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FINAL MODIFICATION REPORT

CCS001 – CLARIFICATION OF CO_2 VENTING BETWEEN METERING POINT AND DELIVERY POINT

Document version	V1.3
Document date	11/09/2025
Proposed Implementation Date	Ad hoc release one Business Day following Regulator decision

Modification Path	Regulator-determined
Urgent Modification	No
Impacted by Significant Code Review	No
Impacted by SoS Modification Proposal	No

OVERVIEW

This modification seeks to amend Section F 'Network Design and Specification', Annexure H 'Isolation Procedure Terms of Reference' and make other consequential changes to allow venting as a way of removing CO_2 from specific locations. Possible reasons requiring removal of CO_2 include identification of Non-Complaint CO_2 or for essential maintenance purposes.

STATUS

On 10/09/2025 the Modification Panel voted to recommend that the Regulator approve this modification. Further detail about the rationale for this decision against the Objectives of this code can be found in Section 7.

This is a Final Modification Report which has been updated with the discussion and views of the Modification Panel.

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1 BACKGROUND

SUMMARY

This Proposal seeks to permit venting of Non-Compliant CO_2 between the Metering Point and the Delivery Point.

Currently, Section F 'Network Design and Specification' states that no CO_2 can be off-taken between the Metering Point and Delivery Point. The Proposer believes that there will be circumstances where venting is required due to maintenance or identification of Non-Compliant CO_2 which would need to be released to resume operations.

ISSUE

For Users that do not have the Delivery Point immediately downstream of the Metering Point there will be a potentially significant length of pipework between the Metering Point and the Delivery Point. One example of the conflict in the current drafting of this Code is that in the case that the Measurement Equipment detects a Non-Compliant CO_2 event, the valves at the Metering Point will close, as well as those at the Above Ground Installation (AGI). This will leave a section of pipework containing potentially Non-Compliant CO_2 and stop the flow of gas.

The drafting of Section F Paragraph 10.11 creates a potential conflict with Annexure H 'Isolation Procedure Terms of Reference' as venting of this section of pipework would be required prior to reconnection. The Proposer believes that there is no method of removing this gas from the pipework between the Metering Point and the Delivery Point without allowing the potentially Non-Compliant CO_2 to enter the T&S Network.

Further, depressurisation of the pipework is required to allow inspection and maintenance activities prior to which there will be a requirement to prove zero energy in the system as described in Annexure H.

PROPOSED SOLUTION

The Proposer put forward a Solution to allow venting between the Metering Point and the Delivery Point, noting that any CO_2 vented between the Metering Point and the Delivery Point remains the responsibility of the T&SCo for the purposes of UK Emissions Trading Scheme (ETS) liabilities, however they will be reimbursed by the User.

Users would still be required to report the volume of CO_2 vented between the Metering Point and the Delivery Point including details of the calculations used to measure such volumes.

CASE FOR CHANGE

The Proposer believes that venting is needed to allow the cause of the problem (such as essential

maintenance or Non-Compliant CO_2) to be remedied, preventing damage to the T&S Network.

RELEVANT OBJECTIVES

RELEVANT OBJECTIVE	IMPACT TYPE	DESCRIPTION AND JUSTIFICATION
The safe, economic, efficient and effective development and operation of the T&S Network to which the licence relates (as well as the coordinated, safe, economic, efficient and effective development and operation of the carbon dioxide transport and storage Networks of one or more other T&S Licensees where relevant	Positive	The Modification Proposal supports this Objective by acting to prevent Non-Compliant CO_2 from entering the Network. This therefore supports the Objective for keeping the Network intact preventing issues due to corrosion that may otherwise be contributed to by the Non-Compliant gas entering the Network. Secondly venting allows for safe maintenance and inspection activities
The economic, efficient and effective discharge of the Licensee's obligations under the licence	Positive	Ensures that the T&SCo is complying with its obligations as a reasonable and prudent operator (as defined in CCS Network Code Section K 'Glossary') to prudently operate the T&S Network by assisting the T&SCo in the prevention of any damage or disruption to the T&S Network

2 WORKGROUP REPORT

This section provides a summary of the discussions from the Workgroup meeting held on 21 July 2025.

Following the meeting, the Proposer and DESNZ met and amended the original proposed legal text v0.3. The updated legal text accompanying this report is Version 1.0. Further detail about the changes can be found in the 'Post Meeting Actions' section of this report.

ATTENDEES

Name	Initials	Organisation	Role
Ali Beard	AB	Talan	Chair(person)
Andy Edgar	AE	Liverpool Bay CCS Ltd	T&SCo
Barry Allan	BA	Liverpool Bay CCS Ltd	T&SCo
Neal Gray-Wannell	NG	Northern Endurance Partnership	T&SCo
Ben Hanson	BH	Net Zero Teesside Power	User
David Mason	DM	Ofgem	Regulator
Ellie Osobina	EO	Ofgem	Regulator
Sam Blackaby	SB	Ofgem	Regulator
Bethany Reyniers	BR	DESNZ	Observer
Carly Leighton	CL	DESNZ	Observer

Humera Ansari	HA	DESNZ	Observer
Paul Freeman	PF	DESNZ	Secretary of State Representative
Iain Walpole	IW	Castle Cement Ltd	Third Party
Richard Holden	RH	EET Hydrogen (HPP1) Ltd	Third Party
Helen Moon	HM	Protos ERF CCS Ltd	Third Party
Silvina Rueda	SR	Protos ERF CCS Ltd	Third Party
Andy Knowles	AK	Talan	Secretariat
Ben Giblin	BG	Talan	Secretariat
Oliver Barnes	OB	Talan	Secretariat

FEEDBACK ON THE PROPOSED SOLUTION

The Workgroup members were supportive of allowing venting between the Metering Point and the Delivery Point for the circumstances cited in the Proposers form.

A member of the Workgroup highlighted that venting needed to be considered carefully in terms of where the vent is situated, when it is opened and for how long. Allowing the pipework to depressurise significantly could allow air, rain or water into the pipework. Another member suggested that backflow could also be a way to remove CO_2 from the pipework to allow normal operations to resume.

Introducing 'Allowed Purpose'

The Secretary (BG) provided an overview of the proposed six new definitions and suggested amendments to two existing definitions in Section K 'Glossary'.

In relation to the new term of 'Allowed Purpose' several Workgroup members suggested that the term should reference venting to allow for clarity within the code. The Proposer's Legal Advisor (SR) agreed with this suggestion and agreed to amend the term before the Modification Panel.

A T&SCo member (NG) commented that the wording 'isolation integrity' (as included in the proposed 'Allowed Purpose' definition) implied that the leg would need to be de-pressurised, however they believed this was not necessary. The Proposer (HB) noted the detail on this scenario was set out in Annexure H.

Finally, (BA) questioned whether this definition should refer to a procedure which has been developed in Annexure H.

Measuring volumes of vented CO_2

(BA) noted that the proposed legal text specifies obligations for measuring the volume of vented CO_2. They added that there are no proposed legal text changes to specify how this should be completed. They noted that this would impact T&SCo's reporting and ETS obligations, questioning whether the Code should specify that the calculations should be completed in line with the ETS obligations. The Proposer's Legal Representative (SR) noted that the legal text had been drafted to be purposely

ambiguous with the intention that the Connection Agreement would provide calculations about agreed measurement of volumes.

DESNZ (PF) noted that any future approach would need to recognise existing business models whilst also looking at ETS requirements. They added that the approach should be future proofed to allow changes in future which may change to allow Parties to meter vented CO_2 in future rather than calculate it. They concluded by commenting that the requirements must ensure they are not in conflict, so no issues are caused for T&SCos. (IW) noted they believed this procedure was dealt with in the business model. The Chair commented that this would be clarified in the meeting between the Proposer and DESNZ after the Workgroup and reflected in any legal text drafting.

User Connection Agreements – Section F.8

DESNZ (PF) raised a concern regarding a User's Connection Agreement authorising venting, as it is the business model which allows this. The Proposer's Legal Representative (SR) commented that the changes had been drafted as they did not want to assume all Users would be venting. They noted that there is a need to establish where the venting procedure should set out for each User. (PF) noted because multiple Parties may be able to vent and therefore the nature of the Code should spell this out in a uniform manner and not in each Connection Agreement. (HM) explained that there would be cases where Users have permanent or temporary solutions for venting which would have different designs and therefore if it were to be specified in the Code there would need to be at least two variants. Several members noted that the Code should not restrict Users if they wish to use venting.

Recovery of ETS Liability – Section J4

Regarding the addition of a new paragraph in Section J4, (BA) noted that T&SCos have responsibility and will report on ETS volumes beyond the Metering Point, despite the infrastructure being owned and operated by the User and therefore will be liable for payment for volumes that are vented. (SR) explained that Users will be responsible for compensating T&SCos for ETS liabilities arising from vented CO_2.

Calculation of flow charges – Section F

(SR) highlighted proposed insertions and amendments to the Code regarding the calculation of flow charges. There is no process for Users to report directly to the CDS, and the process exists only between T&SCos and the CDS, therefore Users would report vented volumes to the T&SCo who would provide this information to the CDS for processing and the generation of the invoice. (RH) questioned the need to provide all information relating to the determination of vented volumes as per H27.2. Members said this would be provided for transparency and compliance, and to ensure that calculations are correct according to the pre-agreed methodology set out in the Connection Agreement. (SR) noted that as drafted, there is no review mechanism, and it would be up to Members to discuss and decide whether this should be necessary. Details of any venting would be submitted to T&SCos no later than 24 hours after the end of the event, in line with the business model.

ALTERNATIVE SOLUTION

The Secretary of State (SoS) prepared several amendments to the Proposed Solution which they sought to discuss as an Alternative Solution.

Prohibition on venting between Metering Point and Delivery Point

DESNZ suggested that the modification should explicitly state that the reasons for venting would be limited to Non-Compliant CO_2 and for maintenance reasons only. They added that they also did not believe there was a need for the introduction of the definition of 'Allowed Purpose' as suggested by the Proposer but the legal text suggested by the SoS would set out the specific reasons for venting.

They also sought to introduce additional obligations on Users to reduce the need for venting to scenarios where there is no other alternative than to vent and only being able to vent the amount of CO_2 required to re-connect to the Network. Finally, they proposed including a provision to allow Users to vent on-specification CO_2 to complete recovery if required.

Measuring and reporting quantity of vented CO_2

DESNZ also noted that the Connection Agreement would not authorise the ability to vent, this ability is included within the provision of the Code. They commented that a method of calculation should be applied which ensures compliance with ETS regulation.

They also sought to place additional obligations on the User to share any relevant data with the T&SCo for the purpose of ETS reporting. Furthermore, rather than the User making any adjustments to the flow, which is metered, the vented amount should be reported directly to the T&SCo as a "Vented Quantity". The CDS would then make the required adjustment to make a Processed Flow Meter Data Statement.

(HA) also noted that a provision could be added to address the timing of the venting event and the consequent generation/amendment of the Processed Flow Meter Data Statement. Finally, they stated that no amendments were required linked to disputes as any disputes linked to venting data are embedded within existing Code processes.

Recovery of ETS liability

DESNZ suggested adding the ETS liability as a line item to the invoice.

Comments from Workgroup members

The Proposer (HM) noted that Users are highly incentivised to minimise venting as it would lead to a loss in revenue but had no issue with the SoS proposals.

Members discussed the methodology for venting calculations and the need to comply with ETS regulations, however recommended avoiding including specifics regarding the calculations to allow discussions between the T&SCo and User on how the calculations are done to comply with general regulations.

Conclusion

Workgroup members agreed that the Proposal from SoS should not be classed as an alternative solution but rather should be seen as the Proposed Solution with slight amendments. The Proposer and the SoS agreed to discuss the suggested amendments and determine whether the legal text should be amended before the next Modification Panel meeting.

Workgroup members supported this modification progressing to the Modification Panel then to Consultation.

WORKGROUP DISCUSSION ON CASE FOR CHANGE

During the meeting the Workgroup members highlighted that the reason for venting was to resume normal operations as quickly as possible, resulting in less loss of revenue.

WORKGROUP DISCUSSION ON PROPOSERS IMPACT ASSESSMENT

The Secretary (BG) highlighted the Proposer's Impact Assessment which is available in Section 3.

(NG) noted that Users need to be compliant in order to enter the Network, highlighting this change will be positive as it allows Users to become compliant after potential Non-Compliant events. (PF) added that there will also be a positive impact on T&SCos there will be a positive impact of faster recovery by being allowed to vent Non-Compliant CO_2 and therefore would allow more gas to be stored, whilst (HM) added that maintenance functions could be carried out more efficiently and safely.

(RH) noted the Proposer's comment about impacts on Users and added that there would be a positive impact even if the Delivery Point is outside of their own Facility site or immediately adjacent. (PF) agreed and added that the terminology could be amended to show benefits in more circumstances than the Proposer has suggested.

WORKGROUP DISCUSSION ON GOVERNANCE STATUS

Workgroup members agreed that this modification is likely to have a material effect on Users therefore did not meet the criteria for a Self-Governance. They also concurred that the Modification was not a housekeeping change and therefore did not meet the criteria to be classed as a Fast-Track Self-Governance modification.

As such, the Workgroup agreed this modification will be Regulator-determined.

WORKGROUP DISCUSSION ON IMPLEMENTATION APPROACH

(BA) questioned whether the Proposer sought this modification to be implemented in November 2025 or as quickly as possible following Regulator-determination. The Proposer sought this modification to be implemented as quickly as possible. Members were supportive of implementing this modification as an ad hoc release one Business Day following decision by the Regulator.

The Chair (AB) clarified that when the decision from the Regulator is received the Secretary will update the CCS Network Code website, email all Parties and the Ofgem website will be updated with the decision.

WORKGROUP DISCUSSION ON RELEVANT OBJECTIVES

(NG) highlighted that parties already have obligations to ensure Non-Compliant CO_2 does not enter the Network, suggesting the Proposer's rationale could be altered to reflect this. The Proposer (HM) agreed to address the wording of the impacts of this Modification.

WORKGROUP DISCUSSION ON TIMETABLE

The Secretary (AK) questioned whether Workgroup members would like another Workgroup to be organised to discuss the amendments raised by the Secretary of State. Workgroup members were supportive of the modification returning to the Modification Panel without another Workgroup meeting.

POST MEETING ACTIONS

The Proposer and Secretary of State agreed to discuss amendments to the legal text after the meeting. The changes to the original legal text v0.3 discussed with the Workgroup and current legal text v1.0 produced after the meeting between the Proposer and DESNZ are summarised in the table below.

Objective of amendment	Legal Text v0.3	Legal Text v1.0
Express right for Users to vent CO_2	Amendment to paragraph 10.11 in Section F.	Amendment to Section F paragraph 10.11, insert new paragraph 10.12 – 10.13.
Measuring quantity of vented carbon dioxide	Insert a new paragraph in Section F.8.	Insert new paragraph in Section F 10.14 and 10.15. Amend Section H 21.2 and 27.2. Amend Annexure H and Annexure L.

Recovery of ETS liabilities	Amend Section J paragraph 4.7 to show User responsibility rather than T&SCO.	Amendment to Section J4.7 and Section H paragraph 22.1.
Calculation of flow charges	Insert new section to F13.3 and amendments to H27.1 and H27.2.	N/A.
Definitions	Four new definitions proposed with amendments to two existing definitions.	Four new definitions proposed.

3 IMPACT ASSESSMENT

PARTY IMPACT ASSESSMENT

AFFECTED PARTY	ASSESSED IMPACTS
T&S NETWORKS	N/A
T&SCO	• For T&SCos this modification will have a positive impact as it will allow them to prevent potential Non-Compliant CO_2 being introduced into the Network under the above circumstances.; and • This modification will allow T&SCos to restart their operations more quickly, leading to an increase in stored carbon.
USERS	• This modification has a positive impact on Users as it provides them with a mechanism to be compliant with the entry specification, rather than being Non-Compliant.
OTHER RELEVANT PERSONS, INCLUDING FUTURE USERS WHO MAY CONNECT TO A T&S NETWORK	• For Protos ERF CCS Ltd and other future Users that may have an offsite Delivery Point and therefore have a length of CO_2 export Pipework between the Metering Point and the Delivery Point, this will clarify the mechanism to enable reconnection to the T&S Network after a Non-Compliant event and permit routine maintenance and inspection activities.

PROGRAMME FOR WORKS

No programme for works has been proposed for this modification.

4 IMPLEMENTATION DATE AND APPROACH

It has been understood that this matter is most easily and efficiently dealt with via a CCS Network Code Modification. In addition, this change being made via a CCS Network Code Modification ensures that this will apply to all relevant Parties.

The mechanism of reconnecting to the T&S Network after a Non-Compliant event is vital for the successful operation of the Network.

This Modification should proceed efficiently through the process to ensure the detailed design carried out on the Protos ERF CCS Project as well as the Protos Spur pipeline (T&SCo works) is carried out on the correct basis to prevent any delay in the projects achieving their key dates.

This Modification will also provide clarity to Track 1 Expansion Future Users in the development of their projects.

The outcome of the Modification should be targeted to be incorporated into this Network Code one Business Day following Regulator determination.

SELF-GOVERNANCE

The Proposer believes this Proposal is likely to have a material effect on Users therefore did not meet the criteria for a Self-Governance. They also concurred that the Modification was not a housekeeping change and therefore did not meet the criteria to be classed as a Fast-Track Self-Governance modification.

5 MODIFICATION PANEL DISCUSSION (SEPTEMBER 2025)

This modification was discussed at the Modification Panel meeting on 10/09/2025, where voting members voted to recommend that the modification be approved by the Regulator.

The Secretary summarised that three responses had been received to the consultation, which all supported approval of the modification. The respondents also agreed with the rationale provided by the Proposer regarding how this modification better facilitates the objectives and the implementation timescale. Finally, respondents noted there would be no costs for T&SCO's or Users but highlighted there may be a minimal impact for Users in the design and construction of the pipework between the Metering Point and Delivery Point.

The Secretary also highlighted that changes had been proposed to the Modification Report and legal text from Parties and the Regulator. Members agreed the changes did not impact the Solution and could be amended by the Secretary following the meeting.

6 MODIFICATION PANEL VOTE

The Modification Panel voted to recommend to the Regulator that this modification be approved. The voting and rationale against the Objectives is provided below.

ORGANISATION	ROLE	VOTE	RATIONALE
Northern Endurance Partnership	T&SCo	Approve	This modification better facilitates both objectives by ensuring safety and economic efficiency as highlighted by the Proposer.
Liverpool Bay CCS Ltd	T&SCo	Approve	This modification better facilitates both objectives by ensuring safety and economic efficiency as highlighted by the Proposer.
Net Zero Teesside Power	User	Approve	This modification better facilitates both objectives by ensuring safety and economic efficiency as highlighted by the Proposer.

All voting Modification Panel members agreed that this modification should be submitted to the Regulator by the Secretary within one Business Day of the meeting.

7 PROGRESSION TIMETABLE

TIMETABLE	
ACTION	**DATE**
Modification raised	27 June 2025
Modification Panel review modification	9 July 2025
Discussed with Workgroup	21 July 2025
Modification Panel review Workgroup Report	4 August 2025
Consultation	7 August 2025 – 28 August 2025
Modification Panel provide decision	10 September 2025
Submission to Regulator	One Business Day following Modification Panel decision
Implementation (targeted)	One Business Day following Regulator decision

8 GLOSSARY

ACRONYM	FULL TERM
AGI	Above Ground Installation
CDS	Central Data Service Provider
ETS	UK Emissions Trading Scheme

9 APPENDIX

ANNEX A	Legal Text v1.2
ANNEX B	Consultation Responses