

UNC Workgroup 0849R Minutes
Commercial Framework Review to Enable Hydrogen Blending
Tuesday 18 July 2023
via Microsoft Teams

Attendees		
Rebecca Hailes (Chair)	(RHa)	Joint Office
Helen Bennett (Secretary)	(HB)	Joint Office
Andreas Klinton	(AK)	Shell
Andrew Pearce	(AP)	BP
Andy Clasper	(AC)	Cadent
Anna Shrigley	(ASh)	ENI
Anne Jackson	(AJ)	Representing REC Code Manager
Bethan Winter	(BW)	Wales & West Utilities
Charlotte Gilbert	(CB)	BU-UK
Christiane Sykes	(CS)	Shell
Daniel Hisgett	(DH)	National Gas Transmission
David Addison	(DA)	Xoserve
David Mitchell	(DM)	SGN
Eric Fowler	(EF)	Joint Office
Emma Buckton	(EB)	Northern Gas Networks
Guv Dosanjh	(GD)	Cadent
Jeff Chandler	(JCh)	SSE
Jennifer Randall	(JR)	National Gas Transmission
Joel Martin	(JM)	SGN
Joseph Leggett	(JL)	Interconnector
Julia Komar	(JK)	Energy Networks
Julie Cox	(JCx)	Energy UK
Lauren Jauss	(LJ)	RWE
Lucy Manning	(LM)	BP
Megan Bray	(MB)	National Gas Transmission (Proposer)
Nick King	(NK)	CNG Services
Richard Pomroy	(RP)	Wales & West Utilities
Richard Fairholme	(RF)	Uniper
Rob Gaskell	(RG)	Kellas Midstream
Shiv Singh	(SS)	Cadent
Steve Britton	(SB)	Cornwall Insight
Thomas Grove	(TG)	Centrica

The Workgroup Report is due to be presented at the UNC Modification Panel by 14 December 2023.

This Workgroup meeting will be considered quorate provided at least two Transporter and two Shipper User representatives are present.

Please note these minutes do not replicate/include detailed content provided within the presentation slides, therefore it is recommended that the published presentation material is reviewed in conjunction with these minutes. Copies of all papers are available at: <https://www.gasgovernance.co.uk/0849/180723>

1. Introduction and Status Review

Rebecca Hailes (RHa) welcomed everyone to the meeting.

1.1 Approval of Minutes (19 June 2023)

Andrew Pearce (AP) noted he was not listed as an attendee on the minutes and confirmed he was present.

The minutes will be updated and republished.

The minutes from the meeting held on 19 June 2023 were approved.

1.2 Approval of Late Papers

RHa noted the Proposer's submission of the updated Actions and Issues Tracker, and the amendments made to the presentation were received at short notice. Megan Bray (MB) agreed to highlight the updated slides to the Workgroup during the review.

1.3 Review of Outstanding Actions

A review of the actions took place in conjunction with the Actions list provided by National Gas Transmission. It was agreed that the actions tracking list will be maintained by National Gas going forward to avoid dual action tracking, with updates provided by the Joint Office.

Action 0601: National Gas Transmission (MB) to update the Assumptions following each Workgroup meeting.

Update: MB confirmed this has been completed and the updated Assumptions are included in the material provided for the meeting. **Closed**

Action 0602: Cadent (JW) to consider impacts to the Gas (Calculation of Thermal Energy) Regulations 1996 that are not connected to Gas Quality and provide an update to the Review Group.

Update: MB confirmed this has been included on the National Gas Actions tracker and will now progress via the Tracker. **Closed**

Action 0603: National Gas Transmission (MB) to look further into changes that may be required to Code.

Update: MB confirmed this is covered within the material provided for the meeting and noted that the action is very broad and crosses over with Action 6 - European Interconnection Document listed on the Action Tracker. **Closed**

Action 0604: MB to create an Issues List to be reviewed at each Workgroup meeting.

Update: This has been completed. **Closed**

Action 0605: MB to create an Actions List to be reviewed at each Workgroup meeting.

Update: This has been completed. **Closed**

Review of National Gas Transmission Action Tracker (please refer to the Issues and Actions Tracker published here: www.gasgovernance.co.uk/0849/180723).

JCx suggested the addition of an 'Outcome' column is added to the tracker.

Action 1- CCGTs

18-Jul: When Julie Cox, (JCx) questioned the comments noted on the tracker, and that she has tried to contact somebody within the Progressive Energy Team working with National Gas, MB advised the team are looking at blending hydrogen readiness and that MB will be the contact for JCx. MB confirmed that interviews with customers that have the CCGT equipment have not started yet. MB will discuss offline with JCx.

Action 2- GCOTER

MB confirmed James Whitmore is producing an additional report that looks at the gas temperature on the HyDeploy project. Anne Jackson (AJ) asked, when will this group understand what potential impacts there are, if any. MB advised this will be when the Stage Case Review is completed by the HSE. AJ advised the temperature and pressure standard could be a potential issue.

Eric Fowler (EF), from the Metering perspective, advised he will raise this at the IGEM meeting being held on 19 July 2023, and will ask if a new set of standards are likely to be set for temperature and pressure or if the existing ones will be utilised.

New Action 0701: *Action 2 – GCOTER:* Guv Dosanjh (GD) to provide link to the report that is looking at gas temperature on the HyDeploy project.

When AJ asked when the Review Group will see the effect of the outcomes in relation to charging to customers, MB advised this needs to be considered for both Distribution and Transmission and the assumption there is no impact may be premature.

Joel Martin (JM) suggested that Transporters should discuss the impact on temperature, pressure and compressibility safety regulations and update the Workgroup at the next meeting. He mentioned a report that was created by Dave Lander¹ quite a while ago which may be useful.

Action 3 - Existing NExA gas specifications

Steve Mulinganie suggested that downstream should be considered as a consequential impact.

It was confirmed that the SGN and Wales & West Utilities NEXA's seem to be okay and that the Safety Case may need to be looked at to check if it refers to methane as they may need changing to accommodate hydrogen blend.

Action 4 – Existing NExA (reference to GS(M)R)

MB advised that if there are changes to a 20% mix of hydrogen and gas, it would lead into de-blending issues becoming relevant.

JCx suggested that this should be considered in parallel with Action 3 - Existing NExA gas specifications, and that Deblending needs to be on the Issues Tracker.

Action 5a – GT License exemption for Hydrogen DFO (NTS)

MB advised that pre-blend connections are being considered in conjunction with looking into Modification 0363V – *Commercial Arrangements for NTS Commingling Facilities*, which implemented Licence changes. MB is seeking clarification from the Proposer of Modification 0363V, Phil Hobbins.

Richard Pomroy (RP) mentioned there was an exemption for a certain length of the pipeline when the DN's started having biomethane injection ("onshore production of gas").

JCx provided the following link to the Gas Transporter Licence Exemption for onshore production of gas – consultation response from the Department of Energy & Climate Change: <https://www.gov.uk/government/consultations/gas-transporter-licence-exemption-for-onshore-production-of-gas#:~:text=The%20exemption%20proposes%20a%20class,by%20a%20licenced%20gas%20transporter>.

MB clarified she will discuss this with Ofgem.

SM noted, the exemption proposes a class exemption to remove the requirement to hold a transporter licence for a person **who conveys gas** that is **produced or extracted onshore**

¹ https://www.ofgem.gov.uk/sites/default/files/docs/2014/08/dlc_report_final_-_gas_energy_measurement_1.pdf

(e.g. biomethane, unconventional and conventional) to the gas grid (pipe-line system operated by a licenced gas transporter).

Action 7 - Managing a hydrogen blend constraint

Workgroup considered that a pre-emergency (physical) tool may be required.

New Action 0702: MB to re-title the action to *Managing a H2 blend Cap* and create a further action to track to cover when there is not enough or too much H2 in the system.

SM asked what happens if DNs cannot transport enough.

JM advised a technical solution would be required to manage compliance with the 20% hydrogen volume cap of which the HSE will consult on as a hydrogen blend volume limit.

Action 8- Clarification on the role of Hydrogen Blending into networks (designating the role as reserve off-taker or maximised production)

MB advised this would be an interim solution before 100% hydrogen comes online and might have different approaches depending on which route is taken. MB advised she will liaise with the Department of Energy

Action 9- Gas Quality changes in existing and new NTS NEA's

No comments.

Action 10 - Gas Quality changes in existing and new DN NEA's

No comments.

2. Review New Issues and Assumptions

MB noted that three new assumptions have been added to the list:

- As the Government are currently set to make a decision in principle for blending into the Distribution Networks by the end of 2023, with a decision for Transmission likely to follow, we assume that changes to GS(M)R for Distribution will be implemented before Transmission. Having different GS(M)R specifications across networks will therefore need to be considered within this Review Group.
- This project will consider onshore networks regulatory frameworks as well as Interconnectors, however, we assume that there will not be any direct changes to IP section of UNC as it is currently set out. – MB to review this
- This project aspires to implement hydrogen blending by 2025 with the least change to the existing market framework possible, therefore, it assumes that limits to maximum blend percentage volumes lower than 20% may need to be agreed upon within relevant NEAs and Injection sites will need to comply with a Calorific Value (CV) target submitted by the Network Operator. This is to minimise the risk of triggering CV capping which is outlined in the Gas Calculation of Thermal Energy Regs (GCoTER 1996). A CV target will be calculated based on three things:
 - (a) not exceeding the proposed 20% volume cap in the Transporter's pipe(s)
 - (b) the available volume of natural gas in the pipe at the hydrogen connection point to blend hydrogen with and
 - (c) the CV of the natural gas to be blended with.

3. Continuation of the System Operation Review

Continuing with the System Operation Review that was not considered at the last meeting, MB began with deblending on Slide 8 and noted the National Gas Transmission Issue Tracker. Please refer to the Issues and Actions Tracker published here:

www.gasgovernance.co.uk/0849/180723

Issues that have been added to the Issue and Action Tracker:

- **Deblending – Commercial Framework Considerations/Issues - Slide 8**
- **Recommended changes to Commercial Framework for Deblending, summarised in the Frontier Economics Report – Slide 9**

MB explained the commercial framework for deblending is split into 3 areas, Network Planning, Managing System Impacts and Network Charging as follows:

Recommended changes to Commercial Framework for Deblending, summarised in the Frontier Economics Report <small>Gas framework changes to enable hydrogen deblending 290722 (9).pdf</small>	
Network planning	Implement an application process for customers to request a specific gas quality from network operators, including supporting evidence to justify the need.
	If costs of deblending are socialised, networks required to consider alternative options for meeting the gas quality need and justify expenditure on deblending using a cost-benefit analysis (CBA). If costs are targeted at the relevant customer, no changes needed.
	Rely on existing totex incentives to minimise network costs in the case of network deblending investments to meet a purely network-driven need (e.g. to manage blend levels).
Managing system impacts	Deblending reinjection points from customer-owned facilities connected to grid subject to a pre-connection Impact Assessment by the network operator. Connection agreement to enable the network operator to constrain reinjection if required for blend management purposes.
	An administrative approach* for network operators' choices between different tools (including deblending) for managing blend levels and for constraining any network owned deblending facilities that are being operated for customer needs.
	Enhanced co-ordination between transmission and distribution networks when applying system operation solutions.
Network charging	Networks that provide a deblending use-case to their customers recover the associated equipment and operating costs from the specific customers receiving the use-case.
	Customer-owned deblending facilities only pay network charges on the basis of 'net exit', with no entry charges on reinjections.

National Gas Transmission | Private & Confidential 9

When MB asked if a Deblending Modification should be incorporated into this Review Group, Jeff Chandler (JCh) noted that it needs to be part of the same Modification, with the potential for a third of gas (that which would otherwise go to CCGTs) being unable to be burned, there has to be a solution that addresses that issue, and, without an integral deblending solution, it would be difficult to support a Blending Modification.

JCx noted that Ofgem (for funding), HSE and the Department of Energy (DESNZ) may need to be consulted.

JM said that the impact on gas-fired power stations needs to also be considered and that the issue sounds so important it needs to sit with HSE and Ofgem. He said that this group cannot solve the problem, deblending can happen either upstream or downstream, so there is a question of who pays for it.

New Action 0703: National Gas Transmission (MB) to seek a view from Ofgem and the Department of Energy (DESNZ) if Deblending and CCGT compatibility is in the scope of this Request.

Issue 3 – Carbon Capture Use and Storage (CCUS)

It was clarified that this links to hydrogen production from methane with the Carbon being removed from methane for use or storage to leave the hydrogen.

Lauren Jauss (LJa) from the point of view of the Customer and carbon capture technology, asked who pays for that, from a commercial point of view.

JM questioned if carbon capture is a UNC matter or is it outside of UNC, or maybe a point for consultation for GS(M)R and HSE.

Issue 4 - Interconnectors

MB to create Issues 4a and 4b to capture impacts to UNC European Interconnection Document (EID).

Joseph Leggett (JL) noted his interest in the Strategy paper. MB will liaise offline and confirm if the Strategy paper will be for external viewing.

Issue 5- Reverse Compression

It was noted that Tim Davis pre-viewed a Modification recently at Transmission Workgroup which was specifically in relation to Transmission. This Modification has not yet been raised. MB to keep a watching brief as offline discussions are ongoing. Change the status to Monitor rather than Resolved.

Issue 6- Connection Agreements

No comments.

Issue 7- Control of Major Accidents Hazard (COMAH)

Workgroup agreed with National Gas Transmission that this is out of the scope of this Request.

Issue 8- GCOTER

Awaiting input from David Lander via Joel Martin if possible. MB to change the status of this Issue to 'Under Review'.

Issue 9- Limitation to blend volume percentages

JCx noted the challenge is that this needs to be managed somewhere and it might be premature to say it is not UNC at this stage. The differing timescales for Transmission and Distribution need to be considered. She also noted that if GS(M)R changes to allow 20% hydrogen, the CCGT systems are currently unable to manage 20%.

JM highlighted there are genuine issues with blend percentages and that direction needs to come from HSE.

Issue 10- Changes to Existing NEAs to enable blending

- **Transmission**

MB explained the process for changes to existing NEAs for Transmission is to raise a Modification.

- **Distribution**

There is no requirement to raise a Modification.

JM advised that the entry agreements for hydrogen blend will all be new NEAs and will require transparency. He noted that 99% of Distribution NEAs are likely to be new Network Entry Points.

Issue 11- New NEAs for blending

Same comments as for Issue 10.

Issue 12- Constraint Management

MB advised she has concluded the action is to be taken away by the Networks for consideration of what commercial tools can be utilised and this will be tracked within the Actions.

Issue 13- Command and Control

No comments.

Issue 14- Delivery Facility Operators

This will be covered in the August Workgroup. The status is to be changed to 'Under Review'.

Issue 15- Buffer Service

It was clarified that this is not a viable service that TSOs could offer.

4. Balancing Review

MB provided an overview of existing market participants' role in balancing the quantity of gas input and off-taken from gas Networks which ensures that safe operating limits and network pressures are maintained:

Existing Market Participants – Slide 11

- Suppliers
- System Operator
- Traders
- Distribution Network Operator
- Terminal Operators, and
- Shippers

Hydrogen Blending: Balancing – Slide 12

From a regulatory perspective, MB noted there would be no impact on the following regulatory documents:

- Gas Act 1986;
- Gas Safety (Management) Regulations 1996;
- The Gas (Calculation of Thermal Energy) Regulations 1996;
- the Gas Transporter Licence;
- National Grid Gas Plc Gas Transporter Licence Special Conditions;
- Gas Shipper Standard Licence;
- TPD Section C: Nominations;
- TPD Section D: Operational Balancing and Trading Arrangements;
- TPD Section E: Daily Quantities, Imbalances and Reconciliation;
- TPD Section F: System Clearing, Balancing Charges and Neutrality, and
- TPD Section K: Operation Margins.

MB clarified that Network blending would require a new length of pipe, with no immediate injection into the original network until blending is completed.

Balancing Review - Slide 13

MB provided a view of the Commercial tools that are already in place, such as, Network Reconfiguration; Linepack; Trading; Enforce Contractual Limits; Capacity Scaleback and Trade with Shippers to Reduce Demand and clarified these commercial tools could support blending and manage the blending cap as long as there is the ability to switch off.

5. Next Steps

RHa clarified what will be on the agenda for the 02 August 2023 meeting as follows:

- Review and update the Issues list, Assumptions and Actions.

- System Operation Review continued.
- Trading Review and Charging Review (if time allows)
- It was agreed the next meeting will be held from 10am to 3pm.

6. Any Other Business

Shiv Singh (SS) advised that Cadent are looking at the Capacity and Connections methodology which will be reviewed at Workgroup 5.

SS noted he is looking to produce a heat map to highlight potential hotspots. He asked the view of the Workgroup for their preference of what the report should show:

1. Network-led view – best areas for producers to tap into
2. Market-led strategy – less interest from producers
3. Hybrid of the two.

Workgroup suggested the Hybrid view might be preferable.

7. Diary Planning

Further details of planned meetings are available at: www.gasgovernance.co.uk/events-calendar/month

Time / Date	Paper Publication Deadline	Venue	Workgroup Programme
10:00 Wednesday 02 August 2023	17:00 25 July 2023	Microsoft Teams	Workgroup 3 <ul style="list-style-type: none"> • Trading Review • Charging Review (overview of functional specification project outputs)
09:30 Wednesday 06 September 2023	17:00 29 August 2023	Microsoft Teams	Workgroup 4 <ul style="list-style-type: none"> • GGG Connections Methodology Solution Options • Capacity Review • Connections Review • Workgroup Report Development
10:00 Wednesday 04 October 2023	17:00 26 September 2023	Microsoft Teams	Workgroup 5 <ul style="list-style-type: none"> • Capacity and Connection Methodology (Cadent) • Workgroup Report Development
10:00 November 2023 (TBC)	TBC	Microsoft Teams	Workgroup 6 <ul style="list-style-type: none"> • Final Considerations • Pre-Modification Review • Workgroup Report Completion
0849R Action Table			

Action Ref	Meeting Date	Minute Ref	Action	Reporting Month	Owner	Status Update
0601	22/06/23	2.0	National Gas Transmission (MB) to update the Assumptions following each Workgroup meeting.	July 2023	National Gas Transmission (MB)	Closed
0602	22/06/23	2.0	Cadent (JW) to consider impacts to the Gas (Calculation of Thermal Energy) Regulations 1996 that are not connected to Gas Quality and provide an update to the Review Group.	July 2023	Cadent (JW)	Closed
0603	22/06/23	2.0	National Gas Transmission (MB) to look further into changes that may be required to Code.	July 2023	National Gas Transmission (MB)	Closed
0604	22/06/23	2.0	MB to create an Issues List to be reviewed at each Workgroup meeting.	July 2023	National Gas Transmission (MB)	Closed
0605	22/06/23	2.0	MB to create an Actions List to be reviewed at each Workgroup meeting.	July 2023	National Gas Transmission (MB)	Closed
0701	18/07/23	1.3	<i>Action 2 – GCOTER:</i> Guv Dosanjh (GD) to provide link to the report that is looking at gas temperature on the HyDeploy project.	August 2023	Guv Dosanjh (GD)	Pending
0702	18/07/23	1.3	<i>Action 7 - Managing a H2 blend constraint:</i> National Gas Transmission (MB) to re-title the action to <i>Managing a H2 blend Cap</i> and create a further action to track to cover when there is not enough or too much H2 in the system.	August 2023	National Gas Transmission (MB)	Pending
0703	18/07/23	3.0	National Gas Transmission (MB) to seek a view from Ofgem and the Department of Energy (DESNZ) if Deblending and CCGT compatibility is in the scope of this Request.	August 2023	National Gas Transmission (MB)	Pending