in England, Scotland and Wales for four years from 30 November 2021. Consultation responses have expressed concern that there is no clarity on any replacement for this funding. For more information see:

<https://www.ofgem.gov.uk/environmental-and-social-schemes/green-gas-support-scheme-and-green-gas-levy>

Panel Members agreed with Workgroup that implementation should be as soon as practicable.

### Consideration of the Relevant Objectives

Panel Members considered Relevant Objective a) *Efficient and economic operation of the pipe-line system*.

Some Panel Members agreed that implementation of this Modification would have a **positive** impact because the Modification requires an operator-to-operator agreement and having such an agreement supports cooperation and therefore efficient and economic operation of the pipe-line system.

Some Panel Members believed that this Modification is **negative** for Relevant Objective a) because it introduces the concept of IGT Entry without that being ring fenced in any way and potentially opens up other forms of IGT Entry without additional controls. The Legal Text is written in such a way that some DNs believe is not tight enough to solely implement this Modification. Entry of unknown gas in the future in different form could involve additional costs in managing and monitoring the network as a result of that Entry. Opening up to any IGT Entry is opening up to unknown costs which is not efficient and economic.

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<sup>1</sup> The licence condition can be found here:

[https://epr.ofgem.gov.uk/Content/Documents/Gas\\_transporter\\_SLCs\\_consolidated%20-%20Current%20Version.pdf](https://epr.ofgem.gov.uk/Content/Documents/Gas_transporter_SLCs_consolidated%20-%20Current%20Version.pdf)

Some Panel Members believed that where the DN agrees that Reverse Compression is the best solution, this Modification furthers and therefore **positively** impacts Relevant Objective a).

Other Panel Members believe that the Legal Text meets the intention of the Modification Solution and therefore there is not a concern to be addressed.

Panel Members considered Relevant Objective *b) Coordinated, efficient and economic operation of*

(i) *the combined pipe-line system, and/ or*

(ii) *the pipe-line system of one or more other relevant gas transporters.*

Some Panel Members agreed that implementation of this Modification would have a **positive** impact on Relevant Objective b) because the Modification requires an operator-to-operator agreement and having such an agreement supports cooperation and therefore efficient and economic operation of the **combined** pipeline system.

A Panel Member believed that this Modification is negative for Relevant Objective b) because Networks would not be able to operate and develop an economic and efficient network with 3rd parties owning and operating in-grid compressors, whose sole purpose is to change the flows on the DN's network. It would be uneconomical and impractical to accommodate, both operationally and commercially.

Panel Members considered Relevant Objective d):

d) Securing of effective competition:

(i) between relevant shippers;

(ii) between relevant suppliers; and/or

(iii) between DN operators (who have entered into transportation arrangements with other relevant gas transporters) and relevant shippers.

Some Panel Members believed this Modification would have a **positive** impact on Relevant Objective d) as it increases competition between DNs and IGTs. An IGT being able to offer reverse compression provides an alternative to direct injection into the DN system.

Some Panel Members believed this Modification would have a **positive** impact on Relevant Objective d) as it could increase alternatives to dealing with just the DN as a monopoly provider (from the point of view of a connecting Shipper/connecting party wishing to inject biomethane, for example).

A Panel Member believe the Modification will have a **positive** impact on Relevant Objective d) as it levels the playing field which enhances competition.

## Consideration of the Relevant Charging Methodology Objectives

Panel Members considered Relevant Charging Methodology *Objective c) That, so far as is consistent with subparagraphs (a) and (b), compliance with the charging methodology facilitates effective competition between gas shippers and between gas suppliers.* Panel Members agreed with the Proposer's views which are reproduced here below:

Compliance with the charging methodology facilitates effective competition between gas shippers and between gas suppliers by allowing injection of distributed gas that may otherwise be flared or not developed, with increased supply available to the market when it is economic to inject.

DNOs are likely to change their Licence Condition 4B Connection Charging Methodology Statements but this is unlikely to impact upon the relevant objectives.

## Determinations

Panel Members voted unanimously (13/13) that no new issues were identified as part of consultation.

Panel Members voted by majority (13/14) that there were no cross code impacts.

Panel Members voted by majority (11/13) to recommend implementation of Modification 0808.

## 12 Recommendations

### Panel Recommendation

Panel Members recommended that Modification 0808 should be implemented.

## 13 Appended Representations

Initial Representations – None

Representation - Acorn Bioenergy Limited

Representation - ACR Energy Ltd

Representation - Barrow Shipping Ltd

Representation - Biogen (UK) Ltd

Representation - Cadent Gas Ltd

Representation - Cannington Enterprises Ltd

Representation - CNG Services

Representation - Future Biogas Ltd

Representation - Grissan Renewable Energy

Representation - Iona Capital Ltd

Representation - Ixora Energy Ltd

Representation - Northern Gas Networks

Representation - SGN

Representation - Stream Bioenergy

Representation - Wales & West Utilities

Representation - VTTI B.V.