Update to the Virtual Reverse Flow Product and Tariff Methodology Consultation

Business Rules

Version 1.0

For Consultation

20th November 2024

GMO Northern Ireland

Contents

1. Introduction

1.1. This document sets out the proposed Business Rules for the NI Network Gas Transmission Code (referred to in this document as the 'Code') associated with changes to the Virtual Reverse Flow (VRF) service at Interconnection Points.

1.2. It also discusses the methodology for the tariff for VRF IP Exit Capacity and makes a proposal for the tariffs which should apply in light of the product changes.

1.3. In this document, capitalised terms generally have the meaning given to them in the Code.

2. Context for these proposed changes

2.1. VRF was first introduced in Northern Ireland in 2012 for compliance with EU Regulations (EU1775/2009), and in the context of point-to-point transportation arrangements. The rules for its provision were updated at the time of EU network codes implementation in 2015, as part of the introduction of the entry-exit transportation arrangements. These were facilitated by the implementation of the Tripartite Agreement between GNI (UK), National Grid Gas (now National Gas) and PTL which now governs the operation of Moffat Interconnection Point as well as some amendments to the GNI (UK) Transportation Agreement, which is the agreement between PTL and GNI(UK) governing the operating arrangements for the GNI (UK) Upstream System, (the pipeline owned by GNI (UK) on the GB mainland, also known as the South West Scotland Onshore System ("SWSOS")).

2.2. Given the lack of actual demand for a reverse flow product, the quantity of VRF capacity provided at Moffat IP in these agreements has historically been very small, and currently stands at 1,228,000 kWh/day.

2.3. Over recent years, PTL and GNI (UK) have been in discussions over the GNI (UK) Transportation Agreement. During this time, some industry queries have also been raised over the available quantity and tariff of the VRF product at Moffat. The Transporter has therefore undertaken a review of the VRF arrangements under the Code.

2.4. Further to this review and the outcome of contractual discussions, the Transporter has concluded that there is now scope to increase the amount of VRF capacity made available at Moffat IP under the Code.

2.5. For there to be a VRF service there must first be physical forward flow nominations. At this time, the Transporter does not receive regular forward flow nominations at the South North IP, which means that to date, the available VRF IP Exit Capacity at the South North IP has been zero. Until such time as there is material interest in both forward and reverse flow at the South North IP, the Transporter and the Adjacent Transporter in the ROI have not planned to invest in systemising the VRF procedures set out in these business rules in respect of that point. However, the Transporter intends that the same principles and procedures would apply for South North IP and the Code text would not differentiate between the two Interconnection Points in relation to the relevant Shipper processes.

2.6. The tariff for VRF capacity is published by the Transporter in the Gas Charging Methodology Statement and must be set in accordance with PTL and GNI (UK)s Licence Conditions 2A.2.1.8 and 2A.2.1.9. Under these conditions, the tariff level must be approved by the Utility Regulator. To date, this tariff has simply been set at 0.0001p/kWh for VRF capacity, reflecting the low quantity of capacity available and the fact that it is a virtual gas transportation service. No commodity charges apply.

2.7. Tariffs for gas transportation in NI are now more widely aligned with the EU Tariff Network Code 2017/460 (TAR-NC) as transposed into UK legislation following Brexit 1. This includes principles for determining VRF tariffs. With the increase in Moffat VRF capacity now becoming available, it is appropriate to align tariff setting for VRF with the principles in TAR-NC.

2.8. More broadly, a greater quantity of VRF capacity being available for Moffat IP creates the opportunity for further alignment with the principles in the EU Capacity Allocation Mechanisms Network Code 2017/459 (as also transposed into UK legislation). It is therefore proposed that, on implementation of these proposals, Daily VRF IP Exit Capacity would be offered initially at the day-ahead stage by PRISMA Auction, and within day by submission of 'Over-Nominations' on Delphi. The remainder of this document sets out:

(a) the proposed business rules for the VRF IP Exit Capacity product;
(b) the methodology behind the proposed tariffs and discount level which it is proposed should apply; and
(c) consultation questions and details on how to respond.

[1] Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas, now assimilated in UK law by the European Union (Withdrawal) Act 2018 and the European Union (Withdrawal Agreement) Act 2020, as amended by Schedule 5 of the Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/531) which was then itself amended by the Gas Tariffs Code (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/1393).

Proposed Business Rules for VRF IP Exit Capacity

3. Registration

3.1. As is currently the case, a Shipper will still need to be registered at the relevant VRF IP Exit Point before it can book capacity or make VRF IP Exit Nominations. The Transporter proposes some amendments to the registration process in Code Section 22 for a VRF IP Exit Point as set out in this section 3.

3.2. In order to initiate the development and implementation for IT systems related to VRF service at the South North IP, the Transporter will need to establish that there is likely to be sufficiently regular forward flow nominations to enable a service to be provided, as well as confirming that there is a realistic demand for VRF service. It should be noted that these need not necessarily derive from the same Shipper.

3.3. Therefore, the Transporter proposes to consider applications for registration at the South North IP in relation to the VRF IP Exit Point separately from those for the IP Entry Point.

3.4. An application for registration at either VRF IP Exit Point should indicate:

(a) whether it is a request for South North IP Entry Point, South North IP Exit Point, or both; and

(b) the Shipper's forecast use of the point, in both directions, for the forthcoming 5 Gas Years;

3.5. Where a Shipper requests an IP Registration at the South North IP in both directions, the Transporter may initially issue a registration for South North IP Entry Point forward flow only, subject to the relevant information being provided in accordance with the Code (e.g. concerning the placement of credit etc.).

3.6. On receipt of an application for registration at the South North VRF IP Exit Point, the Transporter will commence a period of monitoring of forward flow nominations on a rolling 60 days basis

3.7. Once any Shipper has commenced forward flow nominations, if, over any future rolling 60 day period there is sufficient forward flow, and reasonable forecast to indicate ongoing/future demand, to reliably provide a VRF service, the Transporter will initiate the IT systems development needed to provide the dynamic service outlined in the remainder of these business rules and expedite the delivery of the IT service within a reasonable timeframe. It should be noted that this would need to be implemented in conjunction with the Adjacent Transporter at the South North IP.

3.8. The Transporter would issue the registration for VRF IP Exit Capacity once the systems (or if applicable any manual arrangements) were available for use.

3.9. Given that the IT implementation lead time is a minimum of 12 months, Shippers who have a serious future interest in utilising the South North IP for VRF are encouraged to contact the Transporter as early as possible.

3.10. As part of the registration process, Shippers will be required to provide the details of their nominated contact (phone and email) who may be contacted by the Transporter in case of interruption of VRF IP Exit Capacity.

3.11. The Transporter will contact any Shippers with existing VRF IP Exit Point registrations to ensure that it has the information set out in this section 3, as applicable to the relevant point.

4. Product Definition

4.1. VRF IP Exit Capacity will be offered as a Daily Product:

(a) at the day-ahead stage, and

(b) within day.

4.2. The maximum duration of a VRF capacity product which can be offered by the Transporter is one Gas Flow Day. This is because the quantity of VRF IP Exit Capacity which can be offered for a given Gas Flow Day will depend on forward flow Nominations for that Gas Flow Day (as further set out in section 5).

4.3. All VRF IP Exit Capacity offered shall be:

(a) Unbundled; and

(b) as Interruptible VRF IP Exit Capacity.

4.4. VRF IP Exit Capacity Nominations shall be Double-sided Nominations. In order to manage the systemisation of interruption processes, it is necessary for a Shipper to ensure that it only has a single counterparty making matching Nominations at the IP per day.

5. Available Quantity of VRF IP Exit Capacity

5.1. The underlying principle is that, in normal circumstances at an IP, the maximum Available VRF IP Exit Capacity available for the Gas Flow Day at any given time should be equal to the expected physical forward flow less any capacity which has already been allocated.

5.2. Since at the Day Ahead stage, it may not be possible to rely on forward flow nominations being submitted in advance of the VRF IP Exit Capacity auction, the Transporter shall determine an appropriate amount of VRF IP Exit Capacity to offer in the PRISMA Daily Interruptible VRF IP Exit Capacity Auction.

5.3. This will be based on a typical minimum summer demand level, assessed by the Transporter, as this represents the amount of forward flow which can dependably be expected to be nominated to flow. However, on a day-to-day basis, it may also take into account other operational factors that the Transporter, in its sole discretion, deems appropriate and necessary.

5.4. In the event of increasing demand for VRF in future, the Transporter would revisit and potentially refine the assumptions concerning minimum summer demand levels to ensure that it does not create any arbitrary restriction on the amount of VRF IP Exit Capacity being made available (particularly, for example, in winter periods).

5.5. During the day, the amount of VRF IP Exit Capacity available will depend on the amount which has been previously allocated and, within day, the operators emerging view of the actual forward flow on the system.

5.6. During the day, once nominations are being received, the system will make a check that VRF nominations (including over-nominations) received do not exceed the forward flow Nominations for the Gas Day.

5.7. After each Nominations matching cycle, the system will show an estimate of the remaining VRF IP Exit Capacity for the day. However, this must, by nature, be an estimate since the quantity available

will also depend on any changes to forward flow nominations and to the anticipated actual operational forward flow (which depends on the relevant interoperator agreement).

5.8. The remainder of this section 5 sets out the procedures as regards Shippers in more detail.

5.9. The available VRF IP Exit Capacity for a given Gas Flow Day shall be determined by the Transporter and published on PRISMA at the start of the Daily Interruptible VRF Capacity Auction.

5.10. At the Day Ahead stage, the amount of VRF IP Exit Capacity which is to be offered in the PRISMA Auction shall be equal to the Transporter's assessment of the available VRF IP Exit Capacity, based on a minimum summer demand level.

5.11. After the D-1 Auction, Registered Shippers will be able to access remaining capacity via Delphi and using an 'Over-Nomination' process, as further set out in section 8.

5.12. Delphi will check submitted Nominations against the remaining available VRF IP Exit Capacity at each Nominations matching cycle (i.e. on each hour bar), starting from the 18:00 matching cycle.

5.13. During the Renomination Period (18:00 D-1 – 02:00 D) the amount of VRF IP Exit Capacity available shall be determined as follows:

(a) During the Day Ahead Stage, from 18:00 until 4:59 D-1, the amount of VRF IP Exit Capacity available shall be equal to the sum of Shippers forward flow Nominations less any earlier allocated VRF IP Exit Capacity.

(b) Within Day, between 05:00 and 02:00 on Gas Flow Day D, the amount of VRF IP Exit Capacity available shall be equal to the sum of the forward flow Nominations + anticipated additional forward flow quantity - already metered quantity - already allocated capacity

where any anticipated additional forward flow quantity is determined between the Transporter and the relevant Adjacent Transporters in accordance with the terms of the relevant interoperator agreement.

5.14. The following table provides a summary of the proposed approach:

Available Capacity Summary Table

Day, Time	Amount of Remaining VRF IP Exit Capacity Available =	Accessed by:
D-1, 16:30	Minimum Summer Demand	PRISMA Auction
D-1, 18:00 – 04.59	Sum of the forward flow Nominations and less any capacity allocated in the Auction	Delphi, Over-Nomination
D, 05:00 – 02:00	Sum of the forward flow Nominations plus anticipated operational forward flow quantity less already metered quantity less already allocated capacity	Delphi, Over-Nomination

6. Approach to Capacity Allocation

6.1. In the first instance, VRF IP Exit Capacity shall be allocated to successful bidders in the PRISMA Auction held at 16:30 on D-1, in accordance with section 7.

6.2. Subsequent allocations of VRF IP Exit Capacity shall be made via the Over-Nomination process, in accordance with section 8.

6.3. For the avoidance of doubt, a Shipper may make Over-Nominations for VRF IP Exit Capacity in accordance with the timescales in section 5, without participating in the PRISMA auction.

7. Rules for the D-1 VRF IP Exit Capacity Auction

7.1. VRF IP Exit Capacity will first be made available in a Daily Interruptible VRF Capacity Auction (which shall be a Uniform Price Auction) on an unbundled basis on PRISMA on D – 1.

7.2. At the start of bidding for each Daily Interruptible VRF Capacity Auction, PRISMA will publish the following information:

(a) the amount of Available VRF Capacity; and

(b) the Reserve Price.

7.3. Registered VRF Shippers may submit bids on PRISMA at D-1 between 16:30 and 17:00 in accordance with the wider rules for participating in PRISMA auctions set out in the Code.

7.4. The amount of VRF IP Exit Capacity allocated and the clearing price shall be published to individual Shippers simultaneously on PRISMA, by no later than 30 minutes after the bidding round has concluded.

7.5. The remaining Available VRF IP Exit Capacity for the relevant Gas Flow Day will be updated dynamically within Delphi after each Nominations matching cycle starting from 18:00 on D-1.

8. Rules for the Over-Nomination Procedure

8.1. VRF IP Exit Nominations and Renominations shall be submitted and processed in accordance with section 6 of the NI Network Code and the rules outlined in this section 8.

8.2. Starting from Renominations submitted for the 18:00 hour bar, a valid Nomination/Renomination in excess of a Shipper's booked VRF IP Exit Capacity will be considered to be an Over-Nomination.

8.3. An Over-Nomination will have the effect of increasing the Shipper's VRF IP Exit Capacity allocation for the Gas Flow Day so that it is equal to the Shipper's VRF Confirmed Quantities (CQs) in the Over-Nomination.

8.4. As described in section 5, the amount of Available VRF IP Exit Capacity shall be updated by the Transporter on an hourly basis during the Renomination Period.

8.5. During the Renomination Period, VRF IP Exit Capacity will be allocated on a 'First Come First Served' basis, provided that there is available VRF IP Exit capacity remaining at the time of their Over-Nomination.

8.6. Where there is insufficient available VRF IP Exit Capacity to fulfil all Over-Nominations at a given hour bar, the Transporter will revise VRF IP Exit Nominations to allocate the available capacity pro-rata to Over-Nominations received.

8.7. The effective time for valid (confirmed) Nominations/Renominations (including Over-Nominations) shall be the hour bar plus two, from receipt of the Nomination/Renomination.

9. Gas Flow Allocations

9.1. For each VRF IP Exit Nomination made by a Shipper in respect of a Gas Flow Day, a Shipper's VRF IP Exit Allocation shall be determined by the Transporter as being equal to the confirmed IP Nominated Quantity in respect of that VRF IP Exit Nomination, subject to the remainder of this section 9 and subject to any interruption under section 10.

9.2. Where the Transporter has revised VRF IP Exit Nominations a Shipper's VRF IP Exit Allocation shall be determined by the Transporter as being equal to the revised IP Nominated Quantity.

9.3. Initial VRF IP Exit Allocations shall be provided to relevant Shippers by the Transporter by the end of D+1.

9.4. Final VRF IP Exit Allocations shall be provided to relevant Shippers by the Transporter by the end of D+5.

10. Interruption of Interruptible VRF IP Exit Capacity

10.1. VRF IP Exit Capacity may be interrupted by the Transporter in the following circumstances:

(a) due to lack of availability of reverse flow capacity in respect of Moffat Interconnection Point, under the GNI (UK) Transportation Agreement;

(b) in an Emergency;

(c) in any other operational circumstance in which the Transporter deems it appropriate and necessary.

10.2. Where the Transporter is required to interrupt VRF IP Exit Capacity in respect of a Gas Flow Day, it shall inform the relevant Shippers contact (as specified at registration) as soon as possible that their VRF IP Exit Nominations are going to be curtailed.

10.3. The lead time for an interruption of VRF IP Exit Capacity shall be 45 minutes, such that the effective time of revised VRF IP Exit Capacity Nominations shall be the hour bar following notification by the Transporter of the interruption.

10.4. If it is necessary for the Transporter to interrupt VRF IP Exit Capacity, the Transporter shall determine the total quantity by which VRF IP Exit Nominations need to be curtailed (the 'VRF Curtailment Quantity') to remain within the total available VRF IP Exit Capacity.

10.5. VRF IP Exit Capacity shall be interrupted in order of contractual time stamp and on a 'last in first out' basis, such that earlier capacity allocations shall prevail over later capacity allocations. Where two or more Nominations are received with the same time stamp (and the Transporter is not otherwise interrupting them completely as there is a small amount of VRF IP Exit Capacity remaining available), a pro-rata reduction of such Nominations shall be made by the Transporter.

10.6. A Shipper's CQs for a given Gas Flow Day shall not be reduced below their deemed VRF flow at the effective time of interruption.

11. Transfer of VRF IP Exit Capacity

11.1. Transfers of VRF IP Exit Capacity between Shippers shall not be permitted under the Code.

11.2. VRF IP Exit Capacity may not be transferred from one IP to another IP.

12. Tariff Publication and Credit Requirements

12.1. The Transporter shall publish the tariff and any applicable discounts in the Charging Methodology Statement, subject to approval by the Authority.

12.2. In accordance with the existing rules in the Code (which already include VRF capacity and gas flows), Shippers will be required to:

(a) include anticipated use of VRF IP Exit Capacity and flows in their forecasts under section 16 of the Code; and

(b) ensure that they have sufficient Provided Level of Credit Support (PLCS) for their VRF requirements in line with the existing rules in section 18 of the Code.

12.3. The Transporter shall assess the Required Level of Credit Support in accordance with the existing rules in section 18 of the Code.

12.4. For the avoidance of doubt, given the nature of the Over-Nomination product and the interruptible nature of VRF IP Exit Capacity, Overrun Charges shall not apply in respect of VRF.

Tariff Methodology: Discussion and Proposals

13. Existing VRF tariff and the need for change

13.1. As noted in the introduction, the original VRF product was introduced for compliance with early EU legislation and not in response to any Shipper demand for the product. The existing tariff for VRF IP Exit Capacity is 0.0001p/kWh, which is the lowest possible tariff which could be applied. This was set by the Authority in light of the very small quantity of VRF capacity available and the low likelihood of it being used at the time. Setting the tariff in this way also sought to avoid distorting forecast prices or the revenue recovery position within the postalised charging regime.

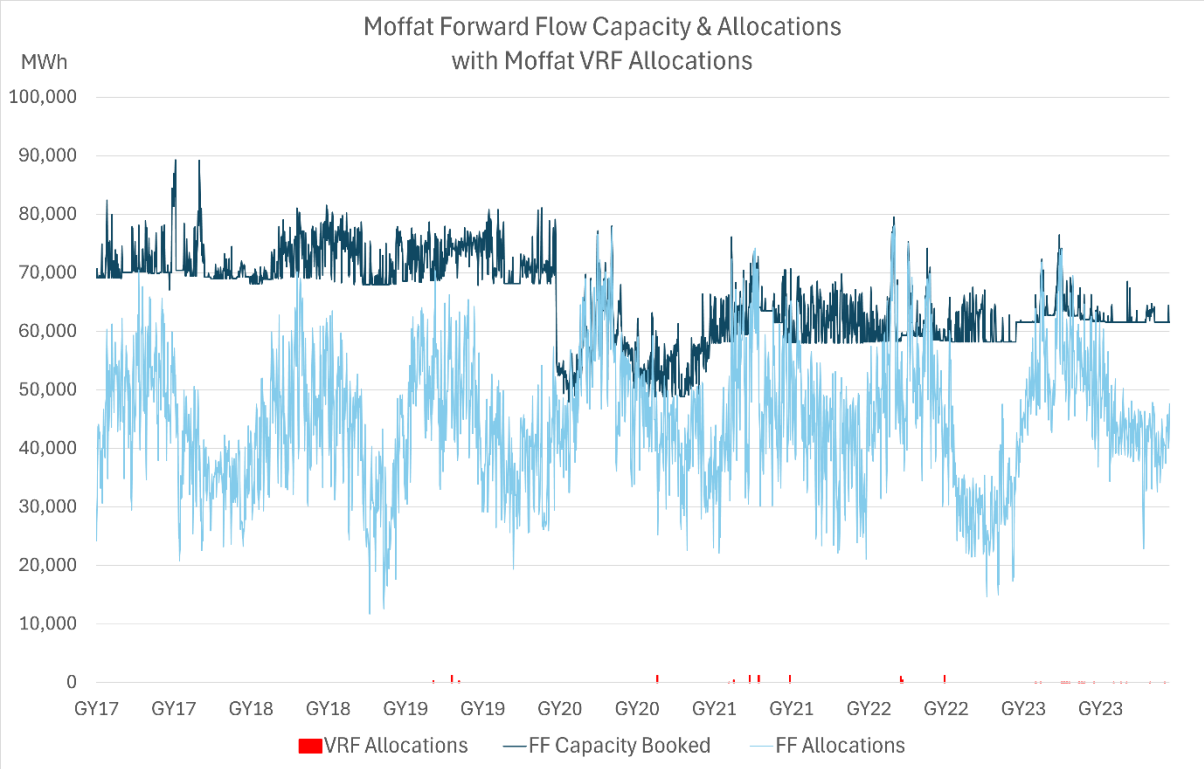

Fig.1: Comparing Forward and Reverse Flow Allocations

13.2. With more capacity available generally, and the possibility of more material demand from Shippers for the service (albeit very small in the context of overall capacity sales in NI), it is logical to now seek to develop the principles for charging in line with the requirements of the TAR-NC (as transposed into UK legislation)

13.3. The Transporter acknowledges that this will likely lead to an increase in charges for those Shippers who have used the VRF service to date, compared to the current level.

13.4. In the context of the postalised charging regime, it is also important to consider that all capacity products can generate revenue and hence contribute to overall cost recovery for the transmission network. Currently, VRF capacity and flows are not included in the setting of forecast tariffs at the start of the Gas Year (since they are very small), but any revenue received does flow into the 'postalised pot' and so contributes to the determination end-of-year actual tariffs and the associated reconciliation after the end of the Gas Year.

13.5. In the current NI market, for biomethane production connecting to the gas network and in the absence of grid-connected vehicle CNG filling stations, in order to benefit from Renewable Transport Fuel Certificates, it is necessary to move gas virtually out of NI via Moffat IP. Whilst this might be the main

commercial driver of the use of VRF service for the time being, it should be noted that the changes being consulted upon here are not intended to target the biomethane sector. Improving the availability of the service should assist with facilitation of trade between NI and the GB (and potentially ROI) hubs more broadly and improve compliance with legislative requirements.

13.6. The following sections set out how the Transporter proposes to approach tariffs for VRF, subject to approval by the Authority.

14. TAR NC principles

14.1. Article 16 of the EU Tariff Network Code (TAR-NC) sets out principles by which interruptible capacity tariffs should be determined. This applies both to interruptible forward flow and to reverse flow capacity. Under TAR NC, reverse flow capacity is a commercial (rather than a physical) service and hence is always theoretically interruptible.

14.2. The starting point in Article 16 is the reference price for the standard capacity product at an IP, as otherwise adjusted into a capacity auction reserve price, by using product multipliers and seasonal factors for the relevant standard IP capacity product and the month/season. It goes on to set out that interruptible capacity may be offered at a discount to the standard reserve price for the equivalent firm product, and offers a choice of calculating the discount either ‘ex ante’ or ‘ex post’.

14.3. An ‘ex post’ discount would effectively be compensation to be paid to a Shipper after the event, in the event of an interruption. The level of compensation envisaged in Article 16 is three times the price of the daily standard capacity product for firm capacity.

14.4. Since an ‘ex post’ discount is inherently unpredictable, and in general the likelihood of actual interruption of a dynamically determined VRF product is low, the Transporter considers that it would be preferable for Shippers if an ‘ex ante’ approach was adopted in NI. Otherwise, the VRF product would effectively be being made available at the full reserve price with no credible discount being applied.

15. ‘Ex Ante’ Discount Principles

15.1. Article 16 sets out how an ‘ex ante’ discount can be determined, in simple terms, as the probability of interruption multiplied by an adjustment factor ‘A’.

15.2. The probability of interruption includes an assessment of the expected number of interruptions over a given day and the number of hours of a typical interruption, as well as the quantity of capacity which would be interrupted as a proportion of the total interruptible capacity available.

15.3. The ‘A’ factor is applied to reflect the ‘estimated economic value’ for the type of interruptible capacity for each or all of the IPs. The ‘A’ factor should be set or approved by the Relevant Authority following annual consultation under article 28 of TAR NC (i.e. along with the consultation on seasonal factors and product multipliers).

16. Determining discounts in the NI Context

Probability of Interruption of VRF

16.1. The Transporter has considered the likelihood of interruption of the VRF product from an operational perspective including due to the actions of an Adjacent Transporter under the relevant interoperator arrangements. These are:

(a) in-line pipeline inspections;

(b) other upstream maintenance work;

(c) where pressures, hourly profiles or other operational issues cause a requirement for interruption under the upstream contractual arrangements;

(d) as a pre-cursor to, or in the early stages of, an emergency event where there was a need to maximise gas supplies into NI.

16.2. The circumstances and hence likelihood of VRF interruption being needed is discussed below.

16.3. The interoperator agreements provide for maintenance periods. Typically, this will entail an outage of a single compressor or pipeline stream at a time and there would be an alternative stream or diversion available, to ensure that forward flows can be maintained. The interoperator agreements set out how, in both normal and unusual circumstances, the relevant operators will look to minimise disruption to physical flows. The agreements also provide for any shortfalls, if they do arise, to be made up between the operators in subsequent days. This being the case, there would not normally be any need to interrupt reverse flow nominations in response to maintenance.

16.4. In-line inspection operations require steady state conditions usually at a higher flow and lower pressure than normal flow conditions to create the required differential pressures that propel the inspection tool along the pipeline. Hypothetically, if VRF over-nominations were present and varying hourly to a significant degree throughout the day, this could impact the necessary conditions to carry out the work successfully. At current and anticipated levels of reverse flow, it is an unlikely that operators would need to consider interrupting the VRF product for this reason. If there were increasing quantities of VRF nominations in future, this may become a more important issue to consider.

16.5. Interrupting the reverse flow product on its own would result in higher physical forward flows. The only situation in which this would be useful to the NI Transporter is an emergency or an exceptional event where there is a shortfall of gas coming into NI. In this case, the Transporter's ability to direct flows would take precedence in terms of the Code rules. However, interruption of reverse flow could be an early action at the start of an unfolding emergency situation where there was a requirement to get as much gas as physically possible into NI at either or both the IPs.

16.6. Avoiding emergency situations and delivering scheduled flows even when there is maintenance activity are core activities for the Transporter, and to date there has been no situation in which VRF interruption would have been required.

16.7. This very low likelihood of interruption for VRF is very difficult to sensibly quantify in a formal discount calculation. However, it can be concluded that there is a very, very low, but still a non-zero probability of interruption of the VRF service.

16.8. In relation to South North IP, if forward flow nominations are less reliably received by the Transporter, then there would be a potentially higher possibility of interruption, based purely on the level of forward flow nominations, including within day nominations.

16.9. It should be noted therefore, that at the time of VRF IP Exit Capacity (following IT implementation as outlined in section 3.1) coming into service, the probability of VRF interruption of South North IP may differ from that for Moffat IP, and this could potentially lead to a different calculation of the applicable discount for South North IP. This is discussed further in section 17 below.

Assessing the economic value of interruption, or the 'A' factor

16.10. The other component of the formal calculation of discounts under TAR NC is consideration of the economic value of the VRF product. Assessing this in a quantitative way is challenging, but it is possible to describe some theoretical economic benefits of offering/enhancing the VRF service at IPs.

16.11. A key reason for the EU's original requirement to introduce reverse flow products was to maximise the capability of transmission system operators to offer forward flow capacity[2] and this continues to apply in transposed UK legislation. In addition, VRF can replace the need for physical infrastructure to flow gas in the opposite direction at the same time as flowing gas in the forward direction. Allowing gas to flow bi-directionally should allow gas to flow more freely between trading hubs, from lowest to highest price and this is seen as important in facilitating a single market for gas.

16.12. In the Northern Ireland context, provision of a commercial VRF service does mitigate the need to provide additional infrastructure which could physically deliver gas from NI into GB or from NI into ROI, as well as providing the chance to offer greater forward flow capacity. In this sense, VRF makes more efficient use of the existing infrastructure and contributes to network flexibility and resilience.

16.13. To the extent that there is value for Shippers/Traders in moving gas in the opposite direction to physical flow, it should also contribute to enhancing market access between the GB, ROI and NI hubs. In future, such value might come from the development of indigenous gas supplies (especially biomethane) and local gas storage facilities, where Shippers wish to export locally produced or stored gas to other markets. Since an actual investment in reverse flow pipeline infrastructure would only ever proceed if there were sufficient demand for an export service, and demand is only very small indeed at present, hypothesising and determining the present value of the avoided long run cost of building physical reverse flow infrastructure is not an appropriate way to assess economic value at this point.

16.14. To the extent that defining and charging for a VRF capacity product generates revenue for the Transporter, it contributes to the costs being recovered through the NI postalised charging regime and hence a benefit (albeit relatively tiny) flows to other users of the network and their customers. This is the relevant long run cost benefit associated with the provision of VRF in NI.

16.15. Turning to shorter term operating costs, at Moffat, to the extent that VRF allows physical forward flow requirements to be reduced and/or smoothed out, this could in theory lead to a reduction in compressor fuel used to deliver the forward flow. This is rather hypothetical as the specific contribution is hard to assess accurately, since it would depend on actual flows, which are seasonal, and amongst other things, on the efficiency envelopes and normal operating cycles for the relevant compressor operations.

16.16. To try and provide some quantification of economic value, typically the compressor fuel used for Moffat entry flows represents less than 0.5% of the total monthly flow through the IP, and the fuel gas cost (for which PTL pays under the interoperator agreement and recovers this cost through the postalised charging mechanism) is typically a total annual amount of between £2m and £4.5m (this range being primarily a function the gas price). To the extent that there are efficiencies available through the

[2] Art 6 (1) refers to capacity maximisation: *"The maximum technical capacity shall be made available to network users, taking into account system integrity, safety and efficient network operation."*
Annex A: Art 32 (2) outlines the requirement for offering VRF capacity: *"At unidirectional interconnection points where firm capacity is offered only in one direction, transmission system operators shall offer at least a daily product for interruptible capacity in the other direction."*

provision of VRF, there could be a small reduction in this fuel cost. The comparatively small level of flows mean that that such savings would probably be a very small percentage of the total fuel requirement, but by way of a hypothetical example a 5% fuel gas saving could perhaps approach a value of c.£250k per annum, at peak gas prices.

16.17. Against a total forecast required revenue for the transmission networks of c. £80m pa, it is evident that compressor fuel efficiency savings might be less than 0.5% of the total NI network costs to be recovered.

16.18. At the South North IP, the actual impact of VRF on fuel gas might be some operational savings similar to the reduced compression highlighted at Moffat, and therefore feed into the economic value element of a proposed tariff for South North IP. However, at the time of VRF IP Exit Capacity at South North IP (following IT implementation as outlined in section 3.1) coming into service, this would need to be reviewed, and it may be appropriate for the Transporter to reassess this.

17. Proposed VRF Tariff Methodology

Charging Methodology Statement and Annual Review of Tariffs

17.1. The Transporter maintains the NI Transmission Charging Methodology Statement and the VRF tariff contained within it is reviewed and approved annually by the Authority, as part of the annual consultation on seasonal factors and product multipliers. The Transporter intends that the Statement should be updated to reflect the principles by which the VRF tariff is determined, in line with the remainder of this section, and submitted for approval as described in section 18.

17.2. It would then be subject to ongoing annual review. The Transporter would ensure that the approach laid out below is reviewed and challenged every year to ensure that the proposed assumptions below remain appropriate and would revise the approach if the assumptions no longer hold.

17.3. Given that there would be no VRF service at the South North IP until such time as it is requested, and IT systems implemented in line with section 3, the Transporter considers that it is not necessary or appropriate to publish a specific tariff for the South North IP for the forthcoming Gas Year. At the point at which it is requested, the Transporter would promptly make a determination of a tariff proposal and submit it for approval by UR. The principles which it would apply in determining the tariff are set out further in section 17.13 below.

Inclusion in the Forecast Tariffs

17.4. On implementation of these arrangements, in order to most accurately reflect the forecast revenue position, the Transporter would propose to include any forecast VRF capacity bookings and flows within the calculation of the tariffs for the upcoming Gas Year.

Moffat VRF Tariff Assumptions

17.5. It is proposed that for Moffat VRF IP Exit Capacity, there should be a discount against the standard reserve price for the daily forward flow capacity product. This discount would be intended to acknowledge the fact that VRF is a commercial-only service, and in recognition of the possibility of interruption and the contribution of the virtual service to economic value within the NI transportation charging regime.

17.6. It is proposed that the VRF IP Exit Capacity discount should be determined on an ex ante basis, to provide certainty for Shippers and in order to apply a meaningful discount.

17.7. Since applying quantitative analysis and the formal calculation in Article 16 of the TAR-NC would yield an extremely small % discount, in order to provide a meaningful discount, it is proposed that the % discount should be 'rounded up' to an appropriate level.

17.8. It may be noted that neighbouring transporters and regulators have faced similar quantitative challenges in determining the relevant discounts in GB and ROI and hence also applied a more qualitative methodology. GB's discount is currently rounded up to 10% which reflected Shipper preference at the time and there is no other example of 'rounding up' in the GB tariff arrangements, In the ROI, adjustment factors of 6 for Moffat and 2.25 for Gormanston are applied. The factor for Moffat yields a percentage discount of just under 10%.

17.9. In NI, there is one other example of a tariff level being determined by 'rounding up' from a relatively small number. The capacity/commodity split is determined at 95:5, such that 5% of costs are recovered through commodity charges (levied at exit points but not entry points). The 5% component was established as a 'rounding up' of operating costs, the largest portion of which comprises the compressor fuel associated with Moffat entry flows.

17.10. On this basis, there are two potential candidates for the 'rounded up' NI VRF discount: 5% or 10%.

17.11. In order to reach a proposal for the Moffat VRF tariff discount, it would appear that the key relevant considerations are as follows:

(a) the very low likelihood of interruption of the Moffat VRF service;

(b) the small economic value associated with Moffat VRF;

(c) the benefit accruing overall, from generating revenue from the VRF IP Exit Capacity product which will contribute to overall cost recovery in the NI postalised regime

(d) alignment and consistency with neighbouring gas transmission systems tariff discounts.

Moffat VRF Tariff Discount Proposal

17.12. On balance, the proposal is that Moffat VRF IP Exit Capacity should be discounted by 10%.

South North VRF Tariff Assumptions

17.13. In relation to South North IP, given that the potential for interruption may be higher, it is possible that the discount for South North IP could be better quantified at the time of coming into service. Therefore, the Transporter proposes that no tariff should be determined or published at this time. Any tariff would be subject to the same considerations i.e. probability of interruption, economic value, and the ability to meaningfully quantify those factors, or round–up, to determine a discount. The Transporter would also propose that if any attempt at quantitative determination also yielded a number smaller than 10%, the South North IP tariff discount would also be rounded up to this as a minimum level.

Annual Review and Consultation

17.14. As noted in section 17.2, both these positions would be subject to annual review and consultation.

17.15. Stakeholders are invited to submit their views, as set out in section 19 below.

18. Implementation of these Arrangements

18.1. The Transporter intends that, subject to industry views and approval by the Authority, the revised arrangements should be in place for the start of the next gas year, i.e. October 2025.

18.2. To implement revised arrangements for VRF IP Exit Capacity, the Transporter will need to:

(a) prepare and consult on the relevant Code changes and is aiming for Q1 2025 for this process;

(b) scope, design and build the necessary IT implementation within Delphi;

(c) revise the Charging Methodology Statement and submit it to the Authority for approval. It expects to do this during the first half of 2025

19. Consultation Questions & How to Respond

19.1. This consultation is published for a 4 week period and is intended to gather industry views on both the revised procedures for calculating and offering Available VRF IP Exit Capacity to Shippers and the associated tariff proposals.

19.2. Views on any aspect of these Business Rules and the associated Tariff Proposals are invited. Shippers and any other interested parties are invited to consider the following questions in formulating their response:

a) What are your views on the proposed dynamic method for determining the available VRF IP Exit Capacity?

b) What are your views on the proposed approach to separating the registration application process and assessing the requirement for a VRF service at South North IP VRF Exit Point?

c) Do you have any concerns over the methods for offering and allocating VRF IP Exit Capacity before and during the Gas Flow Day?

d) Do you have views on the proposed approach to the interruption of VRF IP Exit Capacity?

e) What are your views on the relevant considerations for setting the tariff for VRF IP Exit Capacity? Are there any other considerations you would like to raise?

f) Do you support the proposed level of discount? If not, what level would you propose and why?

g) Do you have any other relevant views or comments?

Please send responses by no later than **18th December 2024** to:

shippercommunications@gmo-ni.com